INDIANA STATE UNIVERSITY

COLLEGE OF TECHNOLOGY

ACCREDITATION SELF-STUDY REPORT

March 2010

INDIANA STATE UNIVERSITY

COLLEGE OF TECHNOLOGY

ACCREDITATION SELF-STUDY REPORT

SECTION I

Requests for Re-Accreditation and Accreditation

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Responses to ATMAE Standards From:

Advanced Manufacturing Management, BS
Automotive Technology Management, BS
Computer Engineering Technology, BS
Electronics Technology, BS
Packaging, BS
Safety Management, BS
Technology Management, BS
Health & Safety (Occupational Safety Management), MS

March 2010

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Automotive Technology Management, BS

Computer Engineering Technology, BS

Electronics Technology, BS

Advanced Manufacturing Management, BS

Packaging, BS

Technology Management, BS

Safety Management, BS

Health & Safety (Occupational Safety Management), MS

The Association of Technology, Management, and Applied Engineering

ATMAE
LEAD • INNOVATE • COLLABORATE

Formally NAIT NATIONAL ASSOCIATION INDUSTRIAL TECHNOLOGY

Request for Initial Accreditation or Reaccreditation Visit

COPY

Please Type Information

1. **Institution** Indiana State University
   Institution Address Terre Haute, IN 47809
2. **Head of Institution** Dr. Daniel Bradley Title President
   Telephone 812-237-4000 Fax 812-237-7948
3. **Head of Program** Dr. Bradford Sims Title Dean
   Telephone 812-237-3166 Fax 812-237-3733
4. **Contact Person** Dr. Jeffrey McNabb Title Assoc. Dean
   Mailing Address ISU College of Technology, Terre Haute, IN 47809
   Telephone 812-237-2987 Fax 812-237-2823
   Email Address jmcnabb@indstate.edu

5. **Type of Visit Requested:**
   [ ] Initial Accreditation [x] Reaccreditation [ ] 2-Year Follow-Up

6. **Program Level:** [x] Associate [x] Baccalaureate [ ] Master

7. **List Industrial Technology Program(s) (including options, concentrations, and specializations) to be considered** (Note: All options, specializations, and concentrations in a degree program MUST be reviewed. Reference standards 5.3.3 and 6.3.3).

   Degree **Program Name** **Option, Concentration, or Specialization**

   SEE ATTACHED SHEET

   (Attach additional sheet if necessary)

8. **Billing Address:**
   Dean, College of Technology, Indiana State University
   Terre Haute, IN 47809

9. **Regional Accrediting Agency:** North Central Association of Colleges & Secondary Schools

10. **Proposed Dates for Visit** (Note: a minimum of two full days are required for the visit plus a travel day).
    First Choice: March 28, 29, 30, 2010 Second Choice: April 4, 5, 6, 2010

11. **Recommended Team Member Lodging** (include name, address, and telephone number).
    Hilton Garden Inn, 750 Wabash Ave.
    Terre Haute, IN 47807 812-234-8900

12. **Authorized Signatures:**
    Head of Institution: [signature] Date: 7/20/09
    Head of Program: Jeff McNabb (Interim Dean) Date: 7/21/09
    Institution Contact Person: Jeff McNabb Date: 7/21/09

Mail this form to: Executive Director, The Association of Technology, Management, and Applied Engineering, 3300 Washtenaw Avenue, Suite 220, Ann Arbor, MI 48104-4200. Telephone 734-677-0720. Fax 734-677-0046. Email atmae@atmae.org

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2009
Indiana State University
College of Technology
Programs Requesting Reaccreditation

Programs from the Electronics, Computer, and Mechanical Engineering Technology Department

- Automotive Technology Management, B.S.
- Electronics and Computer Technology, A.S.
- Electronics Technology, B.S.

Programs from the Technology Management Department

- Advanced Manufacturing Management, B.S. (previously Manufacturing Technology)
- Packaging, B.S.
- Technology Management, B.S. (previously Industrial Technology)

Indiana State University
More. From day one.

COPY

College of Technology,
Office of Associate Dean

Terre Haute, Indiana 47809
812-237-2987
888-478-7003
Fax 812-237-2823

November 24, 2009

Rick Coscarelli, Executive Director
The Association of Technology Management and Applied Engineering
3300 Washtenaw Ave., Suite 220
Ann Arbor, MI 48104-4200

Dear Dr. Coscarelli:

As we have discussed over the phone, Indiana State University would like to make some changes in our list of programs to be accredited by ATMAE in 2010. (Our original request is attached.) Below is our altered request.

Programs from the Electronics, Computer, and Mechanical Engineering Technology Department, College of Technology

- Automotive Technology Management, B.S.
- Electronics Technology, B.S.

Programs from the Technology Management Department, College of Technology

- Advanced Manufacturing Management, B.S. (previously Manufacturing Technology)
- Packaging, B.S.
- Technology Management, B.S. (previously Industrial Technology)

Programs from the Safety Management Department of the College of Nursing, Health, and Human Services

- Safety Management, B.S.
- Health and Safety (Occupational Safety Management), M.S.

Yours truly,

Jeffrey M McNabb

Dr. Jeffrey McNabb, Associate Dean
College of Technology,
Indiana State University

Indiana State University
More. From day one.
COPY
College of Technology,
Office of Associate Dean

Terre Haute, Indiana 47809
812-237-2987
888-478-7003
Fax 812-237-2823

December 9, 2009

Rick Coscarelli, Executive Director
The Association of Technology Management and Applied Engineering
3300 Washtenaw Ave., Suite 220
Ann Arbor, MI 48104-4200

Dear Dr. Coscarelli:

Indiana State University would like to make some changes in our list of programs to be accredited by ATMAE in 2010.

We request that the six programs in the Electronics, Computer, and Mechanical Engineering Technology Department and in the Technology Management Department be evaluated using the traditional standard model.

<u>Programs from the Electronics, Computer, and Mechanical Engineering Technology Department, College of Technology</u>

- Automotive Technology Management, B.S.
- *Computer Engineering Technology, B.S.* *
- Electronics Technology, B.S.

  * We would like to include Computer Engineering Technology although it is also seeking TAC-ABET accreditation. Formerly known as Computer Hardware Technology, this program has had only minor revisions to its curriculum, and we therefore are asking for its reaccreditation rather than an initial accreditation.

<u>Programs from the Technology Management Department, College of Technology</u>

- Advanced Manufacturing Management, B.S. (previously Manufacturing Technology)
- Packaging, B.S.
- Technology Management, B.S. (previously Industrial Technology)

We would like the two programs below to be evaluated using the outcomes assessment model.

Programs from the Safety Management Department of the College of Nursing, Health, and Human Services

- Safety Management, B.S.
- Health and Safety (Occupational Safety Management), M.S.

If, due to these changes, it is deemed necessary to add another accrediting team member, we will understand and cover the additional cost.

Yours truly,

Jeffrey McNabb

Dr. Jeffrey McNabb, Associate Dean
College of Technology,
Indiana State University

JGM/re

Robert Eberwein

From: Jeffrey McNabb
Sent: Monday, December 21, 2009 9:00 AM
To: Rick Coscarelli at ATMAE/NAIT
Cc: Robert Eberwein
Subject: RE: ATMAE - 2010 Visit to Indiana State University

Thanks Rick,

Everything you have mentioned looks right. Jeff

From: Rick Coscarelli at ATMAE/NAIT [mailto:rcoscarelli@atmae.org]
Sent: Monday, December 14, 2009 3:08 PM
To: Jeffrey McNabb
Cc: ConnorSG@appstate.edu; mac13@indstate.edu
Subject: ATMAE - 2010 Visit to Indiana State University

Jeff and Malcolm,

Thanks for the update on your Programs/Options and that of the Safety Management Department.

I have made the necessary changes to our database to reflect the Master Program in Health and Safety as an Initial Accreditation and have revived the "Computer Hardware Technology" Program which will now be renamed "Computer Engineering Technology" and considered a reaccreditation.

Sid will be working on setting up the Team. It will have a fourth Team member to handle the Master program and the Safety Management Program. You institution will be billed for the additional member per our policy:
Accreditation Visits - Fee for Extra Team Members / Extra Days on Campus:
Fee: Based on a proportionate share of actual expenses.
Fee Calculation: If the Accreditation Personnel Committee determines that more than three team members are required for any visit, or that more than three (3) on-campus days are required for the visit, or if a follow-up on-site visit is required, then the institution will be billed for actual travel costs for the extra team member(s) or additional visit days, or for the follow-up visit. "Actual travel costs" for each extra team member will be determined by dividing the total travel costs by the number of team members. Actual travel costs for each additional visit day will be determined by dividing the total travel costs by the number of on-campus days required for the visit.
Billing: The fee for extra team members / extra days on campus will be billed immediately upon calculation of all direct expenses related to the visit.
Due: The invoice for the Extra Team members / Extra Days on Campus Fee is due and payable 30 days after receipt.
(See 2009 Accreditation Handbook 3.6.3)

Also Jeff, per your request, your Programs will be evaluated using the Traditional 2009 Standards and Malcolm's Programs, both B.S. and M.S. will be using the Outcomes Assessment Model.

Let me know if you see anything that needs changing or update.

Thanks.

Rick

Rick Coscarelli
Executive Director, ATMAE formally NAIT
3300 Washtenaw Ave., Suite 220
Ann Arbor, MI 48104
734-677-0720 voice
734-677-0046 fax
rcoscarelli@nait.org

Robert Eberwein

From: Rick Coscarelli at ATMAE/NAIT [rcoscarelli@atmae.org]
Sent: Monday, December 21, 2009 4:14 PM
To: Jeffrey McNabb; Robert Eberwein
Cc: ConnorSG@appstate.edu
Subject: ATMAE - Initial and Reaccreditation Visit - Indiana State University
Attachments: TEAMASSN Indiana State Univ.DOC; Institution Personnel ISUIT.pdf; Institution Personnel ISUSafety.pdf; Contact&TeamChairChecklist.doc

Importance: High

Jeff,

Indiana State University
Initial and Reaccreditation Visit - March 28-30, 2010

Attached is the "Notification of Team Assignments and Visitation Dates" form for you to sign and get back to me ASAP.

Also, please find out who the contact person should be for Safety. I would like to make sure my records are correct. I understand that you will be the point person for our Team and coordinate activities with the Safety Department, thanks.

You will not receive any hard copy of this notification.

Thanks.

Rick

Rick Coscarelli
Executive Director, ATMAE formally NAIT
3300 Washtenaw Ave., Suite 220
Ann Arbor, MI 48104
734-677-0720 voice
734-677-0046 fax
rcoscarelli@nait.org

The Association of Technology, Management, and Applied Engineering
Notification of Team Assignments and Visitation Dates

ATMAE LEAD + INNOVATE + COLLABORATE

A. General Information:

				X	Master Level
X	Initial Accreditation		Associate Level		Consultant Visit
X	Reaccreditation	X	Baccalaureate Level		Visit (follow-up)

Contact Person:	Dr. Jeff McNabb, Associate Dean IT
Institution:	Indiana State University
Address 1:	ISU, College of Technology
Address 2:	
City, State, & Zip Code:	Terre Haute, IN 47809
Telephone Number:	812-237-2987
Email Address:	jmcnabb@indstate.edu

Jeff McNabb will coordinate with Safety

B. Tentative Team Assignments: (Traditional 2009 Standards for IT Dept. – Outcomes Assessment for Safety BS and Master)

Team Chair:	Dr. Verna M. Fitzsimmons	Team Member 2:	Mr. Todd Myers
Employer:	Kent State University	Employer:	Ohio University
Address 1:	Applied Business & Technology	Address 1:	Rm 124B, Stocker Center
Address 2:	P. O. Box 5190	Address 2:	
City, State, & Zip:	Kent, OH 44242	City, State, & Zip:	Athens, OH 45701-2979
Home Telephone:		Home Telephone:	
Business Telephone:	330-672-7064	Business Telephone:	(740) 593-1455
Email Address:	vfitzsim@kent.edu	Email Address:	myerst2@ohio.edu

Additional Cost if 4 or more Team Members see section 3.6.3 of Handbook

Team Member 3	Dr. Mandara Savage, CSIT	Team Member 4:	Dr. Jess Godbey
Employer:	Southern Illinois Univ-Carbondale	Employer:	Jacksonville State Univ.
Address 1:	Technology	Address 1:	134 Ayers Hall
Address 2:	Mailcode 6603	Address 2:	700 Pelham Road North
City, State, & Zip:	Carbondale, IL 62901-6603	City, State, & Zip:	Jacksonville, AL 36265
Home Telephone:		Home Telephone:	
Business Telephone:	618-536-3396	Business Telephone:	(256) 782-5080
Email Address:	msavage@engr.siu.edu	Email Address:	jgodbey@jsu.edu

C. The following dates have been selected for the on-site visit: March 28-30, 2010

D. A copy of your Self-Study Report must be sent to each team member by: February 26, 2010

If the above team member assignments and visitation dates are acceptable to your institution, please sign below, return the original to the Executive Director, and ***forward copies to your institution head and program head.***

Institution Contact Person Jeff McNabb **Date** 12-22-09

Mail this form to: Executive Director, The Association of Technology, Management, and Applied Engineering, 3300 Washtenaw Avenue, Suite 220, Ann Arbor, MI 48104-4200. Tel: 734-677-0720. Fax: 734-677-0046. Email:atmae@atmae.org.

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SECTION I

THE ON-SITE VISIT

The On-Site Visit

A. Date of the Visit – March 28-30, 2010

B. Visiting Team Members

Team Chair:	Dr. Verna M. Fitzsimmons Kent State University Applied Business & Technology P.O. Box 5190 Kent, OH 44242 330-672-7064 vfitzsim@kent.edu
Team Member 2:	Mr. Todd Myers Ohio University Rm. 124B, Stocker Center Athens, OH 45701-2979 740-593-1455 myerst2@ohio.edu
Team Member 3:	Dr. Mandara Savage, CSIT Southern Illinois University – Carbondale Technology Mailcode 6603 Carbondale, IL 62901-6603 618-536-3396 msavage@engr.siu.edu
Team Member 4:	Dr. Jess Godbey Jacksonville State University 134 Ayers Hall 700 Pelham Road North Jacksonville, AL 36265 256-782-5080 jgodbey@jsu.edu

2^{nd} DRAFT

COLLEGE OF TECHNOLOGY

ATMAE ACCREDITATION TEAM VISIT

Tentative Visitation Schedule

Sunday, March 28, 2010

4:00	Team meets with Dr. Fitzsimmons for initial team meeting (Hilton Garden Inn)
6:00	Dinner at Hilton Garden Inn – Deans, faculty, guests
	Host, Dr. Jeff McNabb Review of the visitation schedule Final modifications of the schedule Campus maps

Monday, March 29, 2010

6:30-7:30	Team meets for breakfast
7:45-8:15	Team meets with Dean Brad Sims and Associate Deans Jeff McNabb and Marcia Miller in ISU College of Technology Conference Room (TA113)
8:15-9:25	Tour College of Technology – Dean Sims, Dr. McNabb, Prof. Malooley
9:30-9:55	Admissions Office, Rich Toomey (EH114); Safety Management faculty (place TBA)
10:00-10:25	Class visitations by assignment
10:30-11:40	President Dan Bradley and Provost Jack Maynard (President's Office)
11:45-1:25	Luncheon with College of Technology & Safety Management faculty, student organization representatives, and advisory board members (place TBA)
1:30-2:15	Review Student Records in College of Technology Records Office (TC101-B); Review Course Outlines/Faculty Resumes (TC314 Work/Resource Room)
2:20-2:55	Student Interviews; Associate Vice President Mark Green (RA200)
3:00-3:25	Class visitations by assignment
3:30-4:30	Team visit with Kent Waggoner, Director of Career Center (Career Center Conference Room)

Tuesday, March 30, 2010

6:30-7:30	Team meets for breakfast
8:15-8:45	Meet with Alberta Comer, Dean, the Cunningham Memorial Library, Library Dean's Conference Room; Kelly Wilkinson, Surveys (NH 301F)
8:50-9:25	Review course materials (TC314 Resource room)
9:30-9:55	Team visit with Director of General Education Linda Maule (location TBA); Ruth Cain, Assessment (Gillum 103J); Tom Sauer, Dean, College of Arts & Sciences (SH 200)
10:00-10:25	Interview of Graduates – Dean's Conference Room (TA113) [phone calls; need a list]
10:30-10:55	Dr. Brad Lawson and Dr. Jeff McNabb, missing information clarification
11:00-12:30	Lunch [on your own]
1:00 (or 2)	Exit interviews – TC105. President Bradley, Provost Maynard, Dean Sims, Associate Deans McNabb & Miller, all faculty preparing self studies, all faculty of programs [others? Dept. Chairs?]

Note: The Visiting Team's work/resource room is TC314.

Team Members

Dr. Verna Fitzsimmons	Chair
Mr. Todd Myers	Institutional Member
Dr. Mandara Savage	Institutional Member
Dr. Jess Godbey	Institutional Member

Examples of Materials that will be located in the Work/Resource Room, TC314:

- Publications
- Hard copy of university undergraduate catalog
- Program appendices
- Examples of student work
- Course notebooks with syllabi
- Faculty resumes
- Listing of Advisory Board members and their phone numbers
- Placement reports by program
- Etc.

C. Current Accreditation Status of Programs

All the BS programs for which we are requesting re-accreditation are currently fully accredited by ATMAE. They are:

Programs from the College of Technology:

Electronics, Computer, and Mechanical Engineering Technology Department:

Automotive Technology Management BS
Computer Engineering Technology BS
Electronics Technology BS

Technology Management Department:

Advanced Manufacturing Management BS
Packaging BS
Technology Management BS

Program from the College of Nursing, Health, and Human Services:

Health, Safety, and Environmental Health Sciences Department

Safety Management BS

The following program is seeking *initial* accreditation:

Program from the College of Nursing, Health, and Human Services:

Health, Safety, and Environmental Health Sciences Department:

Health and Safety (Occupational Safety Management) MS

SECTION II

PART A, 1-3

THE INSTITUTION

II. General Information

A. The Institution

1. Indiana State University, 200 N. 7th St., Terre Haute, IN 47809

Indiana State University, home of the Sycamores, is located in Terre Haute, Indiana, (population 60,000) in the heart of mid-America. Its urban campus has been transformed with pedestrian brick walkways and landscaped open areas replacing streets and outdated buildings.

Founded in 1865 as a training school for teachers, ISU enrolled its first 21 students in 1870. Today – three name changes later – the University offers its 11,000 students more than 100 degree programs through the Bayh College of Education; College of Arts and Sciences; College of Nursing, Health, and Human Services; Donald W. Scott College of Business; College of Technology; and the College of Graduate and Professional Programs. Degrees are awarded at associate, baccalaureate, masters, education specialist, and doctoral levels. In addition, ISU offers a variety of non-credit courses, cultural and recreational opportunities, and diversified workshops, seminars and conferences.

Characterized by small classes, Indiana State has a faculty and staff committed to a personal approach to higher education. Full-time professors teach nine out of ten classes. ISU's 75,000 alumni occupy positions of leadership in education, business, industry, government and public service.

More than 60 buildings, plazas and walkways comprise the main campus on 190 acres adjacent to the Terre Haute business district. In addition, the University maintains family housing units on a 15-acre site one mile south of the main campus and a 12,764 seat football and athletic facility two miles to the east. The 35- acre river campus located along the Wabash is the site of the University's outstanding baseball program.

The campus is continually changing. A new Student Recreation Center opened in 2009, the same year the Bayh College of Education moved into a new home in University Hall, a former laboratory school, following a nearly $30 million renovation. The technology structure, with 35- state-of-the-art laboratories and a 100-seat Teaching/Learning Lab, has a skyline and three-story atrium as its major design features.

Cunningham Memorial Library houses more than 2 million books, periodicals, documents and audiovisual and microfilm items; it is also a government depository containing more than 100,000 government documents. The Rare Books and Special Collections section houses the Eugene V. Debs early papers, early Indiana textbooks and one of the largest early dictionary collections in the world. An interlibrary loan service and several database-searching units also are available.

Hulman Center, completed in 1973, is probably best known as the arena where basketball star Larry Bird played during his college career. Its versatility also provides an ideal location for conferences, conventions, concerts, banquets, stage shows, and other services.

Hulman Memorial Student Union became the hub of campus upon its completion in 1991. Students gather by the attractive outdoor plaza and its circular fountain. The soothing sounds of cascading water set the tone for activity that takes place in the renovated nine-story building.

Within its walls, the Dede Activity Center provides meeting space as well as recreational and fitness opportunities, while a variety of retail services and food is available in The Commons – from fast food franchises and a sit-down restaurant to a bookstore, bank and convenience store.

Tilson auditorium, located in Tirey Hall, houses the Terre Haute Symphony Orchestra ad the University's Convocation Series, which brings touring Broadway productions and other entertainment to campus. The former union building also has a recital hall, which features weekly concerts by University faculty and students.

The New Theatre offers a modern "in-the-round" setting for year-round dramatic presentations. ISU's successful Summer Stage program has provided excellent entertainment for more than traditional performances.

For nearly 150 years, Indiana State has played an important role in Indiana's public service. Today, ISU makes a number of contributions to economic development locally, regionally, and nationally.

The Technology Services Center in the College of Technology contracts with small and medium-sized manufacturing companies to facilitate technology transfer to increase productivity and improve competitiveness. The Center for Business Support and Economic Innovation, housed in the College of Technology, lends faculty expertise to new and expanding businesses that provide real-world experience for students. The center is ISU's connection to the Terre Haute Innovation Alliance, an economic development and education partnership that includes Indiana State, Rose-Hulman Institute of Technology, the Terre Haute Economic Development Corp. and the city of Terre Haute. The Scott College of Business is home to a regional Small Business Development Center that serves a seven-county area in west-central Indiana. Indiana State is also a founding partner in the Rural Health Innovation Collaborative, which seeks to expand on the reputation of Indiana State, the Indiana University School of Medicine and the Richard G. Lugar Center for Rural Health as leaders in training health care professionals for the unique challenges of practicing in medically underserved rural areas.

The Interdisciplinary Center for Cell Products and Technology focuses on areas concerned directly with biotechnology, its commercialization and its social and ethical implications.

Also on campus is the Indiana Institute on Recycling, the country's first state-created institute charged with developing effective voluntary recycling programs.

2. **Number of Students Enrolled–Fall 2009**
(Source: Argos data)

	ISU	COT undergrad	COT graduate	COT total
Total	10,534	870	286	1,156
Full-time	8,125	682	97	779
Part-time	2,409	188	189	377
Full-time equivalent	N/A	N/A	N/A	N/A

Number of Distance Education students – Fall 2009
(Source: ISU Profile of Distance Learners)

ISU – Distance 2,759   Distance Only 1,739
COT – Distance 339   Distance Only 182

3. **Total Full-time equivalent faculty – Spring 2009**
(Source: OSPIRE, Office of Strategic Planning and Institutional Research and Effectiveness)

ISU – 428   COT – 38

ENROLLMENT SUMMARY
FALL SEMESTER 2009
INDIANA STATE UNIVERSITY

TOTAL HEADCOUNT - 10,534 TOTAL FTE - 8,838.5 TOTAL SCH - 129,199.5

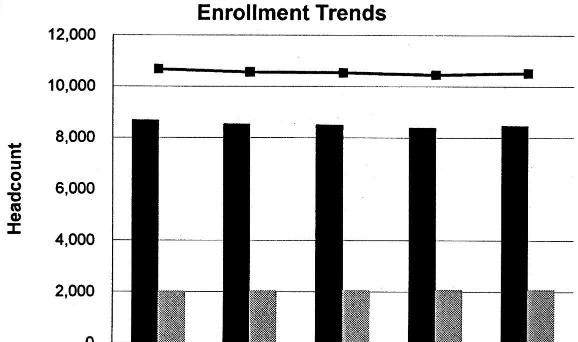
	NUMBER	PERCENT
UNDERGRADUATES	8,460	80.3%
GRADUATES	2,074	19.7%
FULL-TIME	8,125	77.1%
PART-TIME	2,409	22.9%
MEN	4,967	47.2%
WOMEN	5,567	52.8%
U.S. MINORITY STUDENTS	1,988	18.9%
INDIANA RESIDENTS	8,246	78.3%
OUT-OF-STATE	1,801	17.1%
INTERNATIONAL[1]	487	4.6%

AVERAGE AGE[2]	YEARS
UNDERGRADUATES	23.49
GRADUATES	33.91

AGE BY LEVEL[2]		NUMBER	PERCENT
UNDERGRADUATES	< 25	6,541	62.1%
UNDERGRADUATES	≥ 25	1,915	18.2%
GRADUATES	< 25	461	4.4%
GRADUATES	≥ 25	1,613	15.3%

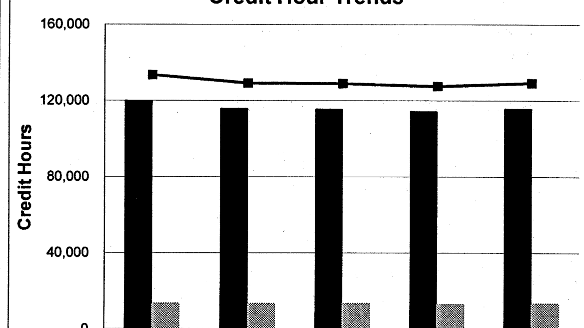
STUDENTS ENROLLED FROM:
91 INDIANA COUNTIES
52 STATES AND U.S. TERRITORIES
56 COUNTRIES

Enrollment Trends



	2005	2006	2007	2008	2009
Undergrads	8,670	8,537	8,493	8,386	8,460
Grads	2,009	2,031	2,050	2,071	2,074
Total	10,679	10,568	10,543	10,457	10,534

Credit Hour Trends



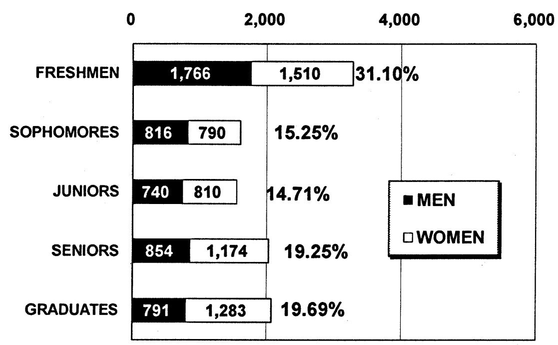
	2005	2006	2007	2008	2009
Undergrads	120,005	115,883	115,530	114,437	115,685
Grads	13,464	13,281	13,450	13,067	13,515
Total	133,468	129,164	128,979	127,504	129,200

HIGHLIGHTS
ENROLLMENT CHANGES FROM FALL 2008 TO FALL 2009

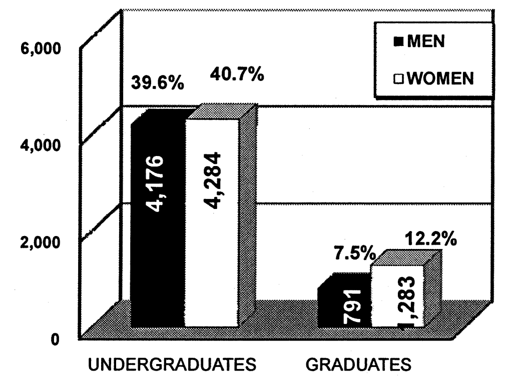
- **UNIVERSITY TOTALS**
  Total enrollment increased by 77 students or 0.7%
  Total undergraduate enrollment increased by 74 students or 0.9%.
  Total graduate student enrollment increased by 3 students or 0.1%.
  Total full-time equivalent (FTE)[3] students increased by 120.5 or 1.4%.
- **CLASSIFICATION[4]**
  Freshman enrollment increased by 97 students or 3.1%.
  Sophomore enrollment increased by 16 students or 1.0%.
  Junior enrollment increased by 20 students or 1.3%.
  Senior enrollment decreased by 59 students or 2.8%.
- **COLLEGE**
  Enrollment increased in Arts and Sciences (200 students or 6.2%), Nursing, Health and Human Services (141 students or 10.8%), Education (17 students or 2.7%), and in Graduate Studies (3 students or 0.1%).
  Enrollment decreased in Student Academic Services (134 students or 12.8%), Non Degree (131 students or 70.4%), Technology (11 students or 1.2%), and in Business (8 students or 0.7%).
- **U.S. MINORITY STUDENTS**
  Total U.S. minority student enrollment increased by 195 students or 10.9%.
  Undergraduate U.S. minority enrollment increased by 139 students or 9.3%.
  Graduate U.S. minority enrollment increased by 56 students or 19.2%.
- **FULL-TIME STATUS[5]**
  Full-time enrollment increased by 189 students or 2.4%.
  Full-time undergraduates increased by 107 students or 1.5%.
  Full-time graduate students increased by 82 students or 11.1%.
- **PART-TIME STATUS[5]**
  Part-time enrollment decreased by 112 students or 4.4%.
  Part-time undergraduates decreased by 33 students or 2.8%
  Part-time graduate students decreased 79 students or 5.9%.
- **IN-STATE RESIDENTS**
  In-state students increased by 8 students or 0.1%.
  In-state undergraduates increased by 18 students or 0.3%.
  In-state graduate students decreased by 10 students or 0.9%
- **OUT-OF-STATE RESIDENTS**
  Out-of-state students increased by 26 students or 1.5%.
  Out-of-state undergraduates increased by 25 students or 2.4%.
  Out-of-state graduate students increased by 1 students or 0.1%.
- **INTERNATIONAL STUDENTS**
  International students increased by 43 students or 9.7%
  International undergraduates increased by 31 students or 15.3%
  International graduate students increased by 12 students or 5.0%.

[1] *The international count shown on Page 1 (487) is different from the international count shown on Page 3 (239+160=399), because Page 1 is based on country of origin at admission and Page 3 is based on ethnicity.*
[2] *Average Age and Age by Level is based on 10,530 students for whom age data was available (99.96% of total enrollment).*
[3] *Total FTE Students = (Total Number of Undergraduate Credit Hours Enrolled / 15) + (Total Number of Graduate Credit Hours Enrolled / 12).*
[4] *The calculation for classification is Earned Hours ONLY (Current Hours Enrolled are NOT included).*
[5] *FULL-TIME : enrolled for 12 or more hours (Undergraduate), 9 or more hours (Graduate);* [5] *PART-TIME: enrolled for less than 12 hours (Undergraduate), less than 9 hours (Graduate).*

Enrollment by Gender and Classification



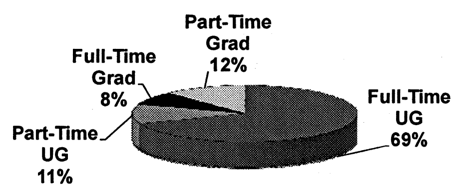
Enrollment by Gender and Level



Enrollment By College

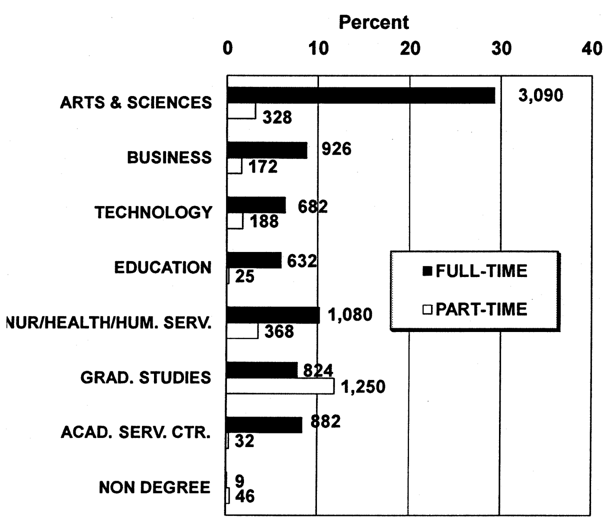
College	MEN NO.	MEN PCT	WOMEN NO.	WOMEN PCT	TOTAL NO.	TOTAL PCT
ARTS & SCIENCES	1,810	17.2%	1,608	15.3%	3,418	32.4%
BUSINESS	604	5.7%	494	4.7%	1,098	10.4%
TECHNOLOGY	730	6.9%	140	1.3%	870	8.3%
EDUCATION	81	0.8%	576	5.5%	657	6.2%
NUR/HLTH/HUM SRV	442	4.2%	1,006	9.6%	1,448	13.7%
GRAD. STUDIES	791	7.5%	1,283	12.2%	2,074	19.7%
ACAD. SERV. CTR.	479	4.5%	435	4.1%	914	8.7%
NON DEGREE	30	0.3%	25	0.2%	55	0.5%
TOTAL	4,967	47.2%	5,567	52.8%	10,534	100.0%

Enrollment by Status and Level

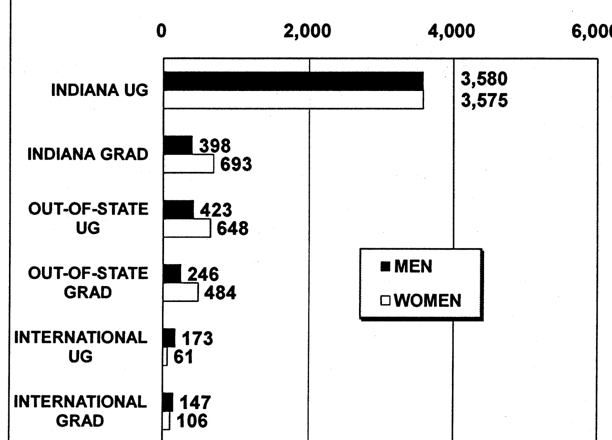


Undergraduate	Graduate
Full-Time: 7,301	Full-Time: 824
Part-Time: 1,159	Part-Time: 1,250

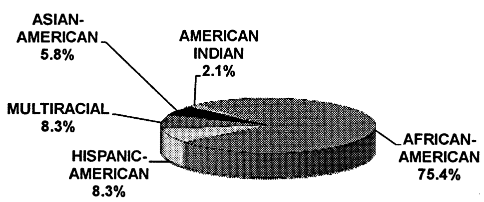
Enrollment by Status and College



Enrollment by Gender, Level, and Residency



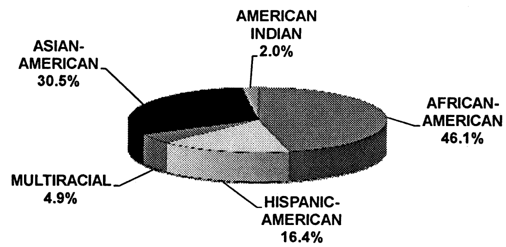
Undergraduate U.S. Minority Students



U.S. Minority Students comprise 1,641 (19.4%) of all undergraduate students

Caucasian students comprise 6,446 (76.2 %) of all undergraduate students
International students comprise 239 (2.8%) of all undergraduate students
Students of unknown origin comprise 134 (1.6%) of all undergraduate students

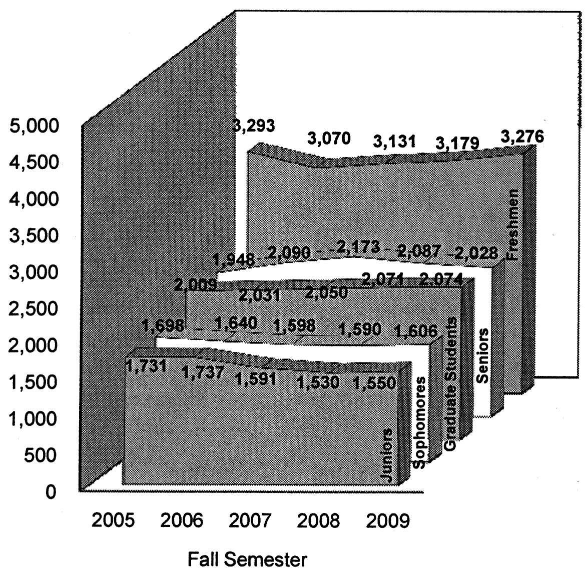
Graduate U.S. Minority Students



U.S. Minority Students comprise 347 (16.7%) of all graduate students

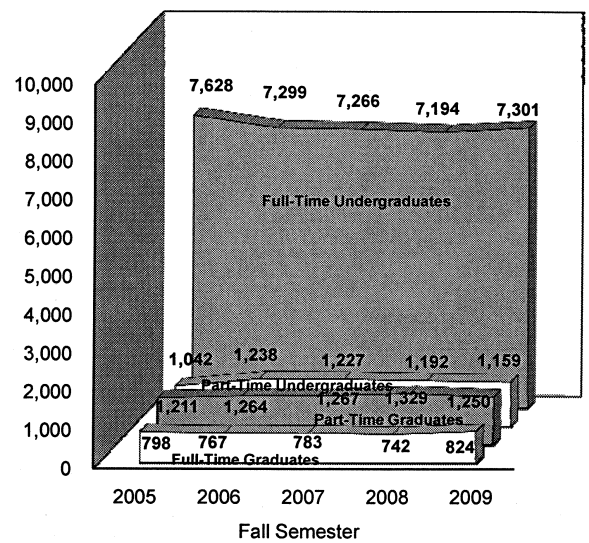
Caucasian students comprise 1,486 (71.6 %) of all graduate students
International students comprise 160 (7.7%) of all graduate students
Students of unknown origin comprise 81 (3.9%) of all graduate students

Enrollment Trends
by Classification



The calculation is Earned Hours ONLY (Current Hours Enrolled are NOT included)

Enrollment Trends
by Status and Level



Top Ten Undergraduate Departments*

DEPARTMENT	NUMBER ENROLLED**
Elem., Early & Special Educ.	573
Crim. & Criminal Justice	553 Tied
Nursing	553
Business Administration	349
Physical Education	253
Psychology	239
Communication	238
Technology Management	233
Mathematics & Computer Science	225
Music	211
Family and Consumer Sciences	204

Top Ten Graduate Departments***

DEPARTMENT	NUMBER ENROLLED
Educ'l Ldrship., Admin. & Foundations	268
Nursing	267
Curric., Instruct., & Media Technology	185
CD & Coun., Sch., & Ed. Psy.	181
Crim. & Criminal Justice	110
Technology Management	87
Biology	82
Elem., Early & Special Educ.	73
Political Science	65
Industrial Technology Education	61

* Does not include Liberal Studies (502), Nursing Non-Designated majors (298), or Conditional Admission/Open Preference students (914).
** Counts include students pursuing Associate degrees.
***Does not include Department of Education Certification (30).

ENROLLMENT BY DEPARTMENT
FALL 2009

COLLEGE DEPARTMENT	UNDERGRADUATE 2-YEAR ASSOCIATE	UNDERGRADUATE OTHER	GRADUATE	TOTAL
ARTS & SCIENCES				
African & African American Studies		2		2
Art		157	30	187
Biology		75	82	157
Chemistry		23		23
Chemistry and Physics		29		29
Communication		238	24	262
Criminology			2	2
Criminology & Criminal Justice		553	110	663
Ecology & Organismal Biology			2	2
Economics		14		14
English		149	29	178
Family and Consumer Sciences		204	23	227
Geography, Geology & Anthropology		76	26	102
History		62	18	80
Languages, Literatures & Linguistics		59	32	91
Liberal Studies	388	114		502
Life Sciences			5	5
Mathematics & Computer Science		225	42	267
Music		211	11	222
Philosophy		9		9
Physics		12		12
Political Science		77	65	142
Pre-Professional		189		189
Psychology		239	54	293
Science Education		29		29
Social Science Education		140		140
Social Work		94		94
Sociology		1		1
Theater		49		49
SUBTOTAL	388	3,030	555	3,973
BUSINESS				
Business Analytical				
Accounting		189		189
Analytical		13		13
Finance		80		80
Insurance and Risk Management		57		57
Operations Mgt & Analysis		6		6
Business Organizational				
Business Educ., Inform. & Tech.		26		26
Management		100		100
Management Information Systems		32		32
Marketing		129		129
College of Business				
Business Administration		349		349
Business/Non-Designated		117		117
Master of Business Administration			54	54
SUBTOTAL		1,098	54	1,152

COLLEGE DEPARTMENT	UNDERGRADUATE 2-YEAR ASSOCIATE	UNDERGRADUATE OTHER	GRADUATE	TOTAL
EDUCATION				
CD & Coun., Sch., & Edu. Psych.		73	181	254
Counseling			2	2
Curr. Instr. & Media Tech.			185	185
Education/Non-Designated		10		10
Educ'l Ldrship., Admin. & Foundations			268	268
Elem., Early & Childhood Educ.		1		1
Elem., Early & Special Educ.		573	73	646
Department of Education			34	34
SUBTOTAL		657	743	1,400
HEALTH & HUMAN PERFORMANCE				
Athletic Training		100	16	116
Health, Safety, & Envrnmntl Hlth Sci.		96	33	129
Nursing		851	267	1118
Physical Education		253	32	285
Recreation and Sport Management		148	33	181
SUBTOTAL		1,448	381	1,829
TECHNOLOGY				
Aerospace Technology	1	74		75
Aviation Technology	1	138		139
Elec & Comp Mech Engin Tech	4	156	52	212
Electronic & Computer Tech.		28	22	50
Industrial & Mechanical Tech.		77	10	87
Industrial Technology Educatior	1	68	61	130
Mnfg. & Construct. Technology		81		81
Technology Management		233	87	320
Technology/Non-Designated		8		8
College of Technology (PhD)			54	54
SUBTOTAL	7	863	286	1,156
GRADUATE STUDIES			55	55
SUBTOTAL			55	55
NON DEGREE				
Non Degree		55		55
SUBTOTAL		55		55
STUDENT ACADEMIC SERVICES				
Conditional Admission		666		666
Open Preference		248		248
SUBTOTAL		914		914
TOTAL	395	8,065	2,074	10,534

Sources: Official Reports, Office of the Registrar, Fall Semesters (2005-2009).
Official files, Student Information System, Fall 2009 (age information as of August 26, 2009).

Office of Institutional Research and Assessment
Indiana State University, 419 Rankin Hall
Phone: 237-2305 Fax: 237-4530

Web Version Available at: http://irt2.indstate.edu/home/stats/stats.htm#roll

College of Technology

Enrollments* and Credit Hours Since the Fall 2008 Reorganization

*Not a headcount but number of enrollments in courses. Data from 10-day report.

The subcategories are divided by course prefixes.

	Enrollments			Credit Hours	
	Fall '08	**Fall '09**		**Fall '08**	**Fall '09**
Air Force ROTC	64	170		78	189
Aviation Tech Dept.	631	599		1644	1546
PhD courses	40	30		128	97
ECMET Dept. Total	924	946		2674	2746
Automotive Eng. Tech.	139	123		395	369
Elect. & Computer Tech.	493	520		1480	1541
Mechanical Eng. Tech.	292	303		799	836
Technology Mgt Dept. Total	1384	1471		4079	4361
Construction Management	319	324		927	942
Career & Tech Ed	38	43		114	129
Human Resources Dev.	392	415		1176	1245
Advance Manufacturing Mgt.	45	52		135	156
Packaging	64	109		192	327
Technology Education	6	24		18	72
Technology Mgt.	520	516		1517	1490
College Total	3043	3228		8603	8939

College of Technology
Graduate and Undergraduate Student Credit Hours*

* Data from 10-day report.

		ROTC	AST	ECT	IMT	ITE	MCT	COT	UNIV
Fall	00	69	1570	1496	1432	1353	1740	7,660	137,496
Spring	01	78	1498	1257	1216	1425	1777	7,255	123,210
Summer	01		98	195	114	823	234	1,456	26,420
Fall	01	79	2041	1800	1284	1934	1805	8,997	141,958
Spring	02	84	1779	1495	1254	1830	1775	8,262	128,313
Summer	02		135	108	30	719	180	1,220	25,261
Fall	02	153	2346	1777	1197	2410	1989	9,951	147,825
Spring	03	100	2242	1607	1156	2107	1741	9,022	132,487
Summer	03		194	123	147	798	177	1,536	23,708
Fall	03	99	2281	1926	1234	2048	1859	9,520	144,417
Spring	04	72	2347	1538	1228	2247	1929	9,482	129,862
Summer	04		263	72	70	649	220	1,352	24,812
Fall	04	88	2701	1970	1207	2325	1716	10,140	141,079
Spring	05	67	2161	1728	1264	2072	1586	9046	125,194
Summer	05		259	145	93	673	273	1524	23,776
Fall	05	70	2414	1832	1255	2059	1640	9377	133,468
Spring	06	64	1958	1208	1208	2062	1890	8668	121731
Summer	06		255	46	138	543	186	1259	22482
Fall	06	88	1974	1710	1513	1735	1939	9128	129,164
Spring	07	62	1858	1547	1415	1818	1751	8611	117,010
Summer	07		267	93	188	540	170	1322	24460
Fall	07	86	1595	1586	1565	1681	1836	8506	128,979
Spring	08	77	1540	1196	1251	1932	1831	7965	113,172
Summer	08		70	69	138	379	132	839	21,827
		ROTC	AVT	ECMT		TMGT	*	COT	UNIV
Fall	08	78	1644	2674		4070		8603	127,503
Spring	09	80	1528	2159		3909		7773	112,539
Summer	09		57	99		783		991	
Fall	09	189	1546	2782		4325		8939	129199

College of Technology
Graduate and Undergraduate Enrollments*

* Not a headcount but number of enrollments in courses. Data from 10-day report.

		ROTC	AST	ECT	IMT	ITE	MCT	COT	UNIV
Fall	00	52	655	522	496	460	613	2,798	51,419
Spring	01	39	600	437	418	486	603	2,588	45,621
Summer	01		66	65	38	284	77	544	9378
Fall	01	63	853	627	458	654	631	3,301	52,929
Spring	02	37	721	506	432	624	609	2,974	47,278
Summer	02		75	36	10	240	60	435	8,932
Fall	02	121	971	608	439	822	704	3,688	55,955
Spring	03	80	887	541	394	714	596	3,234	49,521
Summer	03		98	54	49	271	59	549	8,368
Fall	03	87	948	651	433	694	658	3,492	54,449
Spring	04	61	943	513	422	757	656	3,387	48,314
Summer	04		129	28	24	217	74	493	8,854
Fall	04	80	1087	663	425	787	606	3,683	52,994
Spring	05	60	880	587	436	700	534	3245	46,432
Summer	05		129	55	32	228	91	510	8509
Fall	05	62	986	599	441	694	575	3393	50257
Spring	06	56	799	402	460	700	646	3,118	44973
Summer	06		115	16	48	188	62	456	7980
Fall	06	72	813	570	523	588	669	3280	48412
Spring	07	49	743	515	493	612	593	3051	43083
Summer	07		111	31	63	181	57	462	8506
Fall	07	74	666	533	543	562	637	3069	48,252
Spring	08	62	594	385	448	647	631	2809	41,909
Summer	08		41	23	46	127	44	294	8095
		ROTC	AVT	ECMT		TMGT		COT	UNIV
Fall	08	64	631	924		1384		3043	47,688
Spring	09	70	606	737		1323		2765	41,474
Summer	09		34	33		262		343	
Fall	09	170	599	958		1471		3228	48237

College of Technology Headcounts
Summary of Undergraduate and Graduate Majors by Program

	Fa09	Fa08	Fa07	Fa06	Fa05	Fa04
AVIATION TECHNOLOGY	**214**	**227**	**237**	**270**	**306**	**321**
General Aviation Flight (AS)	2	9	4	5	4	9
Aviation Management (BS)	47	43	48	52	55	47
Professional Aviation Flight Technology (BS)	165	175	185	213	247	265
ECMET	**247**	**244**	**259**	**256**	**268**	**283**
Electronics & Computer Technology (AS)	4	4	6	2	8	15
Electronics Technology (BS)	44	53	66	81	84	93
Computer Engineering Technology (BS)	38	36	41	34	39	50
Automotive Technology Management (BS)	50	57	62	69	66	60
Mechanical Engineering Technology (BS)	97	74	67	48	50	49
Automation & Control Engineering (BS)	14	20	17	22	21	16
TECHNOLOGY MANAGEMENT	**401**	**395**	**392**	**417**	**390**	**441**
Construction Technology (AS)	0	2	2	3	9	25
Technology Management (BS)	61	36	42	49	29	32
Career & Technical Education (AS)	0	0	2	3	0	0
Technology & Engineering Education (BS)	18	16	24	31	33	35
Human Resource Development (BS)	120	113	97	109	118	140
Career & Technical Education (BS)	22	32	44	43	34	46
Career & Technical (Teaching)	0	0	2	2	3	2
Construction Management (BS)	148	159	145	145	136	133
Advanced Manufacturing Management (BS)	8	11	11	11	8	8
Packaging (BS)	24	26	23	21	20	20
Technology Non-Designated	**8**	15	5	4	14	10
TOTAL UNDERGRADUATE MAJORS	**870**	**881**	**893**	**947**	**978**	**1055**
	Fa09	Fa08	Fa07	Fa06	Fa05	Fa04
MASTER LEVEL PROGRAMS						
Industrial Technology (MS)	27	17	30	34	28	29
Technology Education	2	2	1	3	2	4
Career & Technology Education (MA/MS)	5	6	5	5	5	2
Electronics & Computer Technology (MA/MS)	74	70	77	82	78	73
Vocational Director Certificate	2	3	0	2	3	0
Human Resource Development (MS)	122	116	136	143	158	162
Certificate Human Resources		1				
Technology Management (Ph.D.)	54	56	77	77	79	65
TOTAL GRADUATE MAJORS	**286**	**271**	**326**	**346**	**353**	**335**
TOTAL MAJORS IN THE SCHOOL	**1156**	**1152**	**1219**	**1293**	**1331**	**1390**

% difference from previous fall	0%	-5%	-6%	-3%	-4%	

SECTION II

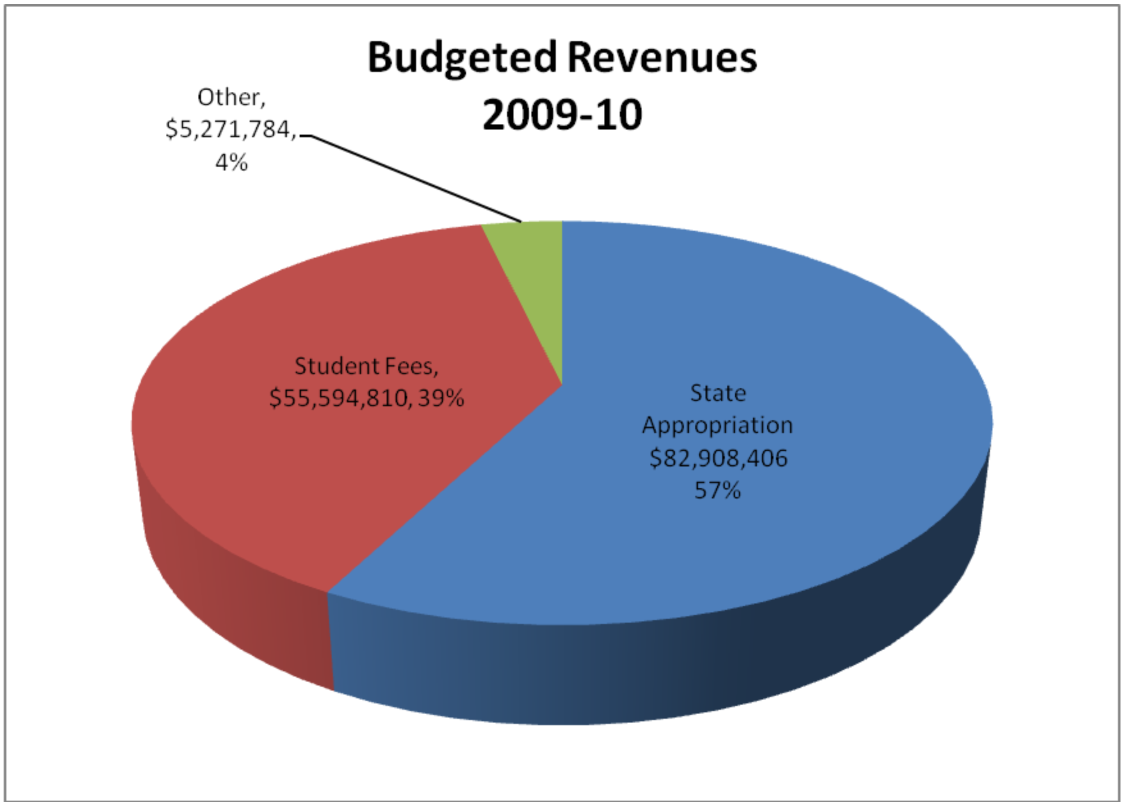
PART A, 4

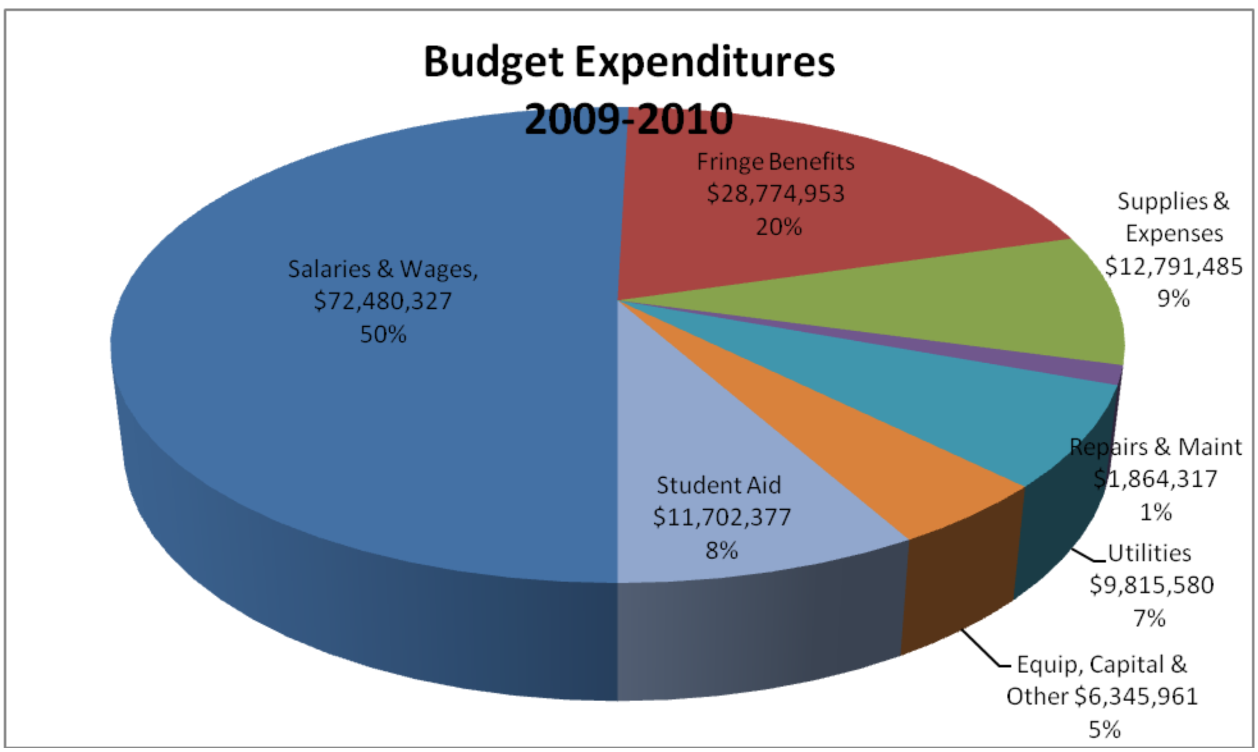
OPERATING BUDGET

4. Operating Budget
a. Current

Indiana State University
2009-10 Operating Budget Summary

Personnel Services	
Salaries & Wages	$72,480,327
Fringe Benefits	28,774,953
Total Personnel Services	$101,255,280
Supplies and Expenses	
General Supplies and Expenses	$12,791,485
Repairs and Maintenance	1,864,317
Utilities	9,815,580
Other Expenses	6,345,961
Total Supplies and Expenses	$30,817,343
Student Assistance	$11,702,377
Total Budget	$143,775,000


Budgeted Revenues
2009-10
Other, $5,271,784, 4%
Student Fees, $55,594,810, 39%
State Appropriation $82,908,406 57%


Budget Expenditures
2009-2010
Fringe Benefits $28,774,953 20%
Supplies & Expenses $12,791,485 9%
Salaries & Wages, $72,480,327 50%
Repairs & Maint $1,864,317 1%
Student Aid $11,702,377 8%
Utilities $9,815,580 7%
Equip, Capital & Other $6,345,961 5%

b. Five-Year History

INDIANA STATE UNIVERSITY
Current Operating Budget
Historical Expenditures

	2003-04	2004-05	2005-06	2006-07	2007-08
Personnel Services	$ 95,953,368	$ 99,449,363	$ 98,118,236	$ 96,229,963	$ 96,788,736
Supplies and Expense	27,966,672	29,586,640	28,406,014	28,408,687	31,661,181
Student Assistance	7,515,975	8,839,043	9,171,988	10,113,023	11,813,137
TOTAL	$ 131,436,015	$ 137,875,046	$135,696,238	$ 134,751,673	$ 140,263,054

Indiana State University				
College of Technology				
Fiscal Year 2009-2010 Budget				
Compensation				
	Administrative			$ 443,720
	Faculty			2,403,163
	Adjunct			315,629
	Staff			265,961
	Student Wages			46,733
	Total Compensation			$3,475,206
Supplies				146,870
Travel Expenditures				31,629
	Total Supplies and Travel			178,499
Repairs and Maintenance				10,397
Capital Equipment				99,755
TOTAL DIRECT CURRENT OPERATING SUPPORT				**$3,763,857**

Indiana State University						
College of Technology						
Five Year Budget Allocations						
		Fiscal Years				
		2004/05	2005/06	2006/07	2007/08	2008/09
Compensation						
	Administrative	$ 526,016	$ 521,355	$ 381,829	$ 451,684	$ 472,702
	Faculty	2,108,156	2,241,363	2,358,586	2,133,800	2,403,488
	Adjunct	534,529	388,356	282,425	443,006	308,920
	Staff	272,637	252,540	261,359	259,502	298,428
	Student Wages	39,424	38,433	59,634	50,959	57,769
	Total Compensation	$3,480,761	$3,442,047	$3,343,834	$3,338,951	$3,541,308
Supplies		149,534	159,032	179,011	170,954	151,982
Travel Expenditures		58,196	50,634	60,626	63,423	87,106
	Total Supplies and Travel	207,730	209,667	239,637	234,377	239,088
Repairs and Maintenance		4,417	4,726	10,385	18,487	5,090
Capital Equipment		50,134	40,844	37,360	31,265	38,018
TOTAL DIRECT OPERATING SUPPORT		**$3,743,042**	**$3,697,284**	**$3,631,216**	**$3,623,080**	**$3,823,504**

SECTION II

PART A, 5

INSTITUTIONAL ACCREDITATION

5. **Institutional Accreditation Organizations and Dates of Accreditation**

Indiana State University is accredited by the North Central Association of Colleges and Secondary Schools, 1915 through the present. (Source: ICHE website)

This and other accreditations are listed below. (Source: Office of the Provost)

Current Accreditations

DEPARTMENT/PROGRAM	ACCREDITING AGENCY	ACCREDITED THROUGH
The University	The Higher Learning Commission of the North Central Association Criteria for Accreditation	2011
All educator licensure programs and related school programs	Division of Professional Standards and National Council for the Accreditation of Teacher Education	Fall 2011
College of Arts & Sciences		
Art	National Association of Schools of Art and Design	2010
Family & Consumer Sciences	American Association of Family and Consumer Sciences	Spring 2015
Dietetics	American Dietetic Association	2011
Interior Design Program	Council for Interior Design Accreditation	2010
Music	National Association of Schools of Music	2008-2009
Psychology (Clinical Psychology)	American Psychological Association	2011
Social Work	Council on Social Work Education	2016
College of Business		
Organizational Department Analytical Department MBA Program	AACSB International - The Association to Advance Collegiate Schools of Business	2009-2010

DEPARTMENT/PROGRAM	ACCREDITING AGENCY	ACCREDITED THROUGH
College of Education		
Communication Disorders Speech Language Pathology	American Speech-Language- Hearing Association	Spring 2017
Counseling; Ph.D. in Counseling Psychology	American Psychological Association	2010
	American Psychological Association	2013
Educational/School Psychology	National Association of School Psychologists	NASP folio due Fall 2008
M.S. Counseling Psychology M.S. School Counseling M.S. Student Affairs Administration	Council for Accreditation of Counseling and Related Educational Programs	2012
College of Nursing, Health, and Human Services		
Continuing Education in Nursing Program	American Nurses Credentialing Center (ANCC) of the American Nurses Association	Spring 2011
Master's in Nursing Program	National League for Nursing Accrediting Commission, Inc. (NLNAC)	Fall 2011
Baccalaureate in Nursing Program	National League for Nursing Accrediting Commission, Inc. (NLNAC)	Fall 2011
	Indiana State Board of Nursing (ISBN)	
Athletic Training	National Athletic Trainers' Association	Graduate Program Next Review 2008-2009
Athletic Training	Commission on Accreditation of Allied Health Education Programs (CAAHEP) Sport Management Program approved by:	Undergraduate Program Next Review 2009-2010
	National Association for Sport and Physical Education in cooperation with the North American Society of Sport Managers	2012-2013 Undergraduate Program
Recreation and Sport Management	Sport Management Program Review Council	2010-2011 Graduate Program
	National Recreation and Park Association / American Association for Leisure and Recreation	2011-2012
Safety Management	National Association of Industrial Technology	November 2010

DEPARTMENT/PROGRAM	ACCREDITING AGENCY	ACCREDITED THROUGH
College of Technology		
Construction Management Program (Manufacturing and Construction Technology)	American Council for Construction Education	2009
Programs in Computer Hardware Tech, Electronics Tech, Electronics & Computer Tech, General Industrial Tech, Industrial Automotive Tech, Mechanical Tech, Packaging Tech, Manufacturing Tech, Computer Integrated Manufacturing, & Printing Management	National Association of Industrial Technology (ATMAE)	November 2010
Technology & Engineering Education	National Council for Accreditation of Teacher Education	2012

PROGRAMS SEEKING ACCREDITATION	ACCREDITING AGENCY
Mechanical Engineering Technology, Computer Engineering Technology	Technology Accreditation Commission, Accreditation Board for Engineering & Technology (TAC-ABET)

SECTION II

PART A, 6

INSTITUTIONAL ACCREDITATION BY ATMAE

6. **History of Accreditation by the Association of Technology, Management, and Applied Engineering**

INDIANA STATE UNIVERSITY
COLLEGE OF TECHNOLOGY ATMAE ACCREDITATION HISTORY

ACCRED. DATES	ACCRED. TYPE	PROGRAM	NUMBER OF MAJORS	DEPARTMENT
		Industrial Technology with options in:		
1974-1978	Full	Automotive (1965)	57	
		Manufacturing Design (1968)	55	Industrial
		Manufac. Electronics (1968)	79	Professional
		Manufac. Supervision (1964)	71	Technology
		Printing Management (1968)	44	
		Packaging Technology	03	
1979	Full -- 1 yr. Extension granted			
1980	Full -- 1 yr. Extension granted			
1979-1983	Full	Electronics Tech. Computer Tech. (1979)		Electronics and Computer Tech.
		Mechanical Tech. Automotive Tech. Packaging Tech.		Industrial and Mechanical Technology
		Manufacturing Tech. Graphic Arts Management		Manufac. And Constr. Tech.
1984	Full -- 1 yr. Extension granted			
1985	Full -- 1 yr. Extension granted			
1986-1992	Full	Electronics Technology Computer Technology		Electronics and Computer Tech.
		Industrial Automotive Tech. Mechanical Technology Packaging Technology		Industrial and Mechanical Technology
		Graphic Arts Management Manufacturing Tech.		Manufac. And Constr. Tech.
1992-1998	Full	Electronics Technology Computer Hardware Technology		Electronics and Computer Tech.
		Industrial Automotive Tech.		Industrial and Mechanical Tech.

1998-2004	Full	Computer Hardware Technology	Electronics and Computer Tech.
	Full	Computer Integrated Manufacturing	Mfg. and Construction Tech.
	Full	Electronics Technology	Electronics and Computer Tech.
	Full	Industrial Automotive Technology	Industrial and Mechanical Tech.
	Full	Manufacturing Technology	Mfg. and Construction Tech.
	Full	Packaging Technology	Industrial and Mechanical Tech.
	Full	Printing Management	Mfg. and Construction Tech.
	Full	Electronics and Comp. Technology A.S.	Electronics and Computer Tech.
1998-2001	Prov	Mechanical Technology	Industrial and Mechanical Tech.
2001-2004	Full	Mechanical Technology	Industrial and Mechanical Tech.
2004-2010	Full*	Automotive Technology Management	Industrial and Mechanical Tech.
	Full*	Computer Hardware Technology	Electronics and Computer Tech.
	Full*	Computer Integrated Manufacturing	Mfg. and Construction Tech.
	Full*	Electronics Technology	Electronics and Computer Tech.
	Full*	Industrial Technology	Industrial and Mechanical Tech.
	Full*	Manufacturing Technology	Mfg. and Construction Tech.
	Full*	Mechanical Design Technology	Industrial and Mechanical Tech.
	Full*	Packaging Technology	Industrial and Mechanical Tech.
	Full*	Electronics & Comp. Technology A,S.	Electronics and Computer Tech.

*A report was required in 2006.

SECTION II

PART A, 7-9

ADMINISTRATION/UNITS/MISSION

7. Administration of the Institution

a. Head
President Daniel Bradley
July 2008 - present

b. Chief Academic Officer
Dr. Jack Maynard
Provost and Vice President for Academic Affairs

8. Major Academic Units within the Institution

ISU has seven academic divisions, each headed by a dean or Associate Vice President who reports to the Provost and Vice President for Academic Affairs.

	Deans
Colleges of Arts and Sciences	Dr. Thomas Sauer
College of Business	Dr. Nancy Merritt
College of Education	Dr. Bradley Bach
College of Nursing, Health, & Human Services	Dr. Richard Williams
College of Technology	Dr. Brad Sims
College of Graduate and Professional Studies	Prof. Jay Gatrell
	Assoc. Vice President
Academic Services Center	Dr. Jennifer Boothby

9. Institutional Mission and Value Statements

Mission Statement

Indiana State University, a doctoral research university, combines a tradition of strong undergraduate and graduate education with a focus on community and public service. We integrate teaching, research, and creative activity in an engaging, challenging, and supportive learning environment to prepare productive citizens for Indiana and the world.

Indiana State University Value Statements

- We value high standards for learning, teaching, and inquiry.
- We provide a well-rounded education that integrates professional preparation and study in the arts and sciences with co-curricular involvement.
- We demonstrate integrity through honesty, civility, and fairness.
- We embrace the diversity of individuals, ideas, and expressions.
- We foster personal growth within an environment in which every individual matters.
- We uphold the responsibility of University citizenship.
- We exercise stewardship of our global community.

SECTION II

PART A, 10

RELATIONSHIP TO SUPERIOR GOVERNING BODY

10. Relationship of Institution to Superior Governing Body:

ISU is a public, state-assisted institution and a member of the Indiana Commission for Higher Education (ICHE). (Source: ICHE website)

BOARD OF TRUSTEES

Indiana State University is governed by the Indiana State University Board of Trustees. The Board is composed of nine members appointed by the Governor. Two of the nine are nominated by the Indiana State University Alumni Association, six are at-large positions, and the student representative is appointed from nominations submitted by a Student Government Association search and screen committee. All appointments are for a period of four years except for the student trustee, who serves two years. Terms begin on July 1 of the year the appointment is effective. The Governor fills Board vacancies by appointment for unexpired terms.

INDIANA GENERAL ASSEMBLY
The Indiana General Assembly has delegated certain powers and authority to the University's Board of Trustees. The General Assembly appropriates the operating and capital budgets of the institution. The University is subject to the rules, regulations, and statutory requirements enacted by the General Assembly.

INDIANA COMMISSION FOR HIGHER EDUCATION
In 1971, the Indiana General Assembly enacted legislation creating a Commission for Higher Education. The Commission has authority in planning and coordination of Indiana's state-supported post-secondary institutions of higher education, in the review of appropriation requests, in the recommendation of budget authorizations (both operating and capital) to the Governor, State Budget Agency, and the General Assembly, in the approval of new degree programs, in the review of existing programs, and in the performance of other functions assigned or authorized by the Governor.

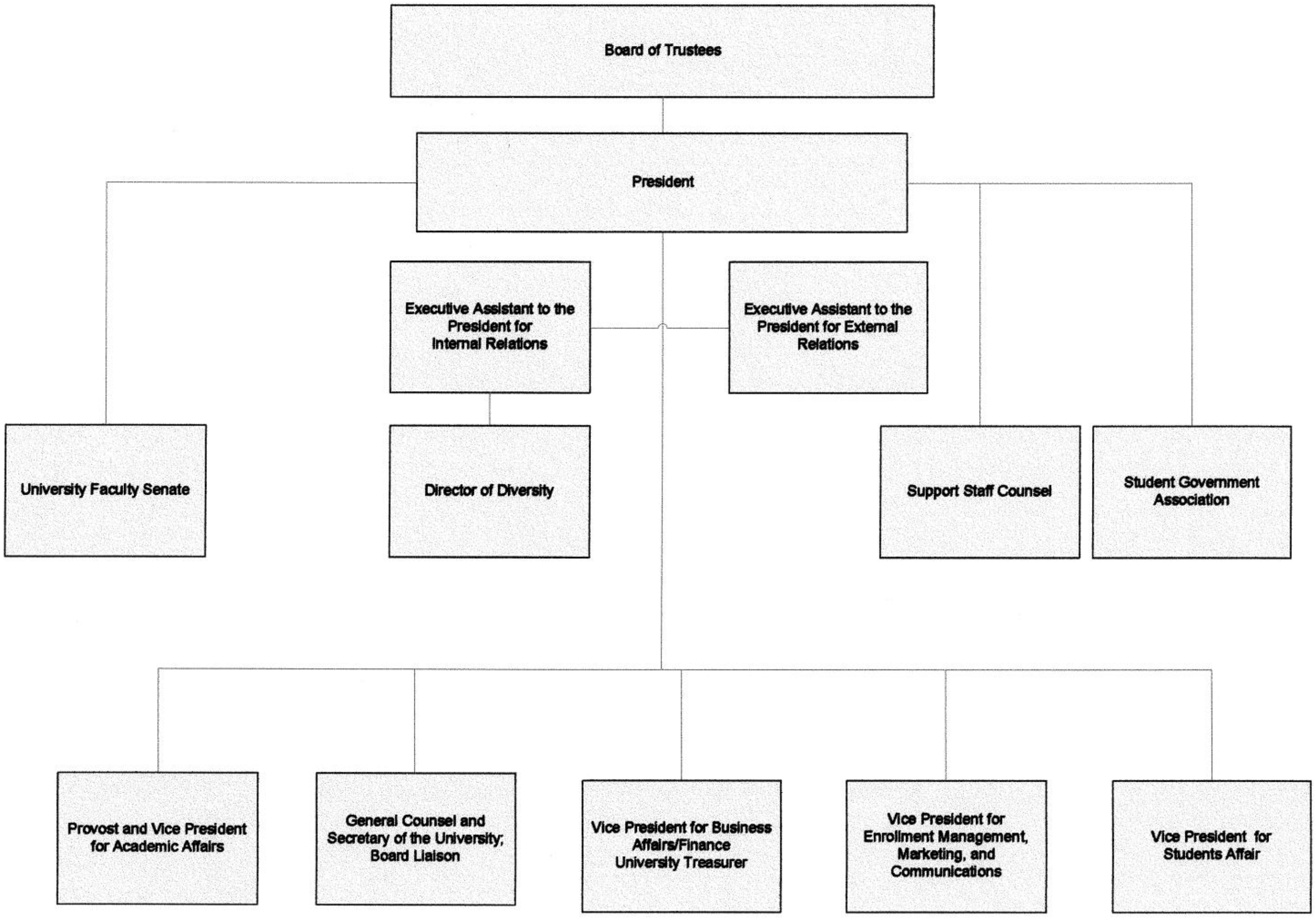
OFFICE OF THE PRESIDENT
The president is the chief educational and administrative officer of the University and is responsible to the Indiana State University Board of Trustees for the execution of the policies of the Board and for the organization, administration, operation, and development of the University.

The campus is organized into four broad, functional areas: academic affairs; business and finance; student affairs; and enrollment management, marketing, and communications. Each area is headed by a vice president who reports directly to the president.

B. Administrative Units Information

The first six pages of this section show the organizational structure of Indiana State University, as of Sept. 12, 2008.

The administrative structure of Indiana State University places the College of Technology under the Office of the Vice President for Academic Affairs. The College of Technology is composed of three Academic Departments, Air Force ROTC, Technology Student Services, and the Technology Services Center. The organizational chart is shown on the last page of this section.



Indiana State University Organization Chart August 2008

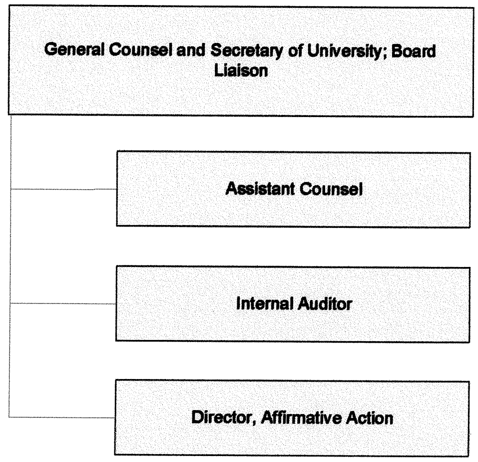
Office of the President

Friday, September 12, 2008

- Provost and Vice President for Academic Affairs
  - Dean, College of Arts and Sciences
  - Dean, College of Business
  - Dean, College of Education
  - Dean, College of Nursing, Health and Human Performance
  - Dean, College of Technology
  - Dean, School of Graduate Studies
  - Dean, Library Services
  - Associate VP for Academic Affairs and CIO
  - Associate VP for Academic Affairs And CRO
  - Associate VP for Academic Affairs

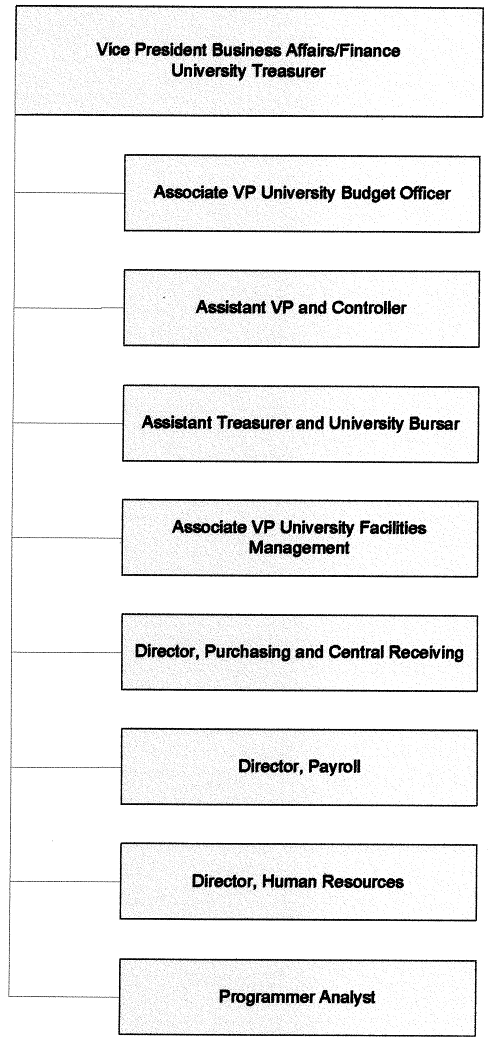
Provost/VP Academic Affairs

Friday, September 12, 2008



General Counsel and Secretary of University; Board Liaison

Friday, September 12, 2008



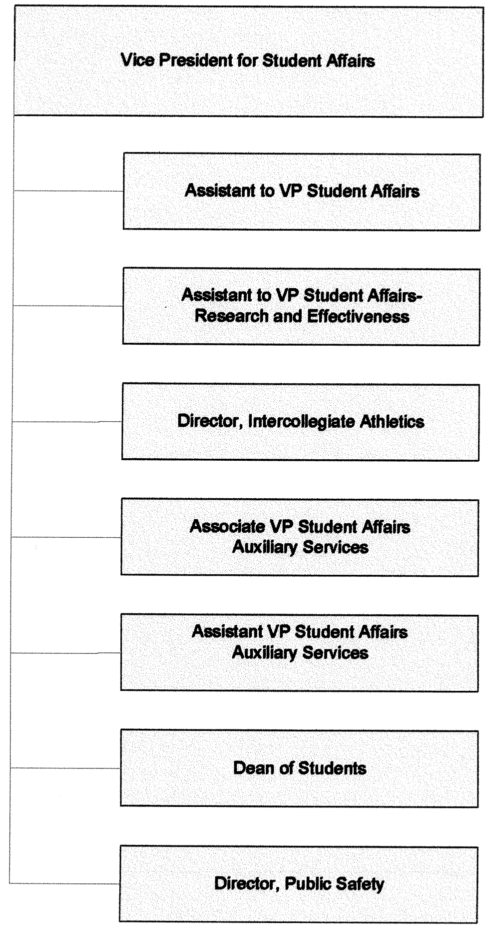
Business Affairs/Finance University Treasurer

Friday, September 12, 2008

- Vice President for Enrollment Management, Marketing, and Communications
  - Director, Administrative Communications and Editor
  - Director, Admissions
  - Director, Distance Support Services and Outreach
  - Director, Student Financial Aid
  - Director, Marketing
  - Director, Media Relations
  - Director, New Student Programs
  - Director, Publications
  - Manager, Photography Services
  - Manager, Video Production
  - Manager, Web Development

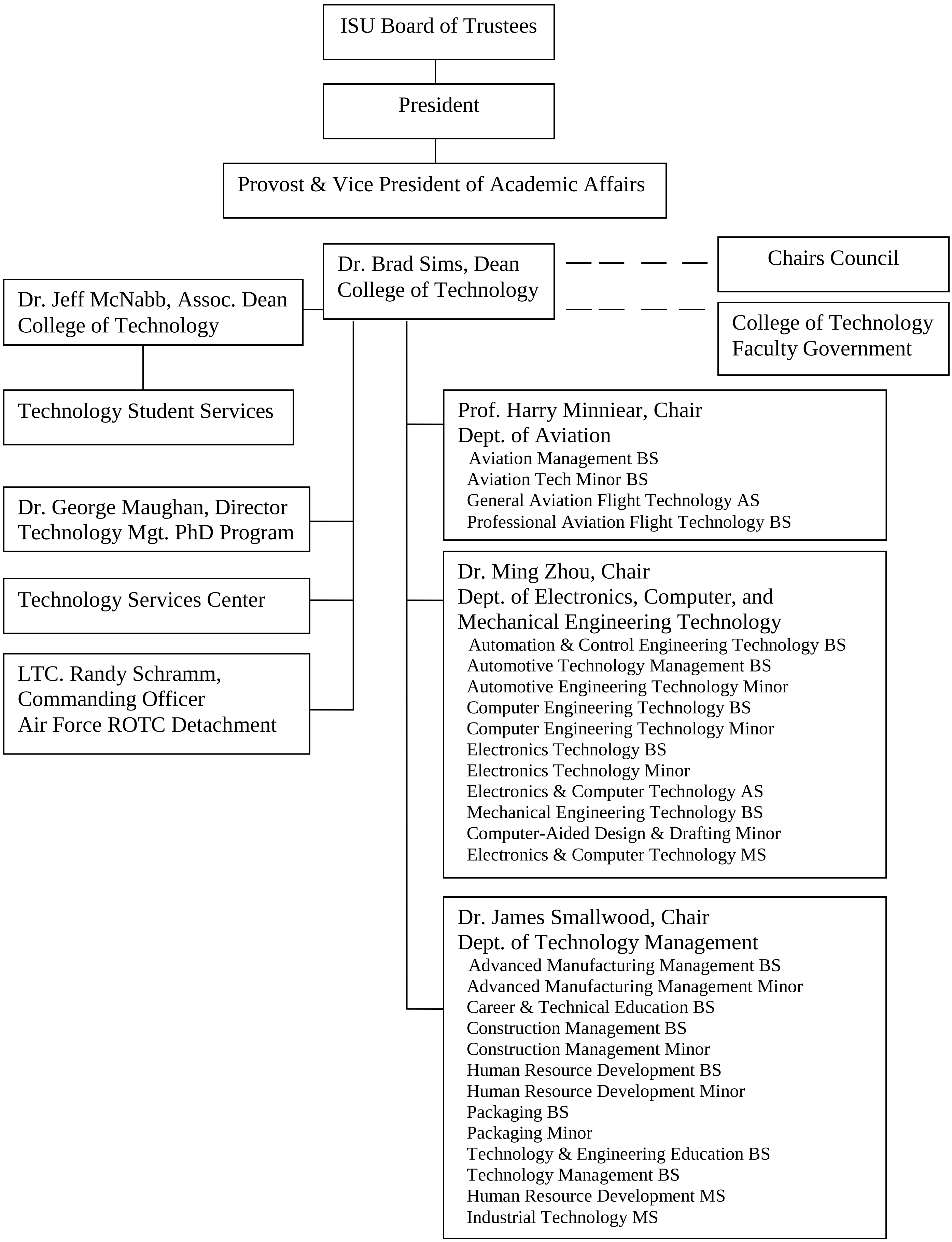
VP Enrollment Management, Marketing, and Communications

Friday, September 12, 2008



Vice President for Student Affairs

Friday, September 12, 2008


ISU Board of Trustees
President
Provost & Vice President of Academic Affairs
Dr. Brad Sims, Dean
College of Technology
Chairs Council
College of Technology
Faculty Government
Dr. Jeff McNabb, Assoc. Dean
College of Technology
Technology Student Services
Dr. George Maughan, Director
Technology Mgt. PhD Program
Technology Services Center
LTC. Randy Schramm,
Commanding Officer
Air Force ROTC Detachment
Prof. Harry Minniear, Chair
Dept. of Aviation
Aviation Management BS
Aviation Tech Minor BS
General Aviation Flight Technology AS
Professional Aviation Flight Technology BS
Dr. Ming Zhou, Chair
Dept. of Electronics, Computer, and
Mechanical Engineering Technology
Automation & Control Engineering Technology BS
Automotive Technology Management BS
Automotive Engineering Technology Minor
Computer Engineering Technology BS
Computer Engineering Technology Minor
Electronics Technology BS
Electronics Technology Minor
Electronics & Computer Technology AS
Mechanical Engineering Technology BS
Computer-Aided Design & Drafting Minor
Electronics & Computer Technology MS
Dr. James Smallwood, Chair
Dept. of Technology Management
Advanced Manufacturing Management BS
Advanced Manufacturing Management Minor
Career & Technical Education BS
Construction Management BS
Construction Management Minor
Human Resource Development BS
Human Resource Development Minor
Packaging BS
Packaging Minor
Technology & Engineering Education BS
Technology Management BS
Human Resource Development MS
Industrial Technology MS

SECTION II

PART B, 1-6

ADMINISTRATIVE UNITS INFORMATION

1. **Name and Address of College and/or Department Administrative Units**

   College of Technology
   Indiana State University
   650 Cherry St.
   Terre Haute, IN 47809

   College of Nursing, Health, and Human Services
   749 Chestnut St.
   Indiana State University
   Terre Haute, IN 47809

2. **Names of Deans and/or Department Heads**

   a. **Names of Deans and Associate Deans**

      College of Technology:

      Dr. Brad Sims, Dean

      Dr. Jeffrey McNabb, Associate Dean

      College of Nursing, Health, and Human Services:

      Dr. Richard "Biff" Williams, Dean

      Dr. Jeffrey Edwards, Associate Dean

      Dr. Marcia Miller, Associate Dean

      Dr. Jason Winkle, Associate Dean

   b. **Names of Department Chairs Requesting Accreditation**

      Dr. Ming Zhou, Chairperson
      Electronics, Computer, and Mechanical Engineering Technology Department

      Dr. James Smallwood, Chairperson
      Technology Management Department

      Dr. Yasenka Peterson, Chairperson
      Health, Safety, and Environmental Health Science

3. **Names of other Departments in Administrative Units**

   College of Technology:

   Prof. Harry Minniear, Chairperson
   Aviation Department

   College of Nursing, Health, and Human Services:

Dr. Debra Mallory, Chairperson
Advanced Practice Nursing

Prof. Leamore Kahanov, Chairperson
Athletic Training Department

Prof. Gloria Plascak, Chairperson
Baccalaureate Nursing Department

Prof. Esther Acree, Chairperson
Baccalaureate Nursing Completion Department

Dr. Molly Hare, Chairperson
Physical Education Department

Dr. Steven Smidley, Chairperson
Recreation and Sport Management Department

4. Names of Program Heads

The responsibility for the administration, development, maintenance, and revision of technology programs in the College of Technology that are seeking ATMAE accreditation resides in the following departments:

Department of Electronics, Computer, and Mechanical Engineering Technology
Dr. Ming Zhou, Chair
Automotive Technology Management BS
Computer Engineering Technology BS
Electronics Technology BS

Department of Technology Management
Dr. James Smallwood, Chair
Advanced Manufacturing Management BS
Packaging Technology BS
Technology Management BS

Health, Safety, and Environmental Health Science
Dr. Yasenka Peterson, Chair
Safety Management BS
Health and Safety (Occupational Safety Management) MS

5. Names and Titles of Others with Program Administration and/or Coordination Responsibility

Not applicable.

6. Titles of Degrees, Programs, and Concentrations for which Accreditation is being Requested

Programs from the Electronics, Computer, and Mechanical Engineering Technology Department:

Automotive Technology Management BS

Computer Engineering Technology BS
Electronics Technology BS

Programs from the Technology Management Department:

Advanced Manufacturing Management BS
Packaging BS
Technology Management BS

Program from the Health, Safety, and Environmental Health Sciences Department

Safety Management BS
Health and Safety (Occupational Safety Management) MS

APPENDICES

ADMISSIONS/
COT GRADUATION & RETENTION

TABLE 1

Applications, Admits, Denied, Confirmed, Enrolled
By College By Status
Undergraduate Admissions Report
Fall Semester, 2006 - 2008

FRESHMAN	APPLICATIONS			ADMITTED			DENIED			CONFIRMED			ENROLLED		
	2006	2007	2008	2006	2007	2008	2006	2007	2008	2006	2007	2008	2006	2007	2008
A&S	2,070	2,520	2,839	1,602	1,749	1,810	152	290	331	543	621	616	628	674	630
BUSINESS	591	769	994	454	520	559	48	107	133	183	212	205	163	209	201
EDUCATION	422	464	518	346	337	358	26	37	47	154	161	141	131	145	122
NURSING	398	551	745	278	323	386	21	75	79	119	137	144	103	116	126
H&HP	257	332	442	179	212	271	31	51	82	67	92	110	58	87	95
TECH	340	334	453	276	220	284	28	48	53	108	110	140	104	97	135
SAS/OPEN	468	516	616	369	360	395	45	65	95	166	178	159	159	155	148
SAS/COND	684	788	965	681	786	961	0	2	2	353	403	512	357	369	483
TOTAL	5,230	6,274	7,572	4,185	4,507	5,024	351	675	822	1,693	1,914	2,027	1,703	1,852	1,940

TRANSFER	APPLICATIONS			ADMITTED			DENIED			CONFIRMED			ENROLLED		
	2006	2007	2008	2006	2007	2008	2006	2007	2008	2006	2007	2008	2006	2007	2008
A&S	681	609	687	474	367	368	32	43	41	142	171	140	249	231	233
BUSINESS	245	250	325	180	162	175	12	17	18	64	60	50	91	84	91
EDUCATION	108	90	95	84	46	39	5	10	9	42	33	29	45	30	26
NURSING	409	532	830	281	278	413	8	9	16	91	82	98	101	86	95
H&HP	83	118	100	54	83	49	5	4	8	20	53	28	32	61	29
TECH	212	194	239	174	137	140	3	6	4	67	58	50	105	96	79
SAS/OPEN	73	56	69	50	28	40	8	8	4	9	10	20	25	14	24
SAS/COND	23	42	21	23	42	20	0	0	1	12	21	10	18	27	11
TOTAL	1,834	1,891	2,366	1,320	1,143	1,244	73	97	101	447	488	425	666	629	588

GRAND TOTAL	7,064	8,165	9,938	5,505	5,650	6,268	424	772	923	2,140	2,402	2,452	2,369	2,481	2,528

This report includes numbers for Summer I and Summer II.

Source: Office of Admissions, Undergraduate Admissions Final Report - 8/29/08

TABLE 7

Applications, Admits, Denied, Enrolled
By College
Graduate Admissions Report
Fall Semesters, 2006 - 2008

COLLEGE	APPLICATIONS			ADMISSIONS			DENIALS			NEW ENROLLMENTS			TOTAL ENROLLMENTS		
	2006*	2007*	2008*	2006*	2007*	2008*	2006*	2007*	2008*	2006*	2007*	2008*	2006	2007	2008
A&S	588	527	501	366	286	271	168	195	168	179	168	158	559	575	511
BUSINESS	90	55	64	67	37	52	8	7	8	15	16	18	51	49	61
EDUCATION	364	322	338	247	196	209	77	93	102	140	141	153	750	726	785
GRAD STUDIES	4	4	5	4	3	5	0	0	0	3	0	0	43	37	67
NHHS			198			159			9			94			376
H&HP	70	69		62	56		2	5		32	37		122	98	
NURSING	93	104		93	92		0	4		76	58		160	239	
TECH	211	182	163	184	145	125	14	15	18	81	67	59	346	326	271
TOTAL	1,420	1,263	1,269	1,023	815	821	269	319	305	526	487	482	2,031	2,050	2,071

DEGREE	APPLICATIONS			ADMISSIONS			DENIALS			NEW ENROLLMENTS			TOTAL ENROLLMENTS		
	2006*	2007*	2008*	2006*	2007*	2008*	2006*	2007*	2008*	2006*	2007*	2008*	2006	2007	2008
CLG	20	17	28	20	16	22	0	0	1	15	15	17	28	38	46
EDS	28	35	26	18	22	19	5	10	6	13	19	14	50	68	75
MASTERS	1,030	881	903	817	645	632	125	141	162	408	351	340	1,381	1,362	1,341
ND	76	67	70	72	62	68	0	0	1	39	57	55	169	195	257
PHD	132	116	131	82	61	71	31	30	34	43	36	48	352	341	306
PSD	134	147	111	14	9	9	108	138	101	8	9	8	51	46	46
TOTAL	1,420	1,263	1,269	1,023	815	821	269	319	305	526	487	482	2,031	2,050	2,071

* Includes Student Type G (New Graduates) only
Nursing and H&HP = College of Nursing, Health, and Human Services (NHHS) for 2008

New Enrollment and Total Enrollment counts are based on official report files

Indiana State University

Spring 2009

New Fall Students, Freshmen & Transfer

RETENTION AND GRADUATION RATES

Source: The Office of Strategic Planning, Institutional Research and Effectiveness

Indiana State University
Retention and Graduation for New Fall Freshman
By Cohort

Enrolled in or graduated before		199905	200005	200105	200205	200305	200405	200505	200605	200705	200805	Summary
Fall 1	# Enrolled	2,075	2,171	2,211	2,140	2,016	1,851	1,642	1,703	1,852	1,940	19,601
	# Graduated	0	0	0	0	0	0	0	0	0	0	0
	% Enrolled	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% Graduated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Spring 1	# Enrolled	1,791	1,868	1,856	1,820	1,699	1,564	1,416	1,441	1,455	1,602	16,512
	# Graduated	0	0	0	0	0	0	0	0	0	0	0
	% Enrolled	86.3%	86.0%	83.9%	85.0%	84.3%	84.5%	86.2%	84.6%	78.6%	82.6%	84.2%
	% Graduated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fall 2	# Enrolled	1,451	1,550	1,518	1,453	1,344	1,201	1,091	1,148	1,184		11,940
	# Graduated	0	0	0	1	0	0	0	0	0		1
	% Enrolled	69.9%	71.4%	68.7%	67.9%	66.7%	64.9%	66.4%	67.4%	63.9%		67.6%
	% Graduated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%
Spring 2	# Enrolled	1,306	1,346	1,380	1,335	1,211	1,107	1,005	1,041	1,074		10,805
	# Graduated	0	2	0	2	0	1	1	0	0		6
	% Enrolled	62.9%	62.0%	62.4%	62.4%	60.1%	59.8%	61.2%	61.1%	58.0%		61.2%
	% Graduated	0.0%	0.1%	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%		0.0%
Fall 3	# Enrolled	1,185	1,245	1,209	1,187	1,062	977	858	904			8,627
	# Graduated	7	6	35	40	48	46	57	54			293
	% Enrolled	57.1%	57.3%	54.7%	55.5%	52.7%	52.8%	52.3%	53.1%			54.6%
	% Graduated	0.3%	0.3%	1.6%	1.9%	2.4%	2.5%	3.5%	3.2%			1.9%
Spring 3	# Enrolled	1,095	1,142	1,127	1,102	1,009	932	823	858			8,088
	# Graduated	36	20	40	45	53	51	60	58			363
	% Enrolled	52.8%	52.6%	51.0%	51.5%	50.0%	50.4%	50.1%	50.4%			51.2%
	% Graduated	1.7%	0.9%	1.8%	2.1%	2.6%	2.8%	3.7%	3.4%			2.3%
Fall 4	# Enrolled	1,038	1,103	1,056	1,053	941	906	777				6,874
	# Graduated	51	30	50	59	64	61	67				382
	% Enrolled	50.0%	50.8%	47.8%	49.2%	46.7%	48.9%	47.3%				48.7%
	% Graduated	2.5%	1.4%	2.3%	2.8%	3.2%	3.3%	4.1%				2.7%
Spring 4	# Enrolled	947	1,046	988	1,008	877	848	724				6,438
	# Graduated	83	55	87	76	83	87	93				564
	% Enrolled	45.6%	48.2%	44.7%	47.1%	43.5%	45.8%	44.1%				45.6%
	% Graduated	4.0%	2.5%	3.9%	3.6%	4.1%	4.7%	5.7%				4.0%
Fall 5	# Enrolled	542	585	552	569	507	464					3,219
	# Graduated	424	450	475	470	416	421					2,656
	% Enrolled	26.1%	26.9%	25.0%	26.6%	25.1%	25.1%					25.8%
	% Graduated	20.4%	20.7%	21.5%	22.0%	20.6%	22.7%					21.3%
Spring 5	# Enrolled	351	384	398	413	333	317					2,196
	# Graduated	582	616	612	597	559	547					3,513
	% Enrolled	16.9%	17.7%	18.0%	19.3%	16.5%	17.1%					17.6%
	% Graduated	28.0%	28.4%	27.7%	27.9%	27.7%	29.6%					28.2%
Fall 6	# Enrolled	170	153	178	177	165						843
	# Graduated	759	833	807	793	725						3,917
	% Enrolled	8.2%	7.0%	8.1%	8.3%	8.2%						7.9%
	% Graduated	36.6%	38.4%	36.5%	37.1%	36.0%						36.9%
Spring 6	# Enrolled	109	110	130	128	116						593
	# Graduated	812	876	850	847	761						4146
	% Enrolled	5.3%	5.1%	5.9%	6.0%	5.8%						5.6%
	% Graduated	39.1%	40.4%	38.4%	39.6%	37.7%						39.1%
Fall 7	# Enrolled	73	80	88	67							308
	# Graduated	870	917	905	912							3604
	% Enrolled	3.5%	3.7%	4.0%	3.1%							3.6%
	% Graduated	41.9%	42.2%	40.9%	42.6%							41.9%
Spring 7	# Enrolled	67	62	64	55							248
	# Graduated	879	931	926	928							3664
	% Enrolled	3.2%	2.9%	2.9%	2.6%							2.9%
	% Graduated	42.4%	42.9%	41.9%	43.4%							42.6%
Fall 8	# Enrolled	57	46	39								142
	# Graduated	899	953	953								2805
	% Enrolled	2.7%	2.1%	1.8%								2.2%
	% Graduated	43.3%	43.9%	43.1%								43.4%
Spring 8	# Enrolled	48	39	30								117
	# Graduated	908	963	958								2829
	% Enrolled	2.3%	1.8%	1.4%								1.8%
	% Graduated	43.8%	44.4%	43.3%								43.8%

A cohort is the group of non-transfer students (either full or part-time) matriculating together in a particular fall semester.
Students who matriculate in the summer sessions are included in the cohort of the fall term immediately following.

Prepared by the Office of Strategic Planning, Institutional Research and Effectiveness
01 Official Summary

College Group at Matriculation: College of Technology

Enrolled in or graduated before		199905	200005	200105	200205	200305	200405	200505	200605	200705	200805	Summary
Fall 1	# Enrolled	148	147	148	168	157	148	134	104	97	135	1,386
	# Graduated	0	0	0	0	0	0	0	0	0	0	0
	% Enrolled	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100.0%
	% Graduated	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.0%
Spring 1	# Enrolled	133	128	131	146	131	136	123	93	88	120	1,229
	# Graduated	0	0	0	0	0	0	0	0	0	0	0
	% Enrolled	90%	87%	89%	87%	83%	92%	92%	89%	91%	89%	88.7%
	% Graduated	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0.0%
Fall 2	# Enrolled	115	109	117	121	109	110	100	77	79		937
	# Graduated	0	0	0	0	0	0	0	0	0		0
	% Enrolled	78%	74%	79%	72%	69%	74%	75%	74%	81%		74.9%
	% Graduated	0%	0%	0%	0%	0%	0%	0%	0%	0%		0.0%
Spring 2	# Enrolled	110	97	102	112	102	102	96	70	74		865
	# Graduated	0	0	0	0	0	0	0	0	0		0
	% Enrolled	74%	66%	69%	67%	65%	69%	72%	67%	76%		69.1%
	% Graduated	0%	0%	0%	0%	0%	0%	0%	0%	0%		0.0%
Fall 3	# Enrolled	106	90	95	106	94	97	86	66			740
	# Graduated	0	1	0	0	1	1	2	1			6
	% Enrolled	72%	61%	64%	63%	60%	66%	64%	63%			64.1%
	% Graduated	0%	1%	0%	0%	1%	1%	1%	1%			0.5%
Spring 3	# Enrolled	104	81	93	104	91	93	83	60			709
	# Graduated	2	1	0	0	2	1	2	1			9
	% Enrolled	70%	55%	63%	62%	58%	63%	62%	58%			61.4%
	% Graduated	1%	1%	0%	0%	1%	1%	1%	1%			0.8%
Fall 4	# Enrolled	100	79	83	93	86	91	75				607
	# Graduated	4	1	2	4	3	1	4				19
	% Enrolled	68%	54%	56%	55%	55%	61%	56%				57.8%
	% Graduated	3%	1%	1%	2%	2%	1%	3%				1.8%
Spring 4	# Enrolled	87	75	78	87	82	80	68				557
	# Graduated	8	4	6	8	6	9	9				50
	% Enrolled	59%	51%	53%	52%	52%	54%	51%				53.0%
	% Graduated	5%	3%	4%	5%	4%	6%	7%				4.8%
Fall 5	# Enrolled	43	52	45	40	45	40					265
	# Graduated	35	24	35	47	39	42					222
	% Enrolled	29%	35%	30%	24%	29%	27%					28.9%
	% Graduated	24%	16%	24%	28%	25%	28%					24.2%
Spring 5	# Enrolled	20	34	29	26	26	29					164
	# Graduated	59	41	51	57	52	55					315
	% Enrolled	14%	23%	20%	15%	17%	20%					17.9%
	% Graduated	40%	28%	34%	34%	33%	37%					34.4%
Fall 6	# Enrolled	12	10	13	9	22						66
	# Graduated	70	59	66	72	63						330
	% Enrolled	8%	7%	9%	5%	14%						8.6%
	% Graduated	47%	40%	45%	43%	40%						43.0%
Spring 6	# Enrolled	12	8	8	5	15						48
	# Graduated	76	65	69	78	67						355
	% Enrolled	8%	5%	5%	3%	10%						6.3%
	% Graduated	51%	44%	47%	46%	43%						46.2%
Fall 7	# Enrolled	5	10	7	3							25
	# Graduated	79	69	74	81							303
	% Enrolled	3%	7%	5%	2%							4.1%
	% Graduated	53%	47%	50%	48%							49.6%
Spring 7	# Enrolled	5	7	6	3							21
	# Graduated	81	71	76	82							310
	% Enrolled	3%	5%	4%	2%							3.4%
	% Graduated	55%	48%	51%	49%							50.7%
Fall 8	# Enrolled	6	7	3								16
	# Graduated	81	76	79								236
	% Enrolled	4%	5%	2%								3.6%
	% Graduated	55%	52%	53%								53.3%
Spring 8	# Enrolled	4	5	3								12
	# Graduated	83	78	79								240
	% Enrolled	3%	3%	2%								2.7%
	% Graduated	56%	53%	53%								54.2%

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Prepared by the Office of Strategic Planning, Institutional Research and Effectiveness
02 Official Summary with Break on College Group at Matriculation

Indiana State University
Retention and Graduation for New Fall Transfer Students
By Cohort

Enrolled in or graduated before		199905	200005	200105	200205	200305	200405	200505	200605	200705	200805	Summary
Fall 1	# Enrolled	731	709	713	707	689	678	675	666	629	588	6,785
	# Graduated	0	0	0	0	0	0	0	0	0	0	0
	% Enrolled	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% Graduated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Spring 1	# Enrolled	578	566	552	546	536	547	542	517	502	491	5,377
	# Graduated	0	0	1	1	0	1	0	1	1	2	7
	% Enrolled	79.1%	79.8%	77.4%	77.2%	77.8%	80.7%	80.3%	77.6%	79.8%	83.5%	79.2%
	% Graduated	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.2%	0.2%	0.3%	0.1%
Fall 2	# Enrolled	469	470	454	437	431	454	443	426	401		3,985
	# Graduated	1	7	8	4	4	4	0	4	6		38
	% Enrolled	64.2%	66.3%	63.7%	61.8%	62.6%	67.0%	65.6%	64.0%	63.8%		64.3%
	% Graduated	0.1%	1.0%	1.1%	0.6%	0.6%	0.6%	0.0%	0.6%	1.0%		0.6%
Spring 2	# Enrolled	418	406	410	402	391	418	396	378	365		3,584
	# Graduated	5	19	15	12	9	12	11	9	16		108
	% Enrolled	57.2%	57.3%	57.5%	56.9%	56.7%	61.7%	58.7%	56.8%	58.0%		57.8%
	% Graduated	0.7%	2.7%	2.1%	1.7%	1.3%	1.8%	1.6%	1.4%	2.5%		1.7%
Fall 3	# Enrolled	322	337	317	312	311	317	304	300			2,520
	# Graduated	72	57	69	76	57	80	72	70			553
	% Enrolled	44.0%	47.5%	44.5%	44.1%	45.1%	46.8%	45.0%	45.0%			45.3%
	% Graduated	9.8%	8.0%	9.7%	10.7%	8.3%	11.8%	10.7%	10.5%			9.9%
Spring 3	# Enrolled	262	265	266	247	265	258	253	242			2,058
	# Graduated	104	104	103	124	100	120	110	117			882
	% Enrolled	35.8%	37.4%	37.3%	34.9%	38.5%	38.1%	37.5%	36.3%			37.0%
	% Graduated	14.2%	14.7%	14.4%	17.5%	14.5%	17.7%	16.3%	17.6%			15.8%
Fall 4	# Enrolled	156	177	171	164	185	169	173				1,195
	# Graduated	192	189	179	194	160	192	188				1,294
	% Enrolled	21.3%	25.0%	24.0%	23.2%	26.9%	24.9%	25.6%				24.4%
	% Graduated	26.3%	26.7%	25.1%	27.4%	23.2%	28.3%	27.9%				26.4%
Spring 4	# Enrolled	114	125	118	134	136	123	112				862
	# Graduated	219	231	219	229	193	226	241				1,558
	% Enrolled	15.6%	17.6%	16.5%	19.0%	19.7%	18.1%	16.6%				17.6%
	% Graduated	30.0%	32.6%	30.7%	32.4%	28.0%	33.3%	35.7%				31.8%
Fall 5	# Enrolled	74	68	69	73	77	74					435
	# Graduated	266	283	270	275	255	271					1,620
	% Enrolled	10.1%	9.6%	9.7%	10.3%	11.2%	10.9%					10.3%
	% Graduated	36.4%	39.9%	37.9%	38.9%	37.0%	40.0%					38.3%
Spring 5	# Enrolled	55	49	56	54	56	46					316
	# Graduated	285	296	285	290	270	292					1,718
	% Enrolled	7.5%	6.9%	7.9%	7.6%	8.1%	6.8%					7.5%
	% Graduated	39.0%	41.7%	40.0%	41.0%	39.2%	43.1%					40.6%
Fall 6	# Enrolled	37	29	34	36	28						164
	# Graduated	303	321	300	312	297						1,533
	% Enrolled	5.1%	4.1%	4.8%	5.1%	4.1%						4.6%
	% Graduated	41.5%	45.3%	42.1%	44.1%	43.1%						43.2%
Spring 6	# Enrolled	26	25	27	28	21						127
	# Graduated	308	324	309	319	304						1564
	% Enrolled	3.6%	3.5%	3.8%	4.0%	3.0%						3.6%
	% Graduated	42.1%	45.7%	43.3%	45.1%	44.1%						44.1%
Fall 7	# Enrolled	21	17	14	17							69
	# Graduated	318	335	323	325							1301
	% Enrolled	2.9%	2.4%	2.0%	2.4%							2.4%
	% Graduated	43.5%	47.2%	45.3%	46.0%							45.5%
Spring 7	# Enrolled	19	9	12	17							57
	# Graduated	324	342	325	330							1321
	% Enrolled	2.6%	1.3%	1.7%	2.4%							2.0%
	% Graduated	44.3%	48.2%	45.6%	46.7%							46.2%
Fall 8	# Enrolled	10	11	7								28
	# Graduated	330	345	330								1005
	% Enrolled	1.4%	1.6%	1.0%								1.3%
	% Graduated	45.1%	48.7%	46.3%								46.7%
Spring 8	# Enrolled	10	7	6								23
	# Graduated	331	347	332								1010
	% Enrolled	1.4%	1.0%	0.8%								1.1%
	% Graduated	45.3%	48.9%	46.6%								46.9%

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Prepared by the Office of Strategic Planning, Institutional Research and Effectiveness
01 Official Summary

Indiana State University
Retention and Graduation for New Fall Transfer Students
By College Group at Matriculation

College Group at Matriculation: College of Technology

Enrolled in or graduated before		199905	200005	200105	200205	200305	200405	200505	200605	200705	200805	Summary
Fall 1	# Enrolled	132	104	124	127	126	135	91	105	96	79	1,119
	# Graduated	0	0	0	0	0	0	0	0	0	0	0
	% Enrolled	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% Graduated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Spring 1	# Enrolled	91	87	96	94	97	104	71	82	72	69	863
	# Graduated	0	0	0	0	0	0	0	0	0	0	0
	% Enrolled	68.9%	83.7%	77.4%	74.0%	77.0%	77.0%	78.0%	78.1%	75.0%	87.3%	77.1%
	% Graduated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fall 2	# Enrolled	78	73	76	83	80	89	59	69	54		661
	# Graduated	0	2	3	0	1	0	0	0	1		7
	% Enrolled	59.1%	70.2%	61.3%	65.4%	63.5%	65.9%	64.8%	65.7%	56.3%		63.6%
	% Graduated	0.0%	1.9%	2.4%	0.0%	0.8%	0.0%	0.0%	0.0%	1.0%		0.7%
Spring 2	# Enrolled	67	62	69	73	70	88	56	62	48		595
	# Graduated	0	4	5	4	1	0	0	0	4		18
	% Enrolled	50.8%	59.6%	55.6%	57.5%	55.6%	65.2%	61.5%	59.0%	50.0%		57.2%
	% Graduated	0.0%	3.8%	4.0%	3.1%	0.8%	0.0%	0.0%	0.0%	4.2%		1.7%
Fall 3	# Enrolled	60	50	57	50	50	58	40	57			422
	# Graduated	6	10	18	18	18	20	10	6			106
	% Enrolled	45.5%	48.1%	46.0%	39.4%	39.7%	43.0%	44.0%	54.3%			44.7%
	% Graduated	4.5%	9.6%	14.5%	14.2%	14.3%	14.8%	11.0%	5.7%			11.2%
Spring 3	# Enrolled	44	40	41	44	41	47	29	46			332
	# Graduated	12	23	26	27	27	28	19	11			173
	% Enrolled	33.3%	38.5%	33.1%	34.6%	32.5%	34.8%	31.9%	43.8%			35.2%
	% Graduated	9.1%	22.1%	21.0%	21.3%	21.4%	20.7%	20.9%	10.5%			18.3%
Fall 4	# Enrolled	31	32	30	31	27	34	15				200
	# Graduated	21	30	40	42	37	34	30				234
	% Enrolled	23.5%	30.8%	24.2%	24.4%	21.4%	25.2%	16.5%				23.8%
	% Graduated	15.9%	28.8%	32.3%	33.1%	29.4%	25.2%	33.0%				27.9%
Spring 4	# Enrolled	26	22	17	20	16	20	8				129
	# Graduated	26	37	49	49	44	44	36				285
	% Enrolled	19.7%	21.2%	13.7%	15.7%	12.7%	14.8%	8.8%				15.4%
	% Graduated	19.7%	35.6%	39.5%	38.6%	34.9%	32.6%	39.6%				34.0%
Fall 5	# Enrolled	22	14	12	10	12	13					83
	# Graduated	33	44	57	53	51	51					289
	% Enrolled	16.7%	13.5%	9.7%	7.9%	9.5%	9.6%					11.1%
	% Graduated	25.0%	42.3%	46.0%	41.7%	40.5%	37.8%					38.6%
Spring 5	# Enrolled	18	12	10	5	10	8					63
	# Graduated	37	46	60	58	55	55					311
	% Enrolled	13.6%	11.5%	8.1%	3.9%	7.9%	5.9%					8.4%
	% Graduated	28.0%	44.2%	48.4%	45.7%	43.7%	40.7%					41.6%
Fall 6	# Enrolled	9	7	7	6	8						37
	# Graduated	45	50	64	59	60						278
	% Enrolled	6.8%	6.7%	5.6%	4.7%	6.3%						6.0%
	% Graduated	34.1%	48.1%	51.6%	46.5%	47.6%						45.4%
Spring 6	# Enrolled	7	7	6	4	5						29
	# Graduated	47	51	64	60	61						283
	% Enrolled	5.3%	6.7%	4.8%	3.1%	4.0%						4.7%
	% Graduated	35.6%	49.0%	51.6%	47.2%	48.4%						46.2%
Fall 7	# Enrolled	6	3	3	1							13
	# Graduated	49	55	67	61							232
	% Enrolled	4.5%	2.9%	2.4%	0.8%							2.7%
	% Graduated	37.1%	52.9%	54.0%	48.0%							47.6%
Spring 7	# Enrolled	5	1	2	2							10
	# Graduated	51	56	68	63							238
	% Enrolled	3.8%	1.0%	1.6%	1.6%							2.1%
	% Graduated	38.6%	53.8%	54.8%	49.6%							48.9%
Fall 8	# Enrolled	3	3	2								8
	# Graduated	52	56	69								177
	% Enrolled	2.3%	2.9%	1.6%								2.2%
	% Graduated	39.4%	53.8%	55.6%								49.2%
Spring 8	# Enrolled	3	2	2								7
	# Graduated	52	57	70								179
	% Enrolled	2.3%	1.9%	1.6%								1.9%
	% Graduated	39.4%	54.8%	56.5%								49.7%

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02 Official Summary with Break on College Group at Matriculation

APPENDICES

CAREER CENTER/INTERNSHIPS

Career Center Statistics for the College of Technology
From Fall 2005 – Fall 2009

Number of Appointments:

Fall 2005	99
Spring 2006	84
Fall 2006	114
Spring 2007	93
Fall 2007	101
Spring 2008	74
Fall 2008	94
Spring 2009	102
Fall 2009	24
Total:	755

Number of College of Technology students attending Career Fairs:

Fall 2005	129
Spring 2006	124
Fall 2006	68
Spring 2007	95
Fall 2007	68
Spring 2008	99
Fall 2008	122
Spring 2009	102
Fall 2009	89
Total:	896

Number of College of Technology students attending Networking & Etiquette Workshop:

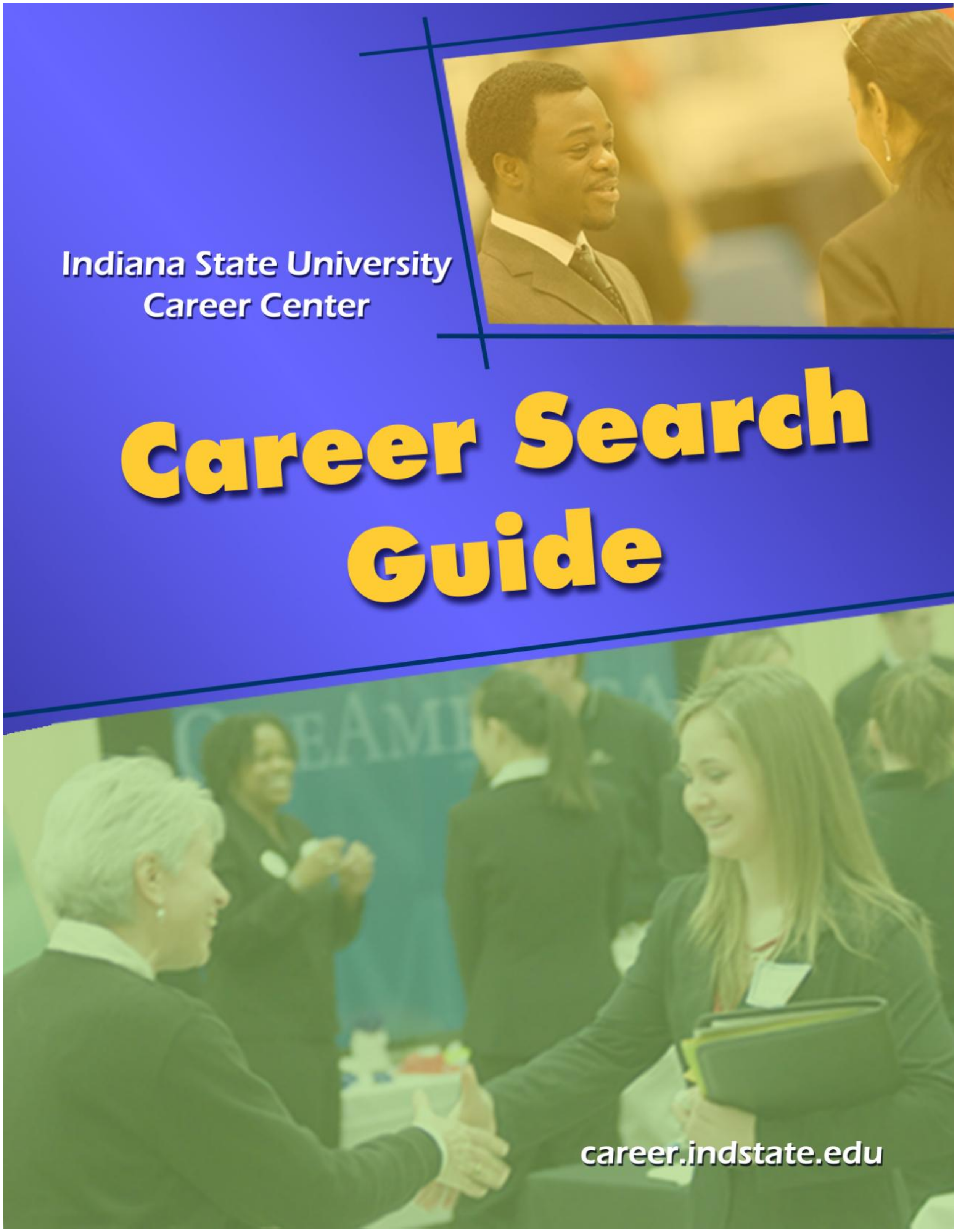
Fall 2005	9
Spring 2006	9
Fall 2006	4
Spring 2007	3
Fall 2007	2
Spring 2008	4
Fall 2008	5
Spring 2009	4
Fall 2009	n/a
Total:	40

Number of College of Technology students attending Speed Interview Review:

Fall 2005	n/a
Spring 2006	n/a
Fall 2006	n/a
Spring 2007	n/a
Fall 2007	14
Spring 2008	17
Fall 2008	46
Spring 2009	58
Fall 2009	48
Total:	193

Number of College of Technology students attending Other Events (Classroom presentations, workshops, and other):

Fall 2005	89
Spring 2006	67
Fall 2006	43
Spring 2007	83
Fall 2007	105
Spring 2008	113
Fall 2008	110
Spring 2009	120
Fall 2009	218
Total:	948



CAREER GUIDE

ISU Career Center
812-237-5000
career.indstate.edu

What we do...

Our mission is to educate and assist ISU students and graduates throughout all phases of their career development, preparing them to meet the challenges of a competitive work environment, and forge dynamic relationships with employers and other relevant constituencies.

Sycamore CAREERlink

Sycamore CAREERlink is a web-based system linking students, alumni, and employers through the Career Center. Sycamore CAREERlink is part of the NACElink Network, a partnership between NACE (National Association of Colleges and Employers), DirectEmployers Association, and Symplicity Corporation.

Who can use Sycamore CAREERlink? Indiana State University students and alumni may acquire access to the Sycamore CAREERlink system. Indiana State University alumni may access the Sycamore CAREERlink system free of charge for one year following month of graduation. Thereafter, they may access the Sycamore CAREERlink system for a nominal fee.

Indiana State University faculty and staff may also obtain a student account at no charge to search available positions applicable to the students in their department.

Job Search by Major

Now hear this, most decisions in life are not irrevocable; you can change your mind!

You have numerous options to select from in choosing a major and/or career. The problem is that many students become overwhelmed with so many possibilities.

Consequently, some students become indecisive and often select a major or career field by default based on what others suggest. Pacing the floor can help you think; collecting appropriate information can help you decide.

We want to help you DECIDE. The Career Center website features a great resource for searching information for your decision making. Of course, we would love to help you individually. Make an appointment with a counselor in our Center.

Ingredients for Success

Most ISU students seek employment upon graduation. Regardless of whether you seek employment or plan to enter graduate or professional school upon graduation, employers (and graduate/professional school admissions committees) look for similar traits and experiences from their candidates.

Knowing the criteria upon which you will be evaluated will increase your likelihood of attaining your post-ISU goals. The following information summarizes the "universal ingredients" sought by employers and admissions committees alike.

EDUCATION:

Grades are important. Faculty will evaluate you based upon grades. Moreover the cumulative GPA serves for most employers and admissions representatives as an indication of intellectual ability (or at least individual effort). Representatives tell us that trends in grades, breadth of course work, and reputation of a college play a major part in evaluating scholarship.

CAREER-RELATED EXPERIENCE:

Graduate and professional schools seek candidates who will successfully complete their program and who will contribute to it as well. Likewise, employers seek candidates who will contribute to their organization and who will be good "corporate citizens." Career-related work experience will bolster your profile for any post-ISU option that you pursue.

LEADERSHIP:

Leadership is also assessed. Since leadership is defined in many ways, Career Center staff can help you to identify your leadership skills by evaluating your past experiences. Equally important, staff can help you identify future opportunities for leadership involvement.

Past behavior is the best single predictor of future behavior. You will be evaluated on your past behaviors and accomplishments. Use this guide to periodically assess areas in which you need experience. Then, stop by the ISU Career Center to make an appointment with a counselor. Prepare for your future...don't just let it happen.

Transferable Skills

What are transferable skills? Simply put, transferable skills are the skills and abilities that you have acquired during your past experience that are applicable to what you wish to do during your next job. These skills can be acquired from various activities such as jobs, classes, volunteer work, sports, or student organizations.

Use this approach when seeking a new job by thinking about how your past experiences and skills are transferable to the new position's responsibilities. Portray how your experiences will support the new job position while creating your resume. If an experience does not support the new role you wish to take on, it might be best to leave it out of your resume.

Transferable skill areas could include:

- **COMMUNICATION**
- **PLANNING**
- **HUMAN RELATIONS**
- **LEADERSHIP**
- **TECHNICAL SKILLS**
- **DAY TO DAY SKILLS**

Four-Year Plan

Don't wait until your last year to begin thinking about your career and interests! Make planning your career a four-year process.

Career Interest Inventories

The Career Center offers access to these terrific online resources for your use to assist you in narrowing your career interests. The following resources are available on our website.

- **MYPLAN**
- **KEIRSEY TEMPERAMENT SORTER**
- **THE CAREER KEY**
- **INDIANA CAREER AND POSTSECONDARY ADVANCEMENT CENTER (IAPAC)**
- **JUNG - MYERS-BRIGGS TYPOLOGY**
- **PSYCHOMETRICS ONLINE TESTING**
- **THE WORKSTYLES INVENTORY**

Occupational Guides

The following guides can be easily accessed by visiting the Career Center website at career.indstate.edu

- **OCCUPATIONAL OUTLOOK HANDBOOK**
- **CAREER VIDEOS**
- **GUIDES FOR SPECIFIC CAREERS**
- **PRINCETON REVIEW CAREERS**
- **SCHOLARLY SOCIETY PROJECT**
- **TOP JOBS MATCHING YOUR INTERESTS AND NEEDS**
- **CALIFORNIA OCCUPATIONAL GUIDES**

Interview Preparation

- **KNOW YOURSELF**
- **INDENTIFY 2 0R 3 SELLING POINTS**
- **ACQUIRE AS MUCH INFORMATION AS POSSIBLE ABOUT THE POSITION**
- **THE INTERVIEW IS A TWO-WAY EXCHANGE**
- **CONDUCT A PRACTICE INTERVIEW**

Guidelines for Dress

DRESS IN GOOD TASTE! It is no myth... Personal appearance often influences hiring decisions disproportionately. Although most employers are becoming more liberal in standards of dress, basic good taste and grooming should serve as a guide. While the climate of the organization should be considered, it is generally preferable to dress in a conservative manner. Prepare for multiple interviews. Try to acquire more than one outfit for interviewing purposes.

After the Interview

Immediately following the interview it's important to submit a simple thank you letter. Thank you letters are an easy way to show gratitude to the interviewer for the time spent discussing your interests and opportunities with the company. These letters can go far in showing competence, good manners, interest, and enthusiasm.

Thank you letters should be clear and concise. They should include a brief statement about when and where the interview occurred, and your expressed thoughts of appreciation.

The Resume: A Reflection of You

A resume is a promotional piece. It is a calling card to introduce you, with your unique combination of skills and experience, to a potential employer. Accompanied by a cover letter, its purpose is to get you an interview. Resume writing is not an exact science. There is no "right way" to create a resume. Suggestions that appear in our resume guides are general guidelines, not a blueprint. Since the resume is a marketing device, it should SELL YOU. Examples have been selected to emphasize basic resume structures.

Resume Content

Writing your resume involves thinking aloud. Start with the categories listed below, and write everything you think of that relates to the heading. Don't edit things out at this point. Whatever comes to mind, let it spill out on paper.

- **THE RESUME HEADING**
- **THE JOB OBJECTIVE (optional)**
- **EDUCATION**
- **EXPERIENCE**
- **ACTIVTIES & INTERESTS**

Resume Writing Tips:

. • Use bold or underline separately, not together
. • Notice spelling of commonly misspelled word: liaison
. • Avoid using more than two fonts in your document
. • Use simple, everyday language
. • Keep sentences short; begin with varied action verbs
. • Be honest,don't exaggerate
. • Don't list references on resume (if needed, use additional page for names)
. • Use high quality bond paper
. • Keep margins and spacing clean and inviting to the eye
. • Proofread yourself and have other people read it as well: read backwards to catch mistakes.

THE LINGO OF EMPLOYERS SKILLS & RESULTS:

Employers assess your resume (and cover letter) to determine if "you have the right stuff" and to judge whether you can deliver results. Sell yourself to employers by showing demonstrated skills and by adding details which show your achievements. Begin sentences with "action verbs," and be specific when showing the extent to which you added value to an endeavor. Look at the following samples:

Action Verbs:

Your resume should be action-oriented in order to catch the reader's attention. Listed below are a few ideas to help you begin writing action-oriented statements to further describe work, leadership, or volunteer experience.

MANAGEMENT & ORGANIZATION SKILLS

Administered Arranged Assembled Completed
Conducted Controlled Correlated Determined Directed
Eliminated Engineered Evaluated Executed Expanded

TECHNICAL SKILLS

Analyzed Budgeted Built Calculated Computed Correlated Developed
Financed Handled Maintained Manipulated Operated Programmed Repaired

The Cover Letter

Cover letters, like resumes, are a reflection of you. They should not repeat the resume; they should elaborate on specific topics and show the connection between the job you seek and the skills you offer.

OPENING PARAGRAPH:

The goal of this paragraph is to catch the reader's attention. Numerous books suggest introducing yourself and stating how you heard of the job opening (newspaper, referral, etc.). This is fine. However, in writing an unsolicited letter or in responding to a listed job posting, we suggest you grab attention by being succinct:

SECOND & THIRD PARAGRAPH:

Since the opening paragraph is succinct, the second and third paragraphs elaborate on your introduction. Do not repeat verbatim the information on your resume. Give good examples of how your skills have been demonstrated. The best predictor of future behavior is past behavior. Thus, describe your past accomplishments and how they predict success in future endeavors.

CLOSING PARAGRAPH:

The closing paragraph provides a smooth transition. Skills are not the only factors that determine success; personal characteristics and the ability to interact with others are equally important. Therefore, complement the skills you highlight by describing personal qualities which will enable you to perform well. Also, refer the reader to your resume and tell the employer that you will follow-up with a telephone call. A job search is a communications process. You initiate the process and YOU must follow-up.

Networking

Develop Professional Networks While In School

Get work experience while in college; even short term and volunteer work experience, as well as internships and co-ops and summer jobs, are valued by employers. These work experiences allow you to network with professionals in your field.

- **CAREER FAIRS AT ISU**
- **EXTRACURRICULAR ACTIVITES**
- **PROFESSIONAL ASSOCIATIONS**
- **EMPLOYER RESEARCH**
- **ARRANGING INFORMATIONAL INTERVIEWS**
- **ORGANIZING YOUR JOB SEARCH**

Networking Etiquette Workshops (NEW)

Learn essential skills for developing your professional network and dining in formal situations. Participants have the opportunity to network with professionals in a variety of fields throughout the workshop and five-course meal, providing excellent preparation for professional conferences and interviews.

The ISU Career Center hosts several Networking & Etiquette Workshops each semester. These workshops are intended to help you learn how to effectively develop your professional network and the all-important skills of dining in professional situations.

career.indstate.edu

College of Technology Internships by Major, 2004-2009
Information Provided by ISU Career Center

termDesc	internshipYear	stuFirstName	stuLastName	stuID	major1	orgName	creditedCourse
Spring	2004	Adou	Agnini		Aerospace Administration	Terre Haute International Airport	AST 351
Summer I and II	2004	John	Alexander		Construction Management	Hensel Phelps Construction	MCT 351
Summer I and II	2004	Benjamin	Barnes		Construction Management	RCI Construction Management Services, LLC	MCT 351
Summer I and II	2004	Jason	Bewley		Construction Management	JE Dunn Construction	
Summer I and II	2004	Jesse	Bolte		Construction Management	Thompson Thrift Development	MCT 351
Summer I and II	2004	Craig	Brocker		Construction Management	Great Dane Inc.	MCT 351
Summer I and II	2004	Kyle	Burnett		Electronics Technology	Pfizer Inc.	ECT 351
Spring	2004	Olayinka	Alao		Human Resource Development	ISU	ITE 659
Spring	2004	Stacey	Carroll		Human Resource Development	ISU	ITE 659
Fall	2004	Steve	Campbell		Manufacturing Technology	National and Chemical Company	MCT 351
Fall	2004	Ryan	Althoff		Packaging Technology	AET Packaging Films	IMT 351
Summer I	2005	Daniel	Gallion	991460798	Computer Hardware Technology	ISU	ECT 351A,B
Summer I	2005	Daniel	Gallion	991460798	Computer Hardware Technology	ISU	ECT 351A/351B
Summer I	2005	Ryan	Depugh	991306044	Computer Integrated Mfg Tech	Wabash National	MCT 351A
Summer I	2005	Adam	Schitter	991312248	Computer Integrated Mfg Tech	Reilly Green Mountain Platform Tennis	MCT 351A
Summer I	2005	Adam	Schitter	991312248	Computer Integrated Mfg Tech	Reilly Green Mountain Platform Tennis	MCT 351 A
Summer I	2005	Daniel	Alcorn	991339714	Construction Management	Signature Construction	MCT 351A
Summer I	2005	Patrick	Baidinger	991333965	Construction Management	Signature Construction	MCT 351A
Summer I	2005	Jared	Greive	991334448	Construction Management	Benecki Fine Homes	MCT 351
Summer I	2005	Alex	Hohl	991471220	Construction Management	Fiber Tech, Inc	MCT 351A
Summer I	2005	Cole	Kercheval	991333907	Construction Management	Cummins, Inc	MCT 351A
Summer I	2005	Brian	Kiel	991341254	Construction Management	ARA Construction	MCT 351

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Summer I	2005	Evan	Koetter	991318931	Construction Management	ARA Construction	Yes
Summer I	2005	Brandon	Marrs	991327210	Construction Management	Shawmut Design & Construction	MCT 351A
Summer I	2005	Mark	Mayfield	991332504	Construction Management	Santarossa Mosaic & Tile Company, Inc	MCT 351A
Summer I	2005	Shane	O'Connor	991347741	Construction Management	Knies Construction	MCT 351A
Summer I	2005	Colt	Roudebush	991342444	Construction Management	Crane Naval Base	MCT 351E
Summer I	2005	Lynette	Sollars	991294663	Construction Management	ARA Construction	MCT 351A
Summer I	2005	Benjamin	Walters	991298339	Construction Management	ARA Construction	MCT 351A
Summer I	2005	Nathan	Wilderman	991321304	Construction Management	Deig Brothers Construction Co.	MCT 351
Summer I	2005	David	Williams	991329462	Construction Management	Signature Construction	MCT 351
Summer I	2005	Joseph	Adkins	991319866	Construction Management	Patriot Engineering & Environmental Inc	MCT 351
Summer I	2005	Daniel	Alcorn	991339714	Construction Management	Signature Construction	MCT 351A
Summer I	2005	Pat	Baidinger	991333965	Construction Management	Signature Construction	MCT 351A
Summer I	2005	Jared	Greive	991334448	Construction Management	Benecki Fine Homes	MCT 351
Summer I	2005	Jace	Himsel	991333434	Construction Management	Benecki Fine Homes	MCT 351
Summer I	2005	Brian	Kiel	991341254	Construction Management	ARA Construction	MCT 351
Summer I	2005	Evan	Koetter	991318931	Construction Management	ARA Construction	MCT 351
Summer I	2005	Brandon	Marrs	991327210	Construction Management	Shawmut Design & Construction	MCT 351
Summer I	2005	Mark	Mayfield	991332504	Construction Management	Santarossa Mosaic & Tile Company, Inc	MCT 351 A
Summer I	2005	Doug	Moody	991292194	Construction Management	WG Yates Construction	MCT 351
Summer I	2005	Shane	O'Conner	991347741	Construction Management	Knies Construction	MCT 351 A
Summer I	2005	Eric	Schultz	991330354	Construction Management	Signature Construction	MCT 351
Summer I	2005	Lynette	Sollars	991294663	Construction Management	ARA Construction	MCT 351
Summer I	2005	Benjamin	Walters	991298339	Construction Management	ARA Construction	MCT 351 A
Summer I	2005	Nathan	Wildeman	991321304	Construction Management	Dieg Brothers Construction Company	MCT 351
Summer I	2005	David	Williams	991329462	Construction Management	Signature Construction	MCT 351
Fall	2005	Tim	Barsic	991306584	Construction Management	ISU	MCT 351A
Summer I and II	2005	Daniel	Alcorn		Construction Management	Industrial Contractors Inc	MCT 351
Summer I and II	2005	Pat	Baidinger		Construction Management	Signature Construction	MCT 351
Fall	2005	Tim	Barsic		Construction Management	ISU	MCT 351

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Summer I	2005	Adam	Carman	991337387	Electronics & Computer Tech	Aerodyn Engineering, Inc	ECT 351B
Summer I	2005	Adam	Carman	991337387	Electronics & Computer Tech	Ball Systems	ECT 351A
Summer I	2005	Timur	Mirzoev	991306617	Electronics & Computer Tech	Clarian Health Partners	SOT 799
Summer I	2005	Adam	Carman	991337387	Electronics & Computer Tech	Ball Systems	ECT 351A
Summer I	2005	Adam	Carman	992337387	Electronics & Computer Tech	Aerodyn Engineering, Inc	ECT 351B
Fall	2005	Joshua	Allen	991341303	Electronics & Computer Tech	ISU	ECT351B
Fall	2005	Pierre-Marie	Degni-Segui	991342136	Electronics & Computer Tech	ISU	ECT 351B
Summer I and II	2005	Adam	Carman		Electronics Technology	Aerodyn Engineering, Inc	ECT 351
Summer I	2005	Travis	Hardwick	991320268	Industrial Supervision	Craneworks	MCT 351A
Summer I	2005	Travis	Hardwick	992320268	Industrial Supervision	Craneworks	MCT 351A
Fall	2005	Tony	Jovevski	991449255	Industrial Technology	Corps of Engineers	IMT 351
Fall	2005	Greg	Power	991299068	Industrial Technology	Mead Johnson	IMT 351
Fall	2005	Carolyn	Pfrank	991271762	Industrial Technology	ScottsMiracle-Gro	IMT 351
Fall	2005	Benjamin	Hull	991331511	Industrial Technology	Bemis Company	IMT 351
Fall	2005	Ashish	Patil	991446351	Industrial Technology	Henry Pratt Company	IMT 593
Summer I	2005	Jeremy	Pries	991339134	Manufacturing Technology	Thompson Thrift Development	MCT 351
Summer I	2005	Ryan	Depugh	991306044	Manufacturing Technology	Wabash National	MCT 351A
Summer I	2005	Jeremy	Pries	991339134	Manufacturing Technology	Thompson Thrift Development	MCT 351
Summer I	2005	Sarah	Rodie	991426398	Mechanical Design Technology	Delphi Electronics & Safety	
Summer I	2005	Joshua	Shipman	991459632	Mechanical Design Technology	Crane Army Ammunition Activity	MCT 351
Summer I	2005	Joshua	Shipman	991459632	Mechanical Design Technology	Crane Army Ammunition Activity	MCT 351
Summer I	2005	Sarah	Rodie	991426398	Mechanical Engineering Technol	Delphi Electronics & Safety	
Fall	2005	Benjamin	Hull	991331511	Mechanical Engineering Technol	Bemis Company	IMT351
Summer I	2005	John	Fritz	991431301	Prof Aviation Flight Tech	Brown Flying School	
Fall	2005	Frederick	Jenkins	991322480	Prof Aviation Flight Tech	ExpressJet Inc	AST351
Fall	2005	Cory	McLemore	991325656	Prof Aviation Flight Tech	ATA Airlines	AST351
Summer I	2005	Timur	Mirzoev	991306617	Technology Management	Clarian Health Partners	SOT 799
Spring	2006	Brandon	Young		Aerospace Administration	Federal Aviation Administration	AST 351
Spring	2006	BRANDON	YOUNG	991331198	Aerospace Administration	Federal Aviation Administration	AST 351A

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Fall	2006	KATE	ROBERTSON	991286778	Aerospace Administration	Institute of Affordable Transportation	AST 351
Spring	2006	Christopher	McLaughey		Computer Hardware Technology	ISU	ECT 351
Spring	2006	CHRISTOPHER	MCCAUGHEY	991475539	Computer Hardware Technology	ISU	ECT 351A
Fall	2006	CHRISTOPHER	MCCAUGHEY	991475539	Computer Hardware Technology	ISU	ECT 351
Summer I	2006	JACOB	PREWITT	991476503	Computer Integrated Mfg Tech	Sony	MCT 351
Summer I	2006	NICHOLAS	FASBINDER	991483430	Computer Integrated Mfg Tech	Delta Faucet	MCT 351
Summer I and II	2006	DREW	CRIPE	991332828	Computer Integrated Mfg Tech	ZF Boge Elastmetall	MCT 351
Fall	2006	DREW	CRIPE	991332828	Computer Integrated Mfg Tech	ZF Boge Elastmetall	MCT 351
Summer I and II	2006	CASEY	JEFFERS	991099202	Construction Management	Thompson Thrift Development	MCT 351
Summer I and II	2006	ERIC	CRAFT	991336218	Construction Management	Signature Construction	MCT 351
Summer I and II	2006	JOSHUA	HOLDAWAY	991400360	Construction Management	ST Construction Inc.	MCT 351
Summer I and II	2006	ADAM	ENGLEKING	991338239	Construction Management	Habitat for Humanity	MCT 351
Summer I and II	2006	JASON	TOWLES	991433113	Construction Management	Centex Homes	MCT 351
Summer I and II	2006	PATRICK	MCGRATH	991340316	Construction Management	Turner Construction Co of Indiana LLC	MCT 351
Summer I	2006	RYAN	BROWN	991395093	Construction Management	Shiel Sexton Company Inc	MCT 351
Summer I and II	2006	AARON	MARTIN	991317577	Construction Management	Shiel Sexton Company Inc	MCT 351
Summer I and II	2006	JONATHAN	BASSETT	991282687	Construction Management	Shook Construction	MCT 351
Summer I and II	2006	MARCUS	LONG	991102497	Construction Management	Whiting-Turner Contracting Company	MCT 351
Summer I	2006	PIERRE	SMITH	991339678	Construction Management	US Steel	MCT 351
Summer I and II	2006	RYAN	HAYES	991429292	Construction Management	Hearthview Construction	MCT 351
Summer I	2006	BRIAN	CREGER	991310572	Construction Management	Fredericks Inc	MCT 351
Summer I and II	2006	CHAD	SMITH	991436621	Construction Management	Holladay Construction Group	MCT 351 Internship
Summer I and II	2006	ERIC	FIELDS	991336133	Construction Management	McCarthy Building Company	MCT 351 CoOP Indust Prac
Summer I and II	2006	MATTHEW	MESSMER	991410358	Construction Management	Streicher Construction Inc	MCT 351
Summer I	2006	JAMES	RIDER	991348304	Construction Management	High Oaks Construction Co	MCT 351 Co-op
Fall	2006	DEREK	YOUNGBLOOD	991334509	Construction Management	Envirotech Construction Corporation	MCT 351
Fall	2006	JASON	BUIS	991326846	Construction Management	Holt Construction	MCT 351

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Fall	2006	ARED	SCHNAUS	991409225	Construction Management	MAC Construction & Excavating Inc	MCT 351
Summer I and II	2006	Andre	Pipkin	991421205	Electronics & Computer Tech	PACIV	ECT 351
Summer I and II	2006	Andre	Pipkin	991421205	Electronics & Computer Tech		
Spring	2006	Jesse	Wortman		Electronics & Computer Tech	ISU	ECT 351
Spring	2006	Pierre-Marie	Degni-Segui		Electronics Technology	ISU	ECT 351
Fall	2006	JOEL	TRAYLOR	991311965	Electronics Technology	ISU	ECT 351B
Spring	2006	PIERREMARIE	DEGNISEGUI	991342136	Electronics Technology	ISU	ECT 351A
Spring	2006	JESSE	WORTMAN	991485596	Electronics Technology	ISU	ECT 351A
Fall	2006	JESSE	WORTMAN	991485596	Electronics Technology	B & L Machine & Design	ECT 351
Summer I and II	2006	JONATHON	CULPEPPER	991449671	Industrial Supervision	Hendricks Regional Health	MCT 351
Summer I and II	2006	ROSS	DALTON	991340255	Industrial Supervision	ARA Construction	MCT 351 Co OP Indust. Practice
Summer I	2006	TAMMY	JACKSON	991424201	Industrial Supervision	State Farm Insurance	MCT 351
Spring	2006	MEGAN	GROSS	991423086	Industrial Supervision	Parsons	MCT 351-Co-Op. Industrial Practice
Summer I and II	2006	MEGAN	GROSS	991423086	Industrial Supervision	Parsons	MCT 351
Summer I and II	2006	DANA	COOK	991416449	Industrial Supervision	NIBCO Inc	MCT 351
Summer I and II	2006	TWAKA	TYUS	991473694	Industrial Supervision	Lillian's Electrical Service	MCT 351
Summer I	2006	TRAVIS	WICKER	991482690	Industrial Supervision	Robert Bosch Corporation	MCT 351
Spring	2006	Emily	Randolph		Manufacturing Technology	Smiths Aerospace	MCT 351
Spring	2006	Sarah	Rodie		Mechanical Engineering Technol	Toyota Motor Mfg Inc.	IMT 351
Summer I	2006	ROSS	HENDERSHOT	991348399	Mechanical Engineering Technol	Great Dane Inc.	MCT 351
Spring	2006	SARAH	RODIE	991426398	Mechanical Engineering Technol	Toyota Motor Mfg Inc.	IMT 351
Fall	2006	JOHN	ISBELL	991378756	Mechanical Engineering Technol	Supreme Heating & Cooling Co	IMT 357
Summer I and II	2006	SEAN	SHAUNKI	991433553	Mechanical Engineering Technol	Everett Livvix Ltd	IMT 351
Summer I and II	2006	MICHAEL	SMITH	991347725	Mechanical Engineering Technol	United Water	IMT 351
Summer I and II	2006	KYLE	SCHOLZ	991320109	Packaging Technology	Thermadyne Dynamics	IMT 351 COOP
Spring	2006	NICHOLAS	HESLER	991317318	Prof Aviation Flight Tech	United Parcel Service Airlines	AST 351
Summer I and II	2006	MATTHEW	DESSUIT	991485316	Prof Aviation Flight Tech	Porter County Municipal Airport	Professional Aviation/ Aerospace Administration

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Summer I and II	2007	ADAM	FRENCH	991431308	Aerospace Administration	Indiana Dept. of Transportation	AST 351
Summer I and II	2007	RYAN	PROSCH	991434222	Automotive Technology Mgt	International Truck & Engine Corporation	
Fall	2007	ERIC	ZIMMERMAN	991483019	Automotive Technology Mgt	Sony	IMT 351
Spring	2007	RYAN	TUFO	991339799	Computer Hardware Technology	ISU	ECT 351
Fall	2007	CHRISTOPHER	SCHMIDT	991430350	Computer Hardware Technology	MasterBrand Cabinets Inc	ECT 351
Fall	2007	JOSHUA	BAILEY	991501185	Computer Hardware Technology	ISU	ECT 351
Summer I and II	2007	TONYA	LAMB	991494580	Computer Integrated Mfg Tech	PACIV	MCT 351
Summer I and II	2007	RYAN	KUNKLER	991348321	Computer Integrated Mfg Tech	E H Baare Corporation	MCT 351
Fall	2007	JOSHUA	HASEMAN	991365743	Computer Integrated Mfg Tech	JWS Machine	MCT 351
Fall	2007	JOSHUA	ROGERS	991321511	Construction Management	Hensel Phelps Construction	MCT 3511
Summer I and II	2007	ADAM	BENNETT	991458854	Construction Management	Patriot Engineering & Environmental Inc	MCT 351
Summer I and II	2007	TRAVIS	HUGHES	991435850	Construction Management	Conexco Inc	MCT 351
Summer I and II	2007	KYLE	EWING	991483479	Construction Management	Reilly Green Mountain Platform Tennis	MCT 351
Summer I and II	2007	BRITTANY	HOEFLING	991463322	Construction Management	Industrial Contractors Inc	MCT 351
Summer I and II	2007	WESLEY	READINGER	991475354	Construction Management	ARA Construction Corporation	MCT 351
Summer I and II	2007	THOMAS	ZARAGOZA	991107632	Construction Management	GE Johnson Construction Company	MCT 351
Summer I and II	2007	SHUWAN	HUGHES	991306616	Construction Management	Wabash Valley Habitat for Humanity	MCT 354
Summer I and II	2007	DEVAN	DEAN	991447103	Construction Management	Thompson Thrift Development	MCT 351
Summer I and II	2007	JARED	WEBER	991348404	Construction Management	Milestone Contractors	MCT 351
Fall	2007	RYAN	NICHOLSON	991483801	Construction Management	Reilly Green Mountain Platform Tennis	MCT 351
Summer I and II	2007	THOMAS	PORACKY	991436343	Construction Management	Signature Construction	MCT 351
Summer I and II	2007	JAMES	SHERWOOD	991259899	Construction Management	Marathon Petroleum Company	MCT 351
Summer I and II	2007	RYAN	KATES	991436874	Construction Management	Signature Construction LLC	MCT 351
Summer I and II	2007	DANIEL	MARTIN	991486677	Construction Management	Industrial Contractors Inc	MCT 351
Summer I and II	2007	BRADLEY	PHILLIPS	991456004	Construction Management	Broeren Russo Construction Inc	MCT 351

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Summer I and II	2007	CHAD	CORNELIUS	991400194	Construction Management	Hensel Phelps Construction	MCT 351
Summer I and II	2007	ROCKY	JACKSON	991436513	Construction Management	Garmong Construction Management Services	MCT 351
Summer I and II	2007	JOSHUA	MUNDELL	991287573	Construction Management	Shook Construction	MCT 351
Summer I and II	2007	JUSTIN	PYLE	991440574	Construction Management	Pyle Construction	MCT 351
Fall	2007	JEREMY	KUNZ	991492713	Construction Management	Garmong Construction Management Services	MCT 351
Fall	2007	RAHMAN	ROGERS	991319839	Construction Management	HDR Design Build	MCT 351
Fall	2007	MICHAEL	RUNION	991283132	Construction Management	Thompson Thrift Development	MCT 351
Spring	2007	Mark	Randall		Electronics & Computer Tech	A.P.E.X. Engineering	ECT351
Spring	2007	HARRY	POLING	991343841	Electronics & Computer Tech	ISU	ECT 351
Summer I and II	2007	LABAN	RUNYON	991380987	Electronics Technology	Crane Naval Base	ECT 351
Summer I and II	2007	OLANREWAJU	ASHAYE	991345123	Electronics Technology	First Financial Bank	ECT 351
Summer I and II	2007	DONALD	CONN	991450365	Electronics Technology	Sony	ECT 351
Spring	2007	LABAN	RUNYON	991380987	Electronics Technology	NSWC Crane	ECT 351
Summer I and II	2007	Alan	Reed		Industrial Automotive Tech	Cummings Engine Co. Inc.	IMT 351
Summer I and II	2007	DARRICK	HUEBER	991346142	Industrial Supervision	Duke Energy	MCT 351
Summer I	2007	KEITH	HAMKE	991340846	Industrial Supervision	United Machine and Design, Inc.	MCT 351
Spring	2007	Derek	Anderson		Manufacturing Technology	Patriot Engineering & Environmental Inc	MCT 351
Summer I and II	2007	SARAH	RODIE	991426398	Mechanical Engineering Technol	Toyota Motor Manufacturing Indiana	MCT 351
Summer I and II	2007	DEREK	LOSH	991485988	Mechanical Engineering Technol	Jasper Equipment Company	MCT 351
Summer I and II	2007	JOSHUA	MILLER	991259515	Packaging Technology	Indiana Packaging R+D Center	MCT 351
Summer I and II	2007	ZACHARY	CHEEK	991336268	Packaging Technology	Royal Food Products, LLC	MCT 351
Summer I and II	2007	KYLE	ROSSETTER	991495068	Packaging Technology	MSI Packaging INC	MCT 351
Summer I and II	2007	DAVID	ROBERSON	991486675	Packaging Technology	Temple Inland	MCT 351
Summer I and II	2007	JOHN	JUKES	991487642	Packaging Technology	Sony	MCT 351
Summer I and II	2007	BRIAN	LOOMIS	991475449	Packaging Technology	Tredegar Film Products	MCT 351
Fall	2007	JOSEPH	SPUGNARDI	991494416	Packaging Technology	Bemis Company	IMT 351
Spring	2007	NICHOLAS	MIRES	991452276	Prof Aviation Flight Tech	UPS Flight Training	
Fall	2007	NICHOLAS	MIRES	991452276	Prof Aviation Flight Tech	UPS Flight Training	

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Spring	2008	ERIC	ZIMMERMAN	991483019	Automotive Technology Mgt	Sony	IMT 351
Summer I and II	2008	ODESSA	OSBORNE	991479311	Automotive Technology Mgt	Joe Barszcz Race Craft	IMT 351
Fall	2008	DANIEL	WHEAT	991493274	Automotive Technology Mgt	Clabber Girl Corporation	
Fall	2008	JOSHUA	BAILEY	991501185	Computer Hardware Technology	Sony	ECT 351
Spring	2008	JOSEPH	LAMMERT	991157599	Computer Integrated Mfg Tech	Sony	MCT 351
Summer I and II	2008	JOSEPH	GARDAPEE	991504198	Computer Integrated Mfg Tech	Bemis Company	MCT 351
Summer I and II	2008	NATHAN	INMAN	991407894	Computer Integrated Mfg Tech	Clabber Girl	MCT 3351
Fall	2008	NATHAN	INMAN	991407894	Computer Integrated Mfg Tech	Clabber Girl	
Summer II	2008	BRYAN	FORTNER	991098744	Computer Integrated Mfg Tech	Clabber Girl Corporation	
Spring	2008	JUSTIN	KUNZ	991492714	Construction Management	Sycamore Engineering Inc	MCT 351
Summer I and II	2008	KIT	GENTIS	991513872	Construction Management	IDES	MCT 351
Spring	2008	HANK	PALMER	991343459	Construction Management	Thompson Thrift Development	MCT 351
Spring	2008	ZACHARY	DIVINE	991471366	Construction Management	Weddle Bros. Construction Co.	MCT 351
Summer I and II	2008	JEFFREY	NICKELL	991491927	Construction Management	Crossland Construction Company	MCT 351
Summer I	2008	FLINT	LARSON	991474724	Construction Management	Dallas Homes, Inc.	MCT 351
Summer I	2008	PATRICK	DILLARD	991425610	Construction Management	ARA Construction Corporation	MCT 351
Summer I	2008	JONATHAN	STEMERICK	991474864	Construction Management	ARA Construction Corporation	MCT 351
Summer I and II	2008	DEVIN	WHITTINGTON	991491935	Construction Management	Signature Construction LLC	MCT 351
Summer I	2008	SETH	PORTER	991496400	Construction Management	White Construction Inc.	MCT 351
Summer I and II	2008	CLAYTON	COTTOM	991499248	Construction Management	Woodco Walls Inc	MCT 351
Summer I	2008	DARIN	PHILLIPS	991487415	Construction Management	Dennis Trucking Co.	MCT 351
Summer I and II	2008	BRANDON	THOMANN	991486379	Construction Management	White Construction Inc.	MCT 351
Summer I and II	2008	KASEY	JACKSON	991492535	Construction Management	Process Development & Fabrication	MCT 351
Summer I and II	2008	BRANDON	MCDONALD	991323165	Construction Management	Turner Construction Co of Indiana LLC	MCT 351
Summer I and II	2008	ADAM	GUMMER	991433825	Construction Management	Shiel Sexton Company Inc	MCT 351
Summer I	2008	KEVIN	FROMM	991540358	Construction Management	Washington Hanover LLC	MCT 351
Summer I and II	2008	SANDY	NORTON	991492027	Construction Management	Vigo Machine Shop, Inc	MCT 351
Summer I and II	2008	TYLER	DAVITTO	991471720	Construction Management	ARA Construction	MCT 351

College of Technology Internships by Major, 2004-2009
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Summer I and II	2008	BRANDON	MCDONALD	991323165	Construction Management	Turner Construction Co of Indiana LLC	MCT 351
Summer I	2008	BRANDON	BOWLING	991434007	Construction Management	Signature Construction LLC	MCT 351
Summer I and II	2008	TYLER	WISE	991451037	Construction Management	Shiel Sexton Company Inc	MCT 351
Summer I and II	2008	JENNIFER	HALE	991504187	Construction Management	Bovis Lend Lease	MCT 351
Summer I and II	2008	TYLER	HEDGE	991497842	Construction Management	Milestone Contractors	MCT 351
Summer I and II	2008	ANDREW	DODSON	991439606	Construction Management	Atlas Excavating Inc	
Summer I and II	2008	WILLIAM	FOX	991470482	Construction Management	Crossland Construction Company	MCT 351
Summer I	2008	DAVID	BRUMAGIN	991498700	Construction Management	Crossland Construction Company	MCT 351
Summer I and II	2008	BRIAN	PANZIK	991296560	Construction Management	Cyber Tek Engineering	MCT 351
Summer I and II	2008	CLAYTON	BLEVINS	991483733	Construction Management	Striegel Design and Construction	
Summer I and II	2008	JERIMIAH	RIGGEN	991348395	Construction Management	Cemrock Landscapes	MCT 351
Summer I and II	2008	BENJAMIN	TOMPKINS	991289045	Construction Technology	American Constructions	MCT 351
Spring	2008	WILLIAM	HARTY	991278626	Electronics Technology	FedEx Ground	ECT 351
Summer I and II	2008	AARON	WAGONER	991460361	Electronics Technology	NSWC Crane	
Fall	2008	WILLIE	SANDERS	991344331	Electronics Technology	Stericycle Return Management Services	
Summer I and II	2008	MATTHEW	OWENS	991431502	Industrial Supervision	TD Stout Preservation	MCT 351
Fall	2008	COREY	CREASON	991436395	Industrial Supervision	Owen Valley Millworks Inc	
Summer I	2008	JOSHUA	MEINIKA	991174644	Industrial Technology Mgt	Robert Bosch Corporation	MCT 351
Summer I and II	2008	MARK	PAYNE	991541201	Industrial Technology Mgt	Sony	MCT 351
Summer I and II	2008	NATHAN	STOCK	991509259	Industrial Technology Mgt	UHL Truck Sales	mct 351
Summer I and II	2008	PATRICK	PHILLIPS	991485127	Manufacturing Technology	Unison Engine Components	
Summer I and II	2008	KEITH	HAMKE	991340846	Manufacturing Technology	Unison Engine Components	MCT 351
Fall	2008	CALVIN	MARTIN	991466361	Manufacturing Technology	Process Development & Fabrication	
Spring	2008	BRANDON	WELLS	991344158	Mechanical Engineering Technol	Bemis Company	IMT 351-001
Spring	2008	STEVEN	EGGLESTON	991517689	Mechanical Engineering Technol	Kinston Indians Baseball Team	IMT 351
Summer I	2008	JOSH	PICKETT	991436425	Mechanical Engineering Technol	NSWC Crane	MCT 351
Summer I and II	2008	PHILIP	LOWRY	991497249	Mechanical Engineering Technol	Sony	MCT 351
Summer I and II	2008	RYAN	LANGDON	991473616	Mechanical Engineering Technol	Marion Tool & Die Inc	MCT 351

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Summer I and II	2008	KYLE	HARPENAU	991483099	Mechanical Engineering Technol	Marion Tool & Die Inc	MCT 351
Summer I and II	2008	JARYN	ENGLISH	991542679	Mechanical Engineering Technol	Sony	IM 351
Summer I and II	2008	CHRIS	PENN	991422734	Packaging Technology	Sealed Air Corporation	MCT 351
Fall	2008	BRIAN	JAMES	991482239	Packaging Technology	Indiana Packaging R+D Center	TMGT 351
Fall	2008	COLE	CONTRI	991459445	Packaging Technology	Eli Lilly & Company Technology Center	
Summer I and II	2008	DAVID	ROBERSON	991486675	Packaging Technology	Temple Inland	
Summer I	2008	RYAN	MORRIS	991478998	Prof Aviation Flight Tech	Trans-Care Inc	AST 351
Summer I	2008	MICHAEL	BRUNSMAN	991452163	Prof Aviation Flight Tech	Atlantic Southeast Airlines	Ast 351
Fall	2008	FRANKLIN	DESSUIT	991428246	Prof Aviation Flight Tech	Professional Aviation Inc	
Spring	2009	MARC	CHRISMAN	991497960	Adv Manufacturing Management	Clabber Girl Corporation	TMGT 351
Summer I and II	2009	DEANNA	HARDING	991193999	Adv Manufacturing Management	Pfizer Inc	TMGT 351
Summer I and II	2009	DREW	CLAWSON	991497477	Adv Manufacturing Management	Clawson Appliances	TMGT 351
Summer I and II	2009	ANDREW	ZIEBELL	991498588	Adv Manufacturing Management	Meco Inc	TMGT 351
Summer I and II	2009	ROSS	CONWELL	991500196	Adv Manufacturing Management	Clabber Girl Corporation	TMGT 351
Spring	2009	CHRIS	GARNER	991291637	Aerospace Administration	Clinton Police Department	ECT 351
Spring	2009	REUBEN	SPICER	991506668	Automotive Technology Mgt	Scheid Diesel	MET 351
Summer I and II	2009	GREGORY	BROWN	991422890	Automotive Technology Mgt	Team Sycamore Racing	AET 493
Summer I and II	2009	CAMERON	BIDWELL	991497630	Automotive Technology Mgt	Sears Roebuck & Company	AET 493
Summer I and II	2009	KYLE	NEISEN	991497113	Automotive Technology Mgt	Team Sycamore Racing	
Summer I and II	2009	DANIEL	WHEAT	991493274	Automotive Technology Mgt	Team Sycamore Racing	
Summer I and II	2009	DANE	BORMANN	991474421	Construction Management	Redi Electric	TMGT
Summer I and II	2009	ANDREW	JACONE	991490199	Construction Management	Sankey Construction Inc	TMGT 351
Summer I and II	2009	MATTHEW	NOBLITT	991484052	Construction Management	Steinkamp's Home Center	TMGT 351
Summer I and II	2009	MORGAN	NASH	991495428	Construction Management	MAC Construction & Excavating Inc	TMGT 351
Summer I and II	2009	MICHAEL	FRY	991519975	Construction Management	Duke Energy	TMGT 351
Summer I and II	2009	MITCH	LUBOVICH	991523749	Construction Management	Duke Energy	TMGT 351
Summer I and II	2009	PATRICK	WOLFE	991546361	Construction Management	Marathon Petroleum Company	TMGT 351
Summer I and II	2009	CHRISTOPHER	WATERS	991499714	Construction Management	Garmong Construction Management Services	TMGT 351
Summer I and II	2009	ANDREW	THOMAS	991509975	Construction Management	The Skillman Corporation	TMGT 351

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Summer I and II	2009	JEDD	WILLIS	991174985	Construction Management	Weddle Brothers Building Group LLC	TMGT 351
Summer I and II	2009	JACOB	MCKANNA	991435054	Construction Management	McKanna Farms	TMGT 351
Summer I and II	2009	JOSE	VEGA	991485049	Construction Management	ARA Construction	TMGT 351
Summer I and II	2009	BRANDON	FELIX	991462853	Construction Management	ARA Construction	TMGT 351
Summer I and II	2009	WILLIAM	BENNETT	991484273	Construction Management	City of Terre Haute Dept of Engineering	TMGT 351
Summer I and II	2009	EVAN	HARRUFF	991421524	Construction Management	CDi Inc	TMGT 351
Spring	2009	JENSEN	THOME	991149398	Human Resource Development	Kellogg Company	TMGT 351
Spring	2009	KYLE	HOWARD	991485726	Industrial Supervision	Brampton Brick	TMGT 351
Spring	2009	JAMAL	ROSS	991505014	Industrial Supervision	ISU University Utilities & Central Heating Plant	TMGT 351
Fall	2009	LAKSHMI	ATTOTA	991548681	Industrial Technology	DesAcc Inc	
Spring	2009	EMILY	RANDOLPH	991450499	Manufacturing Technology	Unison Engine Components	TMGT 351
Summer I and II	2009	DAMIAN	ZIPP	991483491	Mechanical Engineering Technol	ISCO Industries	MET 351
Summer I and II	2009	COREY	SCARLETT	991552158	Mechanical Engineering Technol	Danville Metal Stamping Company Inc	MET 351
Summer I and II	2009	COREY	SCARLETT	991552158	Mechanical Engineering Technol	Andong Steel Structure & Machinery Company Ltd	TMGT 351
Summer I and II	2009	JUSTIN	BARGO	991528050	Mechanical Engineering Technol	Neoteric Hovercraft Inc	TMGT 351
Summer I and II	2009	MICHAEL	ROSEBRAUGH	991515090	Mechanical Engineering Technol	Neoteric Hovercraft Inc	TMGT 351
Fall	2009	CHRISTOPHER	PATE	991136743	Mechanical Engineering Technol	Unison Engine Components	ECMT
Spring	2009	BRET	DIERDORF	991420581	Packaging Technology	UPS Customer Solutions Packaging Lab	TMGT 351
Spring	2009	GARRETT	MAGER	991527524	Packaging Technology	Toyota Motor Manufacturing	
Spring	2009	BRIAN	JAMES	991482239	Packaging Technology	Indiana Packaging R+D Center	TMGT 351
Spring	2009	NICHOLAS	KOOP	991446038	Packaging Technology	Indiana Packaging R+D Center	TMGT 351
Fall	2009	KYLE	KUMPF	991501442	Packaging Technology	The Swiss Colony Inc	TMGT 351
Fall	2009	JESSICA	HUDSON	991487608	Technology Management	Freitag-Weinhardt Inc	TMGT 351
Fall	2009	RAMIRO	DIAZ	991560618	Technology Management	Square D Services	TMGT 351

APPENDICES

COMPUTING RESOURCES

INDIANA STATE UNIVERSITY
COLLEGE OF TECHNOLOGY
COMPUTER RESOURCES

College of Technology – Computer Assets Inventory
Laptop Program
Information Technology Computer Labs
Computing and Web Policies
Information Technology Strategic Plan
Instructional Software Support/Research Software Packages
Enhanced Technology Classrooms in College of Technology
Robotic Education Through NSF Grant

Indiana State University
Office of the Associate VP and University Controller
Listing of Assets for the College of Technology
Assets with Asset Types CC - Computer Systems, CA - Computer Apple & CM - Computer Management Systems
As of January 26, 2009

Asset	Barcode	Organization	Asset	Serial Number	Asset Make	Date Acquired	P.O. Number	Model Number	Location (Buildin/Room)	Asset Code	User Reference
149387	149387	3735	PC DELL OPTIPLEX GX280	JMVMR61	DELL MARKETING	2/7/2005	P0051997	OPTIPLEX GX280	MT0211	CC	AIR FORCE ROTC
167058	167058	3700	PC, DELL, PRECISION T3400	1Q6PFJ1	DELL	3/11/2009	P0064495	PRECISION T3400	MT201D	CC	ALBERTS
145879	145879	3715	PC, DELL OPTIPLEX GX270T w/ 18in FLAT MONITOR	9BQTQ31	DELL MARKETING	11/11/2003	P0047217	OPTIPLEX GX270T	MT201D	CC	ALBERTS
6001255	6001255	3745	PC, DELL, LATITUDE E6400	552C5K1	DELL	7/7/2009	P0065339	LATITUDE E6400	MT201D	CC	ALBERTS
167118	167118	3730	PC, DELL, OPTIPLEX 755	DPJ4MJ1	DELL	4/10/2009	P0064664	OPTIPLEX 755	MT216D	CC	ALLEN
6001422	6001422	3730	PC, DELL, LATITUDE E6400	5WVBJL1	DELL	12/17/2009	P0066612	LATITUDE E6400	MT216D	CC	ALLEN
141648	141648	3710	PC, GATEWAY, E3600	26884284	GATEWAY	5/10/2002	P0039348	E3600	MT301E	CC	ASHBY
144820	144820	3710	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	72XSX21	DELL MARKETING	7/2/2003	P0045129	OPTIPLEX GX260T	MT0108	CC	ASHBY
6001418	6001418	3745	PC, DELL, LATITUDE E6400	2YVBJL1	DELL	12/17/2009	P0066612	LATITUDE E6400	MT301E	CC	ASHBY
142887	142887	3715	PC, DELL OPTIPLEX GX260T w/ 19in FLAT MONITOR	GJ21421	DELL MARKETING	12/3/2002	P0042825	OPTIPLEX GX260T	MT201E	CC	BADAR
6001085	6001085	3730	PC, DELL, LATITUDE E6400	CXTSGJ1	DELL	6/9/2009	P0064961	LATITUDE E6400	MT216J	CC	BAKER
161120	161120	3710	PC APPLE IMAC GB	W85469FWTAU	APPLE COMPUTER	11/23/2005	P0054818	IMAC GB	MT301K	CA	BEACH
6001005	6001005	3745	PC, DELL, OPTIPLEX 960DT	7N6D5J1	DELL	6/9/2009	P0064962	OPTIPLEX 960DT	MT301K	CC	BEACH
134081	134081	3700	PC, DELL NOTEBOOK INSPIRON 3000	CFWZQ	DELL	3/18/1998	9534	TS30H	MT0215	CC	BITZEGAIO
141824	141824	3700	PC, GATEWAY 700X w/ 17in FLAT MONITOR	27032023	GATEWAY	6/1/2002	P0039681	700X	MT0215	CC	BITZEGAIO
143199	143199	3700	PC, A+ CERTIFICATION TRAINER	9108G0333	MARCRAFT	1/14/2003	P0043014	MC-8000	MT0305	CC	BITZEGAIO
143200	143200	3700	PC, A+ CERTIFICATION TRAINER	9108G0401	MARCRAFT	1/14/2003	P0043014	MC-8000	MT0305	CC	BITZEGAIO
143599	143599	3700	PC, DELL LATITUDE C840	G10QL21	DELL MARKETING	4/1/2003	P0043925	LATITUDE C840	MT0215	CC	BITZEGAIO
166556	166556	3700	PC,DELL,OPTIPLEX 755	6R64PH1	DELL	11/18/2008	P0063909	OPTIPLEX 755	MT0215	CC	BITZEGAIO
6001225	6001225	3700	PC, DELL, LATITUDE E6400	BZLB5K1	DELL	7/7/2009	P0065193	LATITUDE E6400	MT0215	CC	BITZEGAIO
6001443	6001443	3730	PC, DELL, LATITUDE E6400	JFWJJL1	DELL	1/4/2010	P0066642	LATITUDE E6400	MT216H	CC	BOTHWELL
6001086	6001086	3730	PC, DELL, LATITUDE E6400	21VSGJ1	DELL	6/9/2009	P0064961	LATITUDE E6400	MT216K	CC	BURGER
147478	147478	3745	PC, DELL OPTIPLEX GX270 w/ 17in MONITOR	3XV2S41	DELL MARKETING	5/11/2004	P0048735	OPTIPLE XGX270	MT0310	CC	CALIBRATION LAB
147487	147487	3745	PC, DELL OPTIPLEX GX270 w/ 17in MONITOR	DTG3S41	DELL MARKETING	5/11/2004	P0048735	OPTIPLEX GX270	MT0310	CC	CALIBRATION LAB
0137191X	137191	3745	PC, GATEWAY SOLO 2500LS WITH CASE	1499393	GATEWAY	9/7/1999		1001574	MT0310	CC	CALIBRATION LAB
164557	164557	3700	PC,DELL,OPTIPLEX 745	H15Z2F1	DELL	12/3/2007	P0061201	OPTIPLEX 745	MT0108	CC	CIM LAB
164555	164555	3720	PC,DELL,OPTIPLEX 745	G15Z2F1	DELL	12/3/2007	P0061201	OPTIPLEX 745	MT0108	CC	CIM LAB
164556	164556	3720	PC,DELL,OPTIPLEX 745	225Z2F1	DELL	12/3/2007	P0061201	OPTIPLEX 745	MT0108	CC	CIM LAB
164558	164558	3720	PC,DELL,OPTIPLEX 745	F15Z2F1	DELL	12/3/2007	P0061201	OPTIPLEX 745	MT0108	CC	CIM LAB
164559	164559	3720	PC,DELL,OPTIPLEX 745	915Z2F1	DELL	12/3/2007	P0061201	OPTIPLEX 745	MT0108	CC	CIM LAB
164560	164560	3720	PC,DELL,OPTIPLEX745	D15Z2F1	DELL	12/3/2007	P0061201	OPTIPLEX 745	MT0108	CC	CIM LAB
149426	149426	3725	PC DELL OPTIPLEX GX280 W/ 19 INCH FP	CSMYT61	DELL MARKETING	3/1/2005	P0052063	OPTIPLEX GX280	MT0115	CC	CLAUSS
140956	140956	3710	PC, DELL OPTIPLEX GX400 w/ 19in MONITOR	6MNP011	DELL MARKETING	11/21/2001	P0037918	OPTIPLEX GX400	MT301L	CC	CLYBURN

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160973	160973	3710	PC DELL OPTIPLEX GX620MT	972BM81	DELL MARKETING	10/17/2005		OPTIPLEX GX620MT	MT301L	CC	CLYBURN
6001423	6001423	3745	PC, DELL, LATITUDE E6400	HYVBJL1	DELL	12/17/2009	P0066612	LATITUDE E6400	MT301L	CC	CLYBURN
145917	145917	3715	PC, DELL OPTIPLEX GX270T w/ 18in FLAT MONITOR	1HK6T31	DELL MARKETING	12/1/2003	P0047361	OPTIPLEX GX270T	MT201G	CC	COCHRAN
6001269	6001269	3745	PC, DELL, OPTIPLEX 960DT	GFP65J1	DELL	7/2/2009	P0065338	OPTIPLEX 960DT	MT201G	CC	COCHRANE
147708	147708	3708	PC, DELL, LATITUDE D800	DK8WX41	DELL MARKETING	6/1/2004	P0049083	LATITUDE D800	MT301F	CC	COCKRELL
140102	140102	3710	PC, DELL LATITUDE L400	7W1CM01	DELL	6/5/2001	P0034968	LATITUDE L400	MT301D	CC	COCKRELL
143163	143163	3710	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	9BKF721	DELL MARKETING	1/8/2003	P0042983	OPTIPLEX GX260T	MT301F	CC	COCKRELL
0130525X	130525	3710	PC, HP PAVILLION w/ 19in MONITOR	US01260668	HEWLETT PACKARD	3/8/2000		D7203M	MT0312	CC	COCKRELL
6001470	6001470	3745	PC, DELL, OPTIPLEX 960DT	GZ7XGK1	DELL	12/10/2009	P0066611	OPTIPLEX 960DT	MT301F	CC	COCKRELL
145581	145581	3710	PC, DELL OPTPLEX GX260T w/ 18in FLAT MONITOR	8P3LH31	DELL MARKETING	10/1/2003	P0046682	OPTIPLEX GX260T	MT0306	CC	COMPUTER HARDWARE LAB
73285	123485	3710	COMPUTER KIT, INTEL, SDK-85 SYSTEMS	860801	INTEL	4/1/1986	36732	SDK-85 SYSTEMS	MT0306	CC	COMPUTER LAB
73286	123484	3710	COMPUTER KIT, INTEL SDK-85 SYSTEMS	860805	INTEL	4/1/1986	36732	SDK-85 SYSTEMS	MT0306	CC	COMPUTER LAB
73287	123487	3710	COMPUTER KIT, INTEL, SDK-85 SYSTEMS	860804	INTEL	4/1/1986	36732	SDK-85 SYSTEMS	MT0306	CC	COMPUTER LAB
73288	123488	3710	COMPUTER KIT, INTEL, SDK-85 SYSTEMS	860785	INTEL	4/1/1986	36732	SDK-85 SYSTEMS	MT0306	CC	COMPUTER LAB
73289	123483	3710	COMPUTER KIT, INTEL, SDK-85 SYSTEMS	860811	INTEL	4/1/1986	36732	SDK-85 SYSTEMS	MT0306	CC	COMPUTER LAB
73290	123486	3710	COMPUTER KIT, INTEL, SDK-85 SYSTEMS	860800	INTEL	4/1/1986	36732	SDK-85 SYSTEMS	MT0306	CC	COMPUTER LAB
73294		3710	COMPUTER KIT, INTEL, SDK-85 SYSTEMS	860797	INTEL	4/1/1986	36732	SDK-85 SYSTEMS	MT0306	CC	COMPUTER LAB
0142766X	142766	3735	PC, GATEWAY, E4000 W/ 15 INCH MONITOR	28658372	GATEWAY	11/1/2002		E4000	MT0203	CC	CORDREY
141995	141995	3710	PC, APPLE, IMAC G4 700	QT223088L2T	APPLE COMPUTER	6/11/2002	P0040296	IMAC G4 700	MT301B	CA	CROFT
149460	149460	3710	PC, APPLE, IMAC 20	QP5100J4PNZ	AMPPLE COMPUTER INC	3/10/2005	P0052129	IMAC 20	MT301B	CA	CROFT
161989	161989	3710	COMPUTER, APPLE, IMAC 20	QP62004HV4P	APPLE	6/6/2006	P0056321	IMAC 20 COMPUTER	MT301B	CA	CROFT
0136321X	136321	3710	Server, Data Snap	28326	Meridian	3/2/1999		5325301057	MT0310	CM	CROFT
6001425	6001425	3745	PC, DELL, LATITUDE E6400	6WVBJL1	DELL	12/17/2009	P0066612	LATITUDE E6400	MT301C	CC	CROFT
6001118	6001118	3740	PC, DELL, LATITUDE E6400	7WVSGJ1	DELL	6/9/2009	P0064961	LATITUDE E6400	MT219B	CC	CROWDER
85536	122776	3720	PROCESSOR MODULE, AND POWER SUPPLY, ALLA	96041871	ALLEN-BRADLEY	7/22/1988	N011936	1785 LT PLC5115	MT0108	CM	CW LAB
141625	141625	3720	PC, GATEWAY E3600 w/17in MONITOR	26884291	GATEWAY	5/10/2002	P0039348	E3600	MT0108	CC	CW LAB
141632	141632	3720	PC, GATEWAY E3600 w/17in MONITOR	26884356	GATEWAY	5/10/2002	P0039348	E3600	MT0108	CC	CW LAB
141638	141638	3720	PC, GATEWAY E3600 w/17in MONITOR	26884339	GATEWAY	5/10/2002	P0039348	E3600	MT0108	CC	CW LAB
141639	141639	3720	PC, GATEWAY E3600 w/17in MONITOR	26884378	GATEWAY	5/10/2002	P0039348	E3600	MT0108	CC	CW LAB
141651	141651	3720	PC, GATEWAY E3600 w/17in MONITOR	26884353	GATEWAY	5/10/2002	P0039348	E3600	MT0108	CC	CW LAB
141656	141656	3720	PC, GATEWAY E3600 w/17in MONITOR	26884384	GATEWAY	5/10/2002	P0039348	E3600	MT0108	CC	CW LAB
160656	160656	3720	PC DELL OPTIPLEX GX280	2CNL881	DELL MARKETING	9/1/2005	P0054240	OPTIPLEX GX280	MT0108	CC	CW LAB
0133649X	133649	3720	PC, DELL, OPTIPLEX, GXA	CP1XQ	DELL	1/26/1998		OPTIPLEX GXA	MT0108	CC	CW LAB

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133457	133457	3725	PC, DELL P8266 W/MONITOR, OPTIPLEX GXA	BYSPD	DELL	12/2/1997	7181	OPTIPLEX GXA	MT0108	CC	CW LAB
142417	142417	3725	TOUCHSCREEN, INTELLITOUCH, ELO 18in, ET1860L	Z0080283	ELO	8/14/2002	P0041325	ET1860L	MT0108	CC	CW LAB
142418	142418	3725	TOUCHSCREEN, INTELLITOUCH, ELO 18 INCH, ET18	Z0080282	ELO	8/14/2002	P0041325	ET1860L	MT0108	CC	CW LAB
142419	142419	3725	TOUCHSCREEN, INTELLITOUCH, ELO 18 INCH, ET18	Z0080281	ELO	8/14/2002	P0041325	ET1860L	MT0108	CC	CW LAB
0133373X	133373	3725	PC, PENTIUM 266 w/Monitor, OPTIPLEX GXA	BYVGJ	DELL	12/2/1997		OPTIPLEX GXA	MT0108	CC	CW LAB
142283	142283	3725	PC, DELL PRECISION 530 WORKSTATION	JGDRL11	DELL MARKETING	7/10/2002	P0040217	PRECISION 530 WOR	MT0108	CC	CW LABS
166146	166146	3745	PC, LENOVA, THINKPAD R61	L3C2775	LENOVO	8/14/2008	P0062908	THINKPAD R61	MT0201	CC	DEPARTMENTAL USE
166983	166983	3740	PC, COMPAQ PRESARIO LAPTOP, 1681	3-150756-00	COMPAQ	11/26/1997		1681	MT0305	CC	DIGITAL LAB
166984	166984	3740	PC, COMPAQ PRESARIO LAPTOP,1681	V811BVQ21748	COMPAQ	11/26/1997		1681	MT0305	CC	DIGITAL LAB
114332	114332	3710	PC, ZENITH Z-NOTE COLOR NOTEBOOK	3RSAXK002337	ZENITH	7/21/1994	G074066	ZWL 4336-21	MT0309	CC	DISPLAY
142289	142289	3700	PRINTER, HEWLETT PACKARD, DESKJET 1220CXI	SSG23K1317J	HEWLETT PACKARD	7/1/2002	P0040630	C2694A DESKJET 122	MT0101	CC	EBERWIEN
166561	166561	3700	PC, DELL, OPTIPLEX 755	81Z3PH1	DELL	11/18/2008	P0063909	OPTIPLEX 755	MT0101	CC	EBERWIEN
168026	168026	3703	PC LAPTOP, LENOVO, R52	LV-V2601	LENOVO	8/28/2009		R52	MT0101	CC	EBERWIEN
6001424	6001424	3740	PC, DELL, LATITUDE E6400	JYVBJL1	DELL	12/17/2009	P0066612	LATITUDE E6400	MT219E	CC	EL MANSOUR
6001469	6001469	3740	PC, DELL, OPTIPLEX 960DT	GZ7JHK1	DELL	12/10/2009	P0066611	OPTIPLEX 960DT	MT302F	CC	ELLINGSON
166287	166287	3740	PC, DELL. OPTIPLEX 755	2JFFHH1	DELL	10/1/2008	P0063616	OPTIPLEX 755	MT0302	CC	ELSLAGER
167052	167052	3740	PC, LENOVO, THINKPAD 7450CTO	45N3719	LENOVO	4/1/2009	P0064450	THINKPAD 7450CTO	MT219D	CC	EVERSOLE
6001006	6001006	3740	PC, DELL, OPTIPLEX 960DT	7N6G4J1	DELL	6/9/2009	P0064962	OPTIPLEX 960DT	MT219D	CC	EVERSOLE
142912	142912	3725	PC, APPLE, IMAC 800	QT2480C2MZ9	APPLE COMPUTER	12/9/2002	P0042829	IMAC 800	MT302H	CA	FAUBER
6001447	6001447	3740	PC, APPLE MACBOOK PRO 13"	W8949182664	APPLE	12/10/2009	P0066584	MACBOOK PRO 13"	MT302H	CC	FAUBER
123289	123289	3715	Air Logic Trainer	none	Dynamo	9/1/1980		AL10	TA0220	CM	FLUID POWER LAB
123292	123292	3715	Air Logic Trainer	none	Dynamo	9/1/1980		AL10	TA0222	CM	FLUID POWER LAB
166501	166501	3700	PC, DELL, OPTIPLEX 755 MT	54BZNH1	DELL	12/1/2008	P0063908	OPTIPLEX 755 MT	TA142B	CC	FOSTER
166562	166562	3700	PC, DELL, OPTIPLEX 755	6LX3PH1	DELL	11/18/2008	P0063909	OPTIPLEX 755	MT0215	CC	FOSTER
167461	167461	3700	PC, DELL, OPTIPLEX 960 MT	63NG6K1	DELL	6/12/2009	P0064914	OPTIPLEX 960MT	TA0142	CC	FOSTER
6001070	6001070	3740	PC, DELL, LATITUDE E6400	JXTSGJ1	DELL	6/9/2009	P0064961	LATITUDE E6400	TA0142	CC	FOSTER
166560	166560	3700	PC, DELL, OPTIPLEX 755	3MX3PH1	DELL	11/18/2008	P0063909	OPTIPLEX 755	MT101F	CC	FRODERMAN
148686	148686	3715	PC, DELL LATITUDE 100L	71Z3L51	DELL MARKETING	9/3/2004	P0050686	LATIUDE 100L	MT101F	CC	FRODERMAN
144817	144817	3730	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	F2XSX21	DELL MARKETING	7/2/2003	P0045128	OPTIPLEX GX260T	MT0216	CC	GRADUATE ASSISTANT
144818	144818	3730	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	H2XSX21	DELL MARKETING	7/2/2003	P0045128	OPTIPLEX GX260T	MT0216	CC	GRADUATE ASSISTANT
0139392X	139392	3710	PC, DELL OPTIPLEX GX110	GKQFG01	DELL	3/20/2001		OPTIPLEX GX110	MT301N	CC	GRADUATE STUDENTS
6001100	6001100	3740	PC, DELL, LATITUDE E6400	12VSGJ1	DELL	6/9/2009	P0064961	LATITUD E6400	MT219A	CC	GRAHAM
166008	166008	3700	PC, DELL, OPTIPLEX 755	8G3L1G1	DELL	7/3/2008	P0062754	OPTIPLEX 755	MT0103	CC	GRIFFY

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166564	166564	3730	PC, DELL, OPTIPLEX 755	1R64PH1	DELL	11/18/2008	P0063909	OPTIPLEX 755	MT0216	CC	GUESS
6001099	6001099	3740	PC, DELL, LATITUDE E6400	18VSGJ1	DELL	6/9/2009	P0064961	LATITUDE E6400	MT302C	CC	HARRIS
166449	166449	3700	PC,DELL,OPTIPLEX 755	HZ0ZNH1	DELL	11/17/2008	P0063908	OPTIPLEX 755	TA0105	CC	HAWKINS
142889	142889	3715	PC, DELL OPTIPLEX GX260T w/ 19in FLAT MONITOR	DJ21421	DELL MARKETING	12/3/2002	P0042825	OPTIPLEX GX260T	MT201F	CC	HAYDEN
6001414	6001414	3740	PC, DELL, LATITUDE E6400	HXVBJL1	DELL	12/17/2009	P0066612	LATITUDE E6400	MT201F	CC	HAYDEN
140231	140231	3700	PC, DELL OPTIPLEX GX400 w/ 19in MONITOR	H2GLN01	DELL MARKETING	7/2/2001	P0035577	OPTIPLEX GX400	MT101D	CC	HUBER
161784	161784	3700	PC, DELL OPTIPLEX GX620 MT	JQN3Y91	DELL	5/2/2006	P0056086	GX620 MT	TA0106	CC	HUBER
143384	143384	3710	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	3JR1F21	DELL MARKETING	2/18/2003	P0043528	OPTIPLEX GX260T	MT301J	CC	HUBER
129254	129254	3725	MONITOR 25in.	791-95110056	ZENITH	5/29/1987		CV-2562	MT0202	CC	IMT DEMO LAB
0105849X	105849	3745	PC, GATEWAY, 2000 P5-66	2207815	GATEWAY	5/20/1994		2000 P5-66	MT0202	CC	IMT DEMO LAB
60528	123164	3715	DYNAMOMETER COMPUTER UNIT, SF-800, SUPER	SF-800-109	SUPER FLOW	6/1/1982	8234	SF-800	TA0127	CM	IND AUTO LAB
0130852X	130852	3715	PC, DELL, OPTIPLEX GX110/T	FJ29A	DELL MARKETING	4/10/2000		OPTIPLEX GX110/T	TA0127	CC	INDUSTRIAL AUTO LAB
0130874X	130874	3715	PC OPTIPLEX GX110/T w/17in.Monitor	GLYIB	DELL MARKETING	3/6/2000		OPTIPLEX GX110/T	TA0127	CC	INDUSTRIAL AUTO LAB
165189	165189	3725	PC,APPLE,MACBOOK	W88070FOZ62	APPLE	2/18/2008	P0061686	MACBOOK	MT302G	CC	KIM
6001451	6001451	3725	PC, APPLE, MACBOOK PRO 13"	W89500YK66H	APPLE	12/17/2009	P0066644	MACBOOK PRO 13"	MT302G	CC	KIM
140739	140739	3715	PC, DELL OPTIPLEX GX400 w/17in MONITOR	6DCV01	DELL MARKETING	9/12/2001	P0036954	OPTIPLEX GX400	MT0201	CC	L
142045	142045	3700	PC, DELL OPTIPLEX GX240 w/ 15in FLAT MONITOR	CTDBJ11	DELL MARKETING	6/3/2002	P0039991	OPTIPLEX GX240	MT0209	CC	Lab
143210	143210	3700	PC, DELL OPTIPLEX GX260T w/ 20in FLAT MONITOR	GC1KB21	DEL MARKETING	2/1/2003	P0043211	OPTIPLEX GX260T	MT0301	CC	Lab
143211	143211	3700	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	GPDHB21	DELL MARKETING	2/1/2003	P0043212	OPTIPLEX GX260T	MT0101	CC	Lab
143490	143490	3700	PC, DELL LATITUDE C840	DD0WF21	DELL MARKETING	3/1/2003	P0043645	LATITUDE C840	MT0216	CC	Lab
144008	144008	3700	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	7PF2Q21	DELL MARKETING	5/6/2003	P0044341	OPTIPLEX GX260T	MT101E	CC	Lab
147745	147745	3700	PC, DELL OPTIPLEX GX270 w/ 19in MONITOR	DSVJY41	DELL MARKETING	6/2/2004	P0049129	OPTIPLEX GX270	MT0215	CC	Lab
148930	148930	3700	PC, DELL LATITUDE D800	J15JV51	DELL MARKETING	11/1/2004	P0051194	LATITUDE D800	MT108A	CC	Lab
166857	166587	3700	PC, IBM, PS2	72-7082932	IBM	10/20/1998		PS2	MT0309	CC	Lab
0147744X	147744	3700	PC, DELL OPTIPLEX GX270 w/ 19in MONITOR	BSVJY41	DELL MARKETING	6/2/2004	P0049129	OPTIPLEX GX270	MT0215	CC	Lab
133736	133736	3705	PC, VISIONBOOK ELITE	4.4053E+14	HITACHI	2/18/1998		D4053A	TA0108	CC	Lab
142737	142737	3708	PC, DELL OPTIPLEX GX260T w/ 17in FLAT MONITOR	3Z60Y11	DELL MARKETING	10/9/2002	P0042179	OPTIPLEX GX260T	MT0107	CC	Lab
144821	144821	3708	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	1RWSX21	DELL MARKETING	7/2/2003	P0045129	OPTIPLEX GX260T	MT0318	CC	Lab
144822	144822	3708	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	4RWSX21	DELL MARKETING	7/2/2003	P0045129	OPTIPLEX GX260T	MT0318	CC	Lab
144823	144823	3708	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	DRWSX21	DELL MARKETING	7/2/2003	P0045129	OPTIPLEX GX260T	MT0318	CC	Lab
144824	144824	3708	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	D1XSX21	DELL MARKETING	7/2/2003	P0045129	OPTIPLEX GX260T	MT0318	CC	Lab
144826	144826	3708	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	9RWSX21	DELL MARKETING	7/2/2003	P0045129	OPTPLEX GX260T	MT0318	CC	Lab
144827	144827	3708	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	42XSX21	DELL MARKETING	7/2/2003	P0045129	OPTIPLEX GX260T	MT0318	CC	Lab

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144828	144828	3708	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	G1XSX21	DELL MARKETING	7/2/2003	P0045129	OPTIPLEX GX260T	MT0318	CC	Lab
144829	144829	3708	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	22XSX21	DELL MARKETING	7/2/2003	P0045129	OPTIPLEX GX260T	MT0318	CC	Lab
20877		3710	DIGITAL TRAINER, COMPUTER	3364	DIGITAL EQUIP.	12/1/1972	30330		MTX001	CM	Lab
20879		3710	DIGITAL TRAINER, COMPUTER	3361	DIGITAL EQUIP.	12/1/1972	30330		MTX001	CM	Lab
52225		3710	DIGIBRIDGE	9701	RLC	1/1/1980	65049	1658	MT0308	CM	Lab
56988	123489	3710	INDUST.CONTROL, SBC 80/10B, INTEL, COMPUTER	97761	INTEL	9/1/1981	79773	SBC 80/10B	MT0308	CM	Lab
56989		3710	INDUST.CONTROL, SBC 80/10B, INTEL, COMPUTER	15558	INTEL	9/1/1981	79773	SBC 80/10B	MT0308	CM	Lab
56990		3710	INDUST.CONTROL, SBC 80/10B, INTEL, COMPUTER	20203	INTEL	9/1/1981	79773	SBC 80/10B	MT0308	CM	Lab
56991		3710	INDUST.CONTROL, SBC 80/10B, INTEL, COMPUTER	19053	INTEL	9/1/1981	79773	SBC 80/10B	MT0308	CM	Lab
56992		3710	INDUST.CONTROL, SBC 80/10B, INTEL, COMPUTER	15315	INTEL	9/1/1981	79773	SBC 80/10B	MT0308	CM	Lab
56993		3710	INDUST.CONTROL, SBC 80/10B, INTEL, COMPUTER	175645	INTEL	9/1/1981	79773	SBC 80/10B	MT0308	CM	Lab
56994		3710	INDUST.CONTROL, SBC 80/10B, INTEL, COMPUTER	11019	INTEL	9/1/1981	79773	SBC 80/10B	MT0308	CM	Lab
56995		3710	INDUST.CONTROL, SBC 80/10B, INTEL, COMPUTER	12588	INTEL	9/1/1981	79773	SBC 80/10B	MT0308	CM	Lab
56996		3710	INDUST.CONTROL, SBC 80/10B, INTEL, COMPUTER	23389	INTEL	9/1/1981	79773	SBC 80/10B	MT0308	CM	Lab
56997		3710	INDUST.CONTROL, SBC 80/10B, INTEL, COMPUTER	14125	INTEL	9/1/1981	79773	SBC 80/10B	MT0308	CM	Lab
57008		3710	TERMINAL,PROGRAM, 1770-T1, ALLEN BRADLEY PA	4247	ALLEN BRADLEY	6/1/1981	80062	1770-T1	MT0311	CM	Lab
60999		3710	FORTRAN COMPILER, 8080/8085MDS301	DISK VER 2.2		8/1/1982	7684	8080/8085MDS301	MTX001	CM	Lab
61000		3710	MACRO ASSEMBLER	123471-002		8/1/1982	7684	8080/8085MDS302	MTX001	CM	Lab
61001		3710	BASIC INTREPRETER	9500045-02		8/1/1982	7684	MDS320	MTX001	CM	Lab
61002		3710	COMPILER	124197001	PIONEER	8/1/1982	7684	MDS PLM	MTX001	CM	Lab
61004		3710	COMPLIER PL/M	9500001-03		8/1/1982	7684	MDS 313	MTX001	CM	Lab
61005		3710	COMPLIER,PASCAL	123578-002		8/1/1982	7684	MDS 314	MTX001	CM	Lab
61006		3710	COMPILER,FORTRAN	DISK VER 2.1		8/1/1982	7684	MDS 315	MTX001	CM	Lab
73291		3710	COMPUTER KIT		INTEL	4/1/1986	36732	SDK-85 SYSTEMS	MT0306	CC	Lab
73292	123482	3710	COMPUTER KIT		INTEL	4/1/1986	36732	SDK-85 SYSTEMS	MT0306	CC	Lab
73293		3710	COMPUTER KIT		INTEL	4/1/1986	36732	SDK-85 SYSTEMS	MT0306	CC	Lab
74261	123676	3710	CONTROLLER, PROGRAM- MABLE	L11085-4011	ALLEN BRADLEY	9/1/1986	38353	SLC-100	MTX001	CM	Lab
74593	123394	3710	COMPUTER,MACINTOSH PLUS W/MODEM	BCG9GRM0001A	APPLE	10/1/1986	40376		MT0309	CA	Lab
74597		3710	THUNDERSCAN VISION SYSTEM	LR39104	APPLE	10/1/1986	40376	E1820	MTX001	CA	Lab
78560		3710	DISK DRIVE, 3.5"		APPLE	1/4/1988	N006388		ZZ0001	CA	Lab
84738	123494	3710	COMPILE ENGINE CONVERTED	P15120	INTEL	6/8/1989	GIFT	310 SYSTEM	MTC001	CM	Lab
85442	111932	3710	MACINTOSH SE, APPLE	F75167FM5011	APPLE	6/30/1989	LOAN	SE	MT0309	CA	Lab
103852	103852	3710	PC, POWERBOOK 145	FC31053J463	APPLE	4/27/1993		M4630LL/	MT0309	CC	Lab

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115140	115140	3710	PC,AMER.MICRO 486DX2 250MB	5347	AMERICAN MICRO	10/18/1994	E078959	486DX2	MT0309	CC	Lab
123390	123390	3710	MACINTOSH PLUS WITH DISK DRIVE		APPLE	3/7/1990		MACINTOSH PLUS	MT0309	CA	Lab
123595	123595	3710	COMPUTER WITH 80 COLUMN CARD DISK DRIVE, A	1A2S2-163350	APPLE	1/1/1984		APPLE II E	MT0309	CA	Lab
123648	123648	3710	PC, IBM AT w/Monitor	50239525170	IBM	12/3/1992		5170	MT0311	CC	Lab
131531	131531	3710	MAC G4 w/ 17in DISPLAY, Z01W, APPLE	XB02503UJ2S	APPLE COMPUTER	7/3/2000	P0027912	Z01W	MT301C	CA	Lab
133067	133067	3710	MOTION CONTROL BOARD PMAC2, MECH. ELECT. SYSTEMS		MECH. ELECT. SYSTEMS	10/7/1997	4000	PMAC 2	MT0306	CA	Lab
133508	133508	3710	PC, DELL PENTIUM II W/MONITOR	C2F3P	DELL	12/2/1997	7358	OPTIPLEX	MT0310	CC	Lab
133795	133795	3710	PC, NOTEBOOK-P166MMX TOSHIBA	87209432-3	TOSHIBA	2/25/1998	8405	PR1251UXCB	MT0305	CC	Lab
134110	134110	3710	PC, SATELITE PRO 470 TOSHIBA	28585711-3	TOSHIBA	3/19/1998	9796	470 CDT	MT0306	CC	Lab
134247	134247	3710	PC, LAP PRO TOSHIBA	S 28579541	TOSHIBA	4/6/1998	9894	460CT	MT0301	CC	Lab
135884	135884	3710	PC w/20in MONITOR	08006905F83B	SILICON GRAPHICS	2/1/1999	P0016000	2	MT0309	CC	Lab
137986	137986	3710	POWERMAC G4 w/17in DISPLAY	XA0053MNHLA	APPLE COMPUTER	2/11/2000	P0024909	POWERMAC G4	MT0310	CA	Lab
139906	139906	3710	CPU.SUN ULTRA 80 w/SCSI - Ralph	113C1190 and 113C1	SUN MICROSYSTEMS	4/17/2001		WS USO/2X450	MT0317	CM	Lab
140029	140029	3710	PC, DELL OPTIPLEX GX400 w/ 17in MONITOR	5QMVL01	DELL MARKETING	6/1/2001	P0034854	OPTIPLEX GX400	MT0301	CC	Lab
142010	142010	3710	CATALYST, CISCO C2950	3902A816-00098704	CISCO	6/11/2002	P0040253	WS C2950	MT0317	CM	Lab
142131	142131	3710	REMOTE ACCESS SERVER, BLACK BOX, LAR502-AE	10211295	BLACK BOX CORP	6/18/2002	P0040575	LAR502-AETR5	MT0305	CM	Lab
144825	144825	3710	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	TRWSX21	DELL MARKETING	7/2/2003	P0045129	OPTIPLEX GX260T	MT0317	CC	Lab
145573	145573	3710	PC, DELL OPTIPLEX GX260T w/18in FLAT MONITOR	HP3LH31	DELL MARKETING	10/1/2003		OPTIPLEX GX260T	MT0306	CC	Lab
145574	145574	3710	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	5P3LH31	DELL MARKETING	10/1/2003	P0046682	OPTIPLEX GX260T	MT0306	CC	Lab
145575	145575	3710	PC , DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	BP3LH31	DELL MARKETING	10/1/2003	P0046682	OPTIPLEX GX260T	MT0306	CC	Lab
145576	145576	3710	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	2Q3LH31	DELL MARKETING	10/1/2003	P0046682	OPTIPLEX G260T	MT0306	CC	Lab
145577	145577	3710	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	CN3LH31	DELL MARKETING	10/1/2003	P0046682	OPTIPLEX GX260T	MT0306	CC	Lab
145578	145578	3710	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	1P3LH31	DELL MARKETING	10/1/2003	P0046682	OPTIPLEX GX260T	MT0306	CC	Lab
145579	145579	3710	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	5Q3LH31	DELL MARKETING	10/1/2003	P0046682	OPTIPLEX GX260T	MT0306	CC	Lab
145580	145580	3710	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	FN3LH31	DELL MARKETING	10/1/2003	P0046682	OPTIPLEX GX 260T	MT0306	CC	Lab
145582	145582	3710	PC, DELL OPTIPLEX GX260T w/18in FLAT MONITOR	DP3LH31	DELL MARKETING	10/1/2003	P0046682	OPTIPLEX GX260T	MT0306	CC	Lab
145787	145787	3710	PC, IBM NETVISTA W/15" PLANER FLAT PANEL MON	4LMX	IBM	10/22/2003		NETVISTA	MT301K	CC	Lab
146073	146073	3710	PC, DELL LATITUDE D800	9ONDX31	DELL MARKETING	1/5/2004	P0047504	LATITUDE D800	MT0301	CC	Lab
146416	146416	3710	PC, DELL OPTIPLEX GX270T w/ 18in MONITOR	1KM0741	DELL MARKETING	2/4/2004	P0047865	OPTIPLEX GX270T	MT0317	CC	Lab
146636	146636	3710	PC, AMD 3200+ ATHLON w/ 18in MONITOR	ISUSOT001	AMD	3/1/2004	P0047837	3200+	MT0304	CC	Lab
146637	146637	3710	PC, AMD 3200+ ATHLON w/ 18in MONITOR	ISUSOT002	AMD	3/1/2004	P0047837	3200+	MT0304	CC	Lab
146638	146638	3710	PC, AMD 3200+ ATHLON w/ 18in MONITOR	ISUSOT003	AMD	3/1/2004	P0047837	3200+	MT0304	CC	Lab
146639	146639	3710	PC, AMD 3200+ ATHLON w/ 18in MONITOR	ISUSOT004	AMD	3/1/2004	P0047837	3200+	MT0304	CC	Lab

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146640	146640	3710	PC, AMD 3200+ ATHLON w/ 18in MONITOR	ISUSOT005	AMD	3/1/2004	P0047837	3200+	MT0304	CC	Lab
146641	146641	3710	PC, AMD 3200+ ATHLON w/ 18in MONITOR	ISUSOT006	AMD	3/1/2004	P0047837	3200+	MT0304	CC	Lab
146642	146642	3710	PC, AMD 3200+ ATHLON w/ 18in MONITOR	ISUSOT007	AMD	3/1/2004	P0047837	3200+	MT0307	CC	Lab
146643	146643	3710	PC, AMD 3200+ ATHLON w/ 18in MONITOR	ISUSOT008	AMD	3/1/2004	P0047837	3200+	MT0307	CC	Lab
146644	146644	3710	PC, AMD 3200+ ATHLON w/ 18in MONITOR	ISUSOT009	AMD	3/1/2004	P0047837	3200+	MT0307	CC	Lab
146645	146645	3710	PC, AMD 3200+ ATHLON w/ 18in MONITOR	ISUSOT010	AMD	3/1/2004	P0047837	3200+	MT0307	CC	Lab
146646	146646	3710	PC, AMD 3200+ ATHLON w/ 18in MONITOR	ISUSOT011	AMD	3/1/2004	P0047837	3200+	MT0307	CC	Lab
146647	146647	3710	PC, AMD 3200+ ATHLON w/ 18in MONITOR	ISUSOT012	AMD	3/1/2004	P0047837	3200+	MT0307	CC	Lab
146662	146662	3710	ETHERNET CONTROLLER	NOT VISIBLE	NATIONAL INSTRUMENTS	3/1/2004	P0048112	CFP 2000 ODULE	MT0317	CM	Lab
165867	165867	3710	PC, DELL, OPTIPLEX 755	9QQTBG1	DELL	6/2/2008	P0062219	OPTIPLEX 755	MT301J	CC	Lab
133349X	133349	3710	PC, DELL PENTIUM 266 W/MONITOR	BYV6W	DELL	12/2/1997		OPTIPLEX GXA	MT0306	CC	Lab
0061481X	61481	3710	Program module for INTEL	4151118	Data I/O	8/1/1982		919-1417	MT0307	CM	Lab
0080552X	90663	3710	PC, IBM, Dual Drive 64K		IBM	6/28/1988		DUAL DRIVE 64K	MT0309	CC	Lab
0094521X	94521	3710	PC, IBM AT w/Monitor	2092075170	IBM	12/3/1992		5170	MT0309	CC	Lab
0104236X	104236	3710	Monitor, 16in.Color	MC-20500026	GOLDSTAR (PK)	6/21/1993		1620 VGA	MTC001	CC	Lab
0114097X	114097	3710	PC, 486DX-33 American Micro	4722	American Micro	6/14/1994		486DX-33	MT0309	CC	Lab
0127696X	127696	3710	MONITOR 17in SONY	1153982	SONY	7/15/1997		CPD 200SX	MT0310	CC	Lab
0130546X	130546	3710	PC, HP PAVILLION w/ 17in MONITOR	USD1459927	HEWLETT PACKARD	3/8/2000		700MHZ	MT0312	CC	Lab
0130950X	130950	3710	PC, DELL, OPTIPLEX GX110/M	GYUJ5	DELL MARKETING	4/1/2000		OPTIPLEX GX110/M	MT0305	CC	Lab
0132632X	132632	3710	PC DELL OPTIPLEX GX1 WITH 17 INCH MONITOR	EXFKU	DELL MARKETING	4/4/2000		OPTIPLEX GX1	MT301P	CC	Lab
0133318X	133318	3710	PC,PENTIUM 266 w/Monitor	BYVFB	DELL	12/2/1997		OPTIPLEX	MT0311	CC	Lab
0133338X	133338	3710	PC, PENTIUM 266 w/Monitor	BYVGR	DELL	12/2/1997		OPTIPLEX GXA	MT0307	CC	Lab
0133339X	133339	3710	PC, PENTIUM 266 w/Monitor	BYV9X	DELL	12/2/1997		OPTIPLEX GXA	MT0305	CC	Lab
0133346X	133346	3710	PC, DELL, OPTIPLEX GXA	BYVJD	DELL	12/2/1997		OPTIPLEX GXA	MT0305	CC	Lab
0133358Z	133358	3710	PC, DELL, OPTIPLEX GXA	BYVGD	DELL	12/2/1997		OPPTIPLEX GXA	MT0305	CC	Lab
0133370X	133370	3710	PC, DELL, OPTIPLEX GXA	BYV9M	DELL	12/2/1997		OPTIPLEX GXA	MT301O	CC	Lab
0133478X	133478	3710	PC, DELL, OPTIPLEX GXA	BYSRK	DELL	12/2/1997		OPTIPLEX GXA	MT0305	CC	Lab
0137070X	137070	3710	PC, TOSHIBA SATELLITE 4080XCDT	69745248A	TOSHIBA	7/22/1999		PAS408U-T2CW8	MT301C	CC	Lab
0138957X	138957	3710	PC, DELL OPTIPLEX GX300 W/19in MONITOR	HDDMB01	DELL	2/1/2001		OPTIPLEX GX300	MT0317	CC	Lab
0139314X	139314	3710	PC, DELL OPTIPLEX GX110 w/17in MONITOR	HK52F01	DELL	3/2/2001		OPTIPLEX GX110	MT301N	CC	Lab
0139315X	139315	3710	PC, DELL OPTIPLEX GX110 w/17in MONITOR	GD52F01	DELL	3/2/2001		OPTIPLEX G110	MT301O	CC	Lab
0139577X	139577	3710	POWER MAC G4 CUBE WITH 17 INCH DISPLAY	XA1110CCKYJ	APPLE COMPUTER	4/6/2001		Z02E	MT0310	CA	Lab
0140081X	140081	3710	PC Dell Optiplex Gx110 w/17in monitor	3RS4M01	Dell Marketing	6/5/2001		Optiplex GX110	MT0113	CC	Lab

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0140082X	140082	3710	PC Dell Optiplex GX110 w/17in monitor	DQS4M01	Dell Marketing	6/5/2001		Optiplex GX110	MT0113	CC	Lab
0140083X	140083	3710	PC Dell Optiplex GX110 w/17in monitor	8RS4M01	Dell Marketing	6/5/2001		Optiplex GX110	MT0113	CC	Lab
0140086X	140086	3710	PC Dell Optiplex GX110 w/17in monitor	FQS4M01	Dell Marketing	6/5/2001		Optiplex GX110	MT0312	CC	Lab
9014820X		3710	EMULATOR SUPPORT for 8085	Microcomputer	TEKTRONIX	8/1/1982		8002F20	MT0310	CM	Lab
123288	123288	3715	Air Logic Trainer	NA	DYNAMO	9/1/1980		Al 10	TA0221	CM	Lab
123293	123293	3715	Air Logic Trainer	NA	DYNAMO	9/1/1980		AL 10	TA0221	CM	Lab
133455	133455	3715	PC, DELL P8266 W/MONITOR	BYSQO	DELL	12/2/1997	7181	OPTIPLEX GXA	TA0318	CC	Lab
133458	133458	3715	PC, DELL P8266 W/MONITOR	BYSQF	DELL	12/2/1997	7181	OPTIPLEX GXA	MT0212	CC	Lab
133674	133674	3715	PC,NOTEBOOK INSPIRON 3000	B4CGG	DELL	1/23/1998	8444	TS30H	MT0201	CC	Lab
133677	133677	3715	PC, DELL P6226 W/MONITOR	CROTX	DELL	1/23/1998	8445	OPTIPLEX GXA	MT0113	CC	Lab
013587X	135876	3715	PC Dell Optiplex GX1	HZX4H	Dell Marketing	1/10/1999		Dell GX1 P6450	MT0201	CC	Lab
137827	137827	3715	PC, MICRON / PII	1844516-0001	MICRON	1/1/2000	P0022689	SE440BX2-ATX	MT0214	CC	Lab
140996	140996	3715	PC, DELL INSPIRON 8100	5VZG111	DELL MARKETING	12/4/2001	P0037935	INSPIRON 8100	MT0201	CC	Lab
141529	141529	3715	PC, GATEWAY E3600 w/17in MONITOR	26881314	GATEWAY	5/9/2002	P0039348	E3600	TA0124	CC	Lab
141546	141546	3715	PC, GATEWAY E3600 w/17in MONITOR	26881337	GATEWAY	5/9/2002	P0039348	E3600	TA0143	CC	Lab
143254	143254	3715	PC, DELL OPTIPLEX GX260T w/ 17in MONITOR	GHS1D21	DELL MARKETING	2/11/2003	P0043349	OPTIPLEX GX260T	TA0138	CC	Lab
143471	143471	3715	PC, DELL OPTIPLEX GX260T	7N8RF21	DELL MARKETING	3/1/2003	P0043636	OPTIPLEX GX260T	TA0138	CC	Lab
143473	143473	3715	PC, DELL OPTIPLEX GX260T	SL8RF21	DELL MARKETING	3/1/2003	P0043636	OPTIPLEX GX260T	TA0138	CC	Lab
143476	143476	3715	PC, DELL OPTIPLEX GX260T	9M8RF21	DELL MARKETING	3/1/2003	P0043636	OPTIPLEX GX260T	TA0138	CC	Lab
143481	143481	3715	PC, DELL OPTIPLEX GX260T	2N8RF21	DELL MARKETING	3/1/2003	P0043636	OPTIPLEX GX260T	TA0138	CC	Lab
143482	143482	3715	PC, DELL OPTIPLEX GX260T	7M8RF21	DELL MARKETING	3/1/2003	P0043636	OPTIPLEX GX260T	TA0141	CC	Lab
143826	143826	3715	PC, DELL OPTIPLEX GX260T w/ 17in FLAT MONITOR	7RSPZ21	DELL MARKETING	4/21/2003	P0044148	OPTIPLEX GX260T	TA0138	CC	Lab
145976	145976	3715	PC, DELL OPTIPLEX GX270T w/ 19in FLAT MONITOR	BS1RT31	DELL MARKETING	12/3/2003		OPTIPLEX GX270T	MT0214	CC	Lab
146658	146658	3715	PC, DELL OPTIPLEX GX270T	3152N31	DELL MARKETING	2/27/2004		OPTIPLEX GX270T	MT0113	CC	Lab
148050	148050	3715	PC, DELL OPTIPLEX GX270 w/ 17iN MONITOR	1SMQ451	DELL MARKETING	7/6/2004	P0049149	OPTIPLEX GX270	MT0202	CC	Lab
148660	148660	3715	PC, DELL OPTIPLEX GX270 w/ 17in MONITOR	3KFKG51	DELL MARKETING	8/18/2004	P0050539	OPTIPLEX GX270	MT0213	CC	Lab
0104770X	104770	3715	MUX, MICOM 32 CHANNEL	73338	MICOM	9/7/1993		M481/ERB	CL0218	CM	Lab
0105885X	105885	3715	PC, Zenith 486DX w/14in.Monitor	4kSBWS002438	Zenith	10/25/1994		Z-SELECT 100	MT0113	CC	Lab
0127780X	127780	3715	PC, IBM THINKPAD 365XP PENTIUM 133	FE978HARW6	IBM	7/11/1997		TYPE 2625	MT0201	CC	Lab
0129964X	129964	3715	PC, DELL OPTIPLEX GS w/ 15in MONITOR	BCCDZ	DELL	3/19/1998		OPTIPLEX GS	TA0205	CC	Lab
0129965X	129965	3715	PC, DELL OPTIPLEX GS w/ 15in MONITOR	964ZL	DELL	3/19/1998		OPTIPLEX GS	TA0205	CC	Lab
0133471X	133471	3715	PC, P8266 w/Monitor	BYSR6	DELL	12/2/1997		OPTIPLEX GXA	MT0305	CC	Lab
0133476X	133476	3715	PC, P8266 w/Monitor	BYSQZ	DELL	12/2/1997		OPTIPLEX	MT0305	CC	Lab

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131277	131277	3720	POWERMAC G4 w/ 17in DISPLAY, ZO1W, APPLE	XB01832MJ2S	APPLE COMPUTER	5/9/2000	P0026763	ZO1W	MT0219	CA	Lab
138397	138397	3720	PC, DELL PRECISION 420 w/19 MONITOR	2VD3501	DELL MARKETING	11/3/2000	P0030797	PRECISION WORKST	MT0219	CC	Lab
138398	138398	3720	PC, DELL PRECISION 420 w/19in MONITOR	1VD3501	DELL MARKETING	11/3/2000	P0030797	PRECISION WORKST	TA0229	CC	Lab
140810	140810	3720	PC, DELL INSPIRON 8100	9H06X01	DELL MARKETING	10/11/2001	P0037425	INSPIRON 8100	MT219F	CC	Lab
140811	140811	3720	PC, DELL INSPIRON 8100	5H06X01	DELL MARKETING	10/11/2001	P0037425	INSPIRON 8100	MT219F	CC	Lab
144135	144135	3720	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	420KR21	DELL MARKETING	5/12/2003	P0044468	OPTIPLEX GX260T	MT201H	CC	Lab
144136	144136	3720	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	020KR21	DELL MARKETING	5/12/2003	P0044468	OPTIPLEX GX260T	MT219C	CC	Lab
144262	144262	3720	PC, APPLE, POWERMAC G4	XB32000NNP3	APPLE COMPUTER	5/20/2003	P0044637	POWERMAC G4	TA0226	CA	Lab
144812	144812	3720	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	7G7YW21	DELL MARKETING	7/2/2003	P0045063	OPTIPLEX GX260T	MT219F	CC	Lab
160974	160974	3720	PC DELL OPTIPLEX GX620MT	772BM81	DELL MARKETING	10/17/2005		OPTIPLEX GX620MT	MT219A	CC	Lab
162014	162014	3720	PC, APPLE, PM65 QUAD	G862074JR70	APPLE	6/7/2006	P0056182	PC, PMG5 QUAD	TA0226	CA	Lab
162304	162304	3720	PC, DELL, PRECISION WORKSTATION 690	H48FCB1	DELL	7/25/2006	P0056424	PC,PRECISION WORK	MT219F	CC	Lab
57927	122536	3725	TENSILE,MACHINE, UNITE-O-MATIC, ELECTROMEC	80464	UNITE-O-MATIC	10/1/1980	73018	SEE NOTE SCREEN	MT0023	CM	Lab
127588	127588	3725	PC DELL NOTEBOOK LATITUDE LM	7177646BYK8399A	DELL	6/23/1997	3291	T530GMX	MT0302	CC	Lab
130113	130113	3725	COMPUTER, PORTABLE	303014397	TRS-80	9/1/1983		100 W/24K RAM	TA0226	CC	Lab
137837	137837	3725	IMATION SUPERDISK 120MB, T2252LL/A	I190M624018147	APPLE COMPUTER	1/1/2000	P0023977	T2252LL/A	MT0005	CA	Lab
140652	140652	3725	PC, DELL OPTIPLEX GX400 w/19in MONITOR	C2SWR01	DELL MARKETING	8/16/2001	P0036536	OPTIPLEX GX400	MT0025	CC	Lab
141198	141198	3725	PC, APPLE, POWERMAC G4	XB2070E5M1X	APPLE COMPUTER	3/2/2002	P0038851	EMC 1896	MT0005	CA	Lab
141199	141199	3725	PC, APPLE, POWERMAC G4, EMC 1896	XB2070E6MIX	APPLE COMPUTER	3/2/2002	P0038851	EMC 1896	MT0005	CA	Lab
142516	142516	3725	PC, DELL OPTIPLEX GX260T w/ 17in FLAT MONITOR	5CDNS11	DELL MARKETING	9/1/2002	P0041595	OPTIPLEX GX260T	MT302J	CC	Lab
142771	142771	3725	PC, DELL LATITUDE C840	3MVS021	DELL MARKETING	11/4/2002	P0042471	LATITUDE C840	MT0302	CC	Lab
142773	142773	3725	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	813Z021	DELL MARKETING	11/4/2002	P0042471	OPTIPLEX GX260T	MT0302	CC	Lab
143942	143942	3725	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	CLD2Q21	DELL MARKETING	5/6/2003	P0044341	OPTIPLEX GX260T	TA0122	CC	Lab
144005	144005	3725	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	9RF2Q21	DELL MARKETING	5/6/2003	P0044341	OPTIPLEX GX260T	TA0225	CC	Lab
144007	144007	3725	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	6SF2Q21	DELL MARKETING	5/6/2003	P0044341	OPTIPLEX GX260T	TA0227	CC	Lab
145316	145316	3725	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	3GX4G31	DELL MARKETING	9/12/2003	P0046573	OPTIPLEX GX260T	MT219F	CC	Lab
145714	145714	3725	PC, DELL OPTIPLEX GX270T w/ 18in FLAT MONITOR	4YQ8N31	DELL MARKETING	11/1/2003	P0047059	OPTIPLEX GX270T	TA0215	CC	Lab
145715	145715	3725	PC, DELL OPTIPLEX GX270T w/ 18in FLAT MONITOR	CZQ8N31	DELL MARKETING	11/1/2003	P0047059	OPTIPLEX GX270T	MT0302	CC	Lab
145716	145716	3725	PC, DELL OPTIPLEX GX270T w/ 18in FLAT MONITOR	8ZQ8N31	DELL MARKETING	11/1/2003	P0047059	OPTIPLEX GX270T	TA0118	CC	Lab
145717	145717	3725	PC, DELL OPTIPLEX GX270T w/ 18in FLAT MONITOR	9ZQ8N31	DELL MARKETING	11/1/2003	P0047059	OPTIPLEX GX270T	TA0213	CC	Lab
145747	145747	3725	PC, DELL OPTIPLEX GX270T w/ 19in FLAT MONITOR	6WC0P31	DELL MARKETING	11/1/2003		OPTIPLEX GX270T	TA0113	CC	Lab
146415	146415	3725	PC, SONY VAIO LAPTOP, PCG-591L	J00028F8	SONY	2/12/2004	P0047937	PCG-591L	MT0302	CC	Lab
147746	147746	3725	PC, DELL OPTIPLEX GX270 w/ 19in MONITOR	9SVJY41	DELL MARKETING	6/2/2004	P0049129	OPTIPLEX GX270	MT0020	CC	Lab

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149165	149165	3725	PC DELL OPTIPLEX GX280	FQ80D61	DELL MARKETING	1/5/2005		OPTIPLEX GX280	MT302F	CC	Lab
149448	149448	3725	PC DELL OPTIPLEX GX280	FM0RW61	DELL MARKETING	3/7/2005	P0052230	OPTIPLEX GX280	MT302J	CC	Lab
149449	149449	3725	PC DELL OPTIPLEX GX280	HMORW61	DELL MARKETING	3/7/2005	P0052230	OPTIPLEX GX280	MT302K	CC	Lab
160937	160937	3725	PC APPLE IMAC G5	QP5400D3SDW	APPLE COMPUTER	10/13/2005	P0054654	IMAC G5	MT302H	CA	Lab
0134062X	134062	3725	MONITOR 20 INCH APPLE COLORSYNC VISION 850,	WR7361JS931	APPLE COMPUTER	3/12/1998		M3703	MT0005	CA	Lab
0135012X	135012	3725	PC Laptop P233	5001764631	Infinity	9/11/1998		MP983	MT0302	CC	Lab
0137836X	137836	3725	PC, APPLE, POWER MAC G4	XB9516DTHLA	APPLE COMPUTER	1/1/2000		M5183	MT0005	CA	Lab
0138366X	138366	3725	PC, DELL OPTIPLEX GX300 W/17in MONITOR	787S301	DELL	11/1/2000		OPTIPLEX GX300	MT0115	CC	Lab
0140084X	140084	3725	PC, DELL, OPTIPLEX GX110	JQS4M01	DELL	6/5/2001		OPTIPLEX GX110	MT0114	CC	Lab
0140085X	140085	3725	PC, DELL, OPTIPLEX GX110	FQS4M01	DELL	6/5/2001		OPTIPLEX GX110	MT0114	CC	Lab
133377	133377	3730	PC, DELL P6266 W/MONITOR	BYVCP	DELL	12/2/1997	7147	OPTIPLEX GXA	MT0110	CC	Lab
141996	141996	3730	PC, DELL OPTIPLEX GX240 w/ 15in FLAT MONITOR	CTDBJ11	DELL MARKETING	6/11/2002	P0039991	OPTIPLEX GX240	MT0209	CC	Lab
141997	141997	3730	PC, DELL OPTIPLEX GX240 w/ 15in FLAT MONITOR	SWMPJ11	DELL MARKETING	6/11/2002	P0039991	OPTIPLEX GX240	MT0109	CC	Lab
144816	144816	3730	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	B2XSX21	DELL MARKETING	7/2/2003	P0045128	OPTIPLEX GX260T	MT0216	CC	Lab
144819	144819	3730	PC, DELL OPTIPLEX GX260T / 18in FLAT MONITOR	23XSX21	DELL MARKETING	7/2/2003	P0045128	OPTIPLEX GX260T	MT0216	CC	Lab
148724	148724	3730	PC, DELL OPTIPLEX GX270 w/ 17in MONITOR	6P85M51	DELL MARKETING	9/8/2004	P0050826	OPTIPLEX GX270	MT216H	CC	Lab
160975	160975	3730	PC DELL OPTIPLEX GX620MT	672BM81	DELL MARKETING	10/17/2005		OPTIPLEX GX620MT	MT216F	CC	Lab
145293	145293	3735	PC, DELL OPTIPLEX GX270T w/ 18in FLAT MONITOR	BC7QD31	DELL MARKETING	9/3/2003	P0046480	OPTIPLEX GX270T	MT0203	CC	Lab
129825	129825	3745	CPU, ULTRA 2 w/SCSI - SCOOBY	806FC0B3	UNIX	3/5/1998	8748	ULTRA 2	MT0213	CM	Lab
141041	141041	3745	PC, DELL OPTIPLEX GX400 w/ 19in MONITOR	DYWS211	DELL MARKETING	1/1/2002	P0038232	OPTIPLEX GX400	MT0201	CC	Lab
149961	149961	3745	PC, DELL, OPTIPLEX GX280	12NCK71	DELL MARKETING	6/1/2005	P0052708	OPTIPLEX GX280	MT0213	CC	Lab
149967	149967	3745	PC, DELL, OPTIPLEX GX280	G6PCK71	DELL MARKETING	6/1/2005	P0052708	OPTIPLEX GX280	MT0213	CC	Lab
0139449X	139449	3745	PC, DELL, OPTIPLEX GX110 w/17in MONITOR	9MHFG01	DELL	4/1/2001		OPTIPLEX GX110	MT0201	CC	Lab
166319	166319	3745	PC,DELL,OPTIPLEX 755MT	59PNJH1	DELL	11/1/2008		OPTIPLEX 755MT	MT0301	CC	LEE
148353	148353	3710	PC, CUSTOM BUILT w/ 19in MONITOR	ISUSOT013	CUSTOM BUILT	7/12/2004	P0049656	CUSTOM BUILT	MT301M	CC	LI
6001193	6001183	3745	PC, APPLE, MACBOOK 13" ALUMINUM	W89246XS66H	APPLE	6/18/2009	P0065256	MACBOOK 13" ALUMI	MT301J	CC	LI
0129828X	129828	3700	TAPE DRIVE, SUN, DDS2	803G0610	SUN	3/5/1998		DDS2	MT301H	CM	LIN
160657	160657	3710	PC DELL OPTIPLEX GX280	CCNL881	DELL MARKETING	9/1/2005	P0054240	OPTIPLEX GX280	MT0301	CC	LIN
6001446	6001446	3745	PC, APPLE, MACBOOK PRO 13"	W894918466H	APPLE	12/10/2009	P0066584	MACBOOK PRO 13"	MT301H	CC	LIN
0133320Z	133320	3700	PC, DELL, OPTIPLEX GXA	BYVFW	DELL	12/2/1997		OPTIPLEX GXA	MT301D	CC	MALOOLEY
122786	122786	3710	COMMUNICATION INTERFACE	3230	ALLEN BRADELY	7/22/1988		1770-KF2	MT0113	CM	MALOOLEY
140773	140773	3710	PC,DELL OPTIPLEX GX400 w/17in.FLAT PANEL	7JRJVO1	DELL	9/20/2001	P0036944	OPTIPLEX GX400	MT301D	CC	MALOOLEY
160122	160122	3710	PC APPLE IMAC G5	QP522036SDW	APPLE COMPUTER	6/1/2005	P0052873	IMAC G5	MT301D	CC	MALOOLEY

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160976	160976	3710	PC DELL OPTIPLEX GX620MT	872BM81	DELL MARKETING	10/17/2005		OPTIPLEX GX620MT	MT301D	CC	MALOOLEY
6001104	6001104	3745	PC, DELL, LATITUDE E6400	41VSGJ1	DELL	6/9/2009	P0064961	LATITUDE E6400	MT301D	CC	MALOOLEY
166996	166996	3700	PC, TOSHIBA, SATELLITE, PA5401U	Y8259120A	TOSHIBA	2/1/1999		PA5401U	TA0107	CC	MAUGHAN
0135861X	135861	3700	Laptop Satellite 420	28348716A	TOSHIBA	2/1/1999		PR5402UB	TA0107	CC	MAUGHAN
6001267	6001267	3740	PC, DELL, OPTIPLEX 960DT	GFP85J1	DELL	7/2/2009	P0065338	OPTIPLEX 960DT	MT0106	CC	MAUGHAN
6001257	6001257	3740	PC, DELL, LATITUDE E6400	9Z2C5K1	DELL	7/7/2009	P0065339	LATITUDE E6400	MT302K	CC	MCCASKEY
166559	166559	3700	PC, DELL, OPTIPLEX 755	1MX3PH1	DELL	11/18/2008	P0063909	OPTIPLEX 755	MT101C	CC	MCNABB
6001136	6001136	3700	PC, DELL, LATITUDE E6400	4ZTSGJ1	DELL	6/9/2009	P0064961	LATITUDE E6400	MT101C	CC	MCNABB
142938	142938	3725	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	JLSC521	DELL MARKETING	1/1/2003	P0042902	OPTIPLEX GX260T	MT302G	CC	MCNABB
161384	161384	3725	PC DELL LATITUDE D610,DR. MCNABB @ HOME	CNGN691	DELL MARKETING	2/1/2006	P0055277	LATITUDE D610	MT101C	CC	MCNABB
144261	144261	3720	PC, APPLE, POWERMAC G4	XB32000LNP3	APPLE COMPUTER	5/20/2003	P0044637	POWERMAC G4	TA0228	CA	MEDIA DEVELOPEMENT
144263	144263	3720	PC, APPLE, POWERMAC G4	XB32000MNP3	APPLE COMPUTER	5/20/2003	P0044637	POWERMAC G4	TA0228	CA	MEDIA DEVELOPEMENT
144938	144938	3720	PC, APPLE, POWERMAC G4	XB32600CNP3	APPLE COMPUTER	7/9/2003	P0045159	POWERMAC G4	TA0228	CA	MEDIA DEVELOPEMENT
144939	144939	3720	PC, APPLE, POWERMAC G4	XB32600GNP	APPLE COMPUTER	7/9/2003	P0045159	POWERMAC G4	TA0228	CA	MEDIA DEVELOPEMENT
144264	144264	3720	PC, APPLE, POWERMAC G4	XB32000PNP3	APPLE COMPUTER	5/20/2003	P0044637	POWERMAC G4	TA0228	CA	MEDIA LAB
140675	140675	3725	PC, DELL OPTIPLEX GX400 w/19in MONITOR	8ZRWR01	DELL MARKETING	8/16/2001	P0036536	OPTIPLEX GX400	MT0024	CC	METAL FAB LAB
168027	168027	3730	PC LAPTOP, LENOVO, THINKPAD	LV-V2603	LENOVO	8/28/2009		THINK PAD	MT216A	CC	MINNIEAR
6001266	6001266	3730	PC, DELL, OPTIPLEX 960DT	GCJF5J1	DELL	7/2/2009	P0065338	OPTIPLEX 960DT	MT216A	CC	MINNIEAR
6001379	6001379	3740	PC, DELL, LATITUDE E6400	6TJ5JL1	DELL	12/17/2009	P0066582	LATITUDE E6400	MT302E	CC	MINTY
160938	160938	3710	PC DELL OPTIPLEX GH620MT	3X42L81	DELL MARKETING	10/5/2005	P0054640	OPTIPLEX GH620MT	MT0301	CC	MITCHELL
166557	166557	3745	PC, DELL, OPTIPLEX 755	4R64PH1	DELL	11/18/2008	P0063909	OPTIPLEX 755	MT0301	CC	MITCHELL
6001101	6001101	3740	PC, DELL, LATITUDE E6400	30VSGJ1	DELL	6/9/2009	P0064961	LATITUDE E6400	TA0215	CC	NIGHTINGALE
148925	148925	3710	PC, DELL OPTIPLEX GX270 w/ 19in MONITOR	33M8V51	DELL MARKETING	10/21/2004	P0051194	OPTIPLEX GX270	MT0108	CC	OFFICE
0139454X	139454	3715	PC, DELL OPTIPLEX GX110 w/17in MONITOR	NOT KNOWN	DELL	4/1/2001		OPTIPLEX GX110	MT113A	CC	OFFICE
142274	142274	3715	PC, GATEWAY E3600 w/ 18in FLAT MONITOR	27275733	GATEWAY	7/1/2002	P0040181	E3600	MT201C	CC	PETERS
149181	149181	3715	PC SONY NOTEBOOK	C100LEUE	SONY	1/5/2005	P0051628	PCG9S1L	MT201C	CC	PETERS
163842	163842	3715	PC,LENOVO,THINKPAD	L3-5M8E2	LENOVO	6/18/2007		PC,THINKPAD	MT201C	CC	PETERS
6001263	6001263	3745	PC, DELL, OPTIPLEX 960MT	GT1L4J1	DELL	7/2/2009	P0065338	OPTIPLEX 960MT	MT201C	CC	PETERS
0133436X	133436	3708	PC, P6266 w/Monitor	BYV4V	DELL	12/2/1997		OPTIPLEX GXA	MT0108	CC	PhD LAB
0133443X	133443	3700	PC, DELL, OPTIPLEX GXA	BYSQ8	DELL	12/2/1997		OPTIPLEX GXA	MT0317	CC	PILOT PROJECT
163331	163331	3710	PC,DELL,OPTIPLEX GX620	6RJ7SC1	DELL	4/13/2007	P0059148	PC,OPTIPLEX GX620	MT0317	CC	PILOT PROJECT
0129944X	129944	3710	MONITOR, SUN, GDM20E20, 21 in COLOR	9809GI0817	SUN	6/1/1998		GDM20E20	MT0317	CC	PILOT PROJECT
0130876X	130876	3710	PC OPTIPLEX GX110/T w/17in.Monitor	GLYI6	DELL MARKETING	3/6/2000		OPTIPLEX GX110/T	MT0317	CC	PILOT PROJECT

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0133350X	133350	3710	PC, DELL, OPTIPLEX GXA	BYV88	DELL	12/2/1997		OPTIPLEX GXA	MT0317	CC	PILOT PROJECT
0135868X	135868	3710	PC, DELL OPTIPLEX GX1	HZX446	DELL	1/10/1999		OPTIPLEX GX1 P6450	MT0317	CC	PILOT PROJECT
0138956X	138956	3710	PC, DELL OPTIPLEX GX300 W/19in MONITOR	BDDMB01	DELL	2/1/2001		OPTIPLEX GX300	MT0317	CC	PILOT PROJECT
0138958X	138958	3710	PC, DELL OPTIPLEX GX300 W/19in MONITOR	FDDMB01	DELL	2/1/2001		OPTIPLEX GX300	MT0317	CC	PILOT PROJECT
0138959X	138959	3710	PC, DELL OPTIPLEX GX300 W/19in MONITOR	9DDMB01	DELL	2/1/2001		OPTIPLEX GX300	MT0317	CC	PILOT PROJECT
0139443X	139443	3710	PC, DELL OPTIPLEX GX110 w/17in MONITOR	NOT KNOWN	DELL	4/1/2001		OPTIPLEX GX110	MT0317	CC	PILOT PROJECT
0139907X	139907	3710	CPU, SUN Ultra 80 w/SCSI - Shepp	112C0DFT	SUN	4/17/2001		WSUSO/2X450	MT0317	CM	PILOT PROJECT
0130869X	130869	3715	PC, DELL, OPTIPLEX GX110/T	GLYIS	DELL MARKETING	3/6/2000		OPTIPLEX GX110/T	MT0317	CC	PILOT PROJECT
0131444X	131444	3715	PC DELL OPTIPLEX GX110/T WITH 17 INCH MONITO	BPSX20B	DELL MARKETING	7/24/2000		OPTIPLEX GX110/T	MT0317	CC	PILOT PROJECT
0135877X	135877	3715	PC, DELL, OPTIPLEX GX1	HZX49	DELL MARKETING	1/10/1999		OPTIPLEX GX1 P6450	MT0201	CC	PILOT PROJECT
166744	166744	3745	PC, DELL, OPTIPLEX GX110	9NHFG01	DELL	4/1/2001		GX110	MT0317	CC	PILOT PROJECT
0134595X	134595	3745	PC, SUN, ULTRA 2	818FD203	SUN	6/1/1998		ULTRA 2	MT0317	CC	PILOT PROJECT
144469	144469	3745	PC, DELL OPTIPLEX GX260T w/18in FLAT MONITOR	JSC7T21	DELL MARKETING	6/1/2003	P0044265	OPTIPLEX GX260T	MT0317	CC	PILOT PROJECTS
0130880X	130880	3715	PC OPTIPLEX GX110/T w/17in.Monitor	GLYE4	DELL MARKETING	3/6/2000		OPTIPLEX GX110/T	MT0317	CC	PILOT PROJEXT
123671	123671	3710	Controller, Programable	L10885-2184	ALLEN BRADLEY	8/1/1986		SLC-100	MT0311	CM	POWER & PLC LAB
123672	123672	3710	CONTROLLER, PROGRAMABLE	NONE VISIBLE	ALLEN BRADLEY	8/1/1986		SLC-100 / 1745-DEMO	MT0311	CM	POWER & PLC LAB
123673	123673	3710	Controller, Programable	Z10885-2183	ALLEN BRADLEY	8/1/1986		SLC-100 / 1745-DEMO	MT0311	CM	POWER & PLC LAB
123674	123674	3710	CONTROLLER, PROGRAMABLE	P11185-3146	ALLEN BRADLEY	8/1/1986		SLC-100 / 1745-DEMO	MT0311	CM	POWER & PLC LAB
123675	123675	3710	Controller, programable	L10885-2230 / P1118	ALLEN BRADLEY	8/1/1986		SLC-100 / 1745-DEMO	MT0311	CM	POWER & PLC LAB
123676	123676	3710	Controller, Programable	L10885-2210	ALLEN BRADLEY	8/1/1986		SLC-100 / 1745-DEMO	MT0311	CM	POWER & PLC LAB
123677	123677	3710	Controller, Programable	L10885-2193 / P1118	ALLEN BRADLEY	8/1/1986		SLC-100 / 1745-DEMO	MT0311	CM	POWER & PLC LAB
123678	123678	3710	Controller, Programable	L10885-2200 / P1118	ALLEN BRADLEY	8/1/1986		SLC-100 / 1745-DEMO	MT0311	CM	POWER & PLC LAB
123679	123679	3710	Controller, Programable	L10885-2192 / P1118	ALLEN BRADLEY	8/1/1986		SLC-100 / 1745-DEMO	MT0311	CM	POWER & PLC LAB
123680	123680	3710	Controller, Programable	L10885-2198	ALLEN BRADLEY	8/1/1986		SLC-100	MT0311	CM	POWER & PLC LAB
123681	123681	3710	Controller, Programable	L10885-2212 / P1118	ALLEN BRADLEY	8/1/1986		SLC-100 / 1745-DEMO	MT0311	CM	POWER & PLC LAB
123694	123694	3710	Controller, Programable	P11185-3193	Allen Bradley	6/1/1981		1771-A2 64	MT0311	CM	POWER & PLC LAB
0104176X	104176	3710	PROGRAMABLE LOGIC CONTROLLER, ALLEN BRAD	L524-0192A1797	ALLEN BRADLEY	6/30/1993		SLC-500	MT0311	CM	POWER & PLC LAB
0104177X	104177	3710	PROGRAMABLE LOGIC CONTROLLER, ALLEN BRAD	L524-019A1764	ALLEN BRADLEY	6/30/1993		SLC-500	MT0311	CM	POWER & PLC LAB
0104178X	104178	3710	PROGRAMABLE LOGIC CONTROLLER, ALLEN BRAD	L524-0192A1828	ALLEN BRADELY	6/30/1993		SLC-500	MT0311	CM	POWER & PLC LAB
0104179X	104179	3710	PROGRAMABLE LOGIC CONTROLLER, ALLEN BRAD	L524-0792A1382	ALLEN BRADLEY	6/30/1993		SLC-500	MT0311	CM	POWER & PLC LAB
0104180X	104180	3710	PROGRAMABLE LOGIC CONTROLLER, ALLEN BRAD	L524-0792A1387	ALLEN BRADLEY	6/30/1993		SLC-500	MT0311	CM	POWER & PLC LAB
0104181X	104181	3710	PROGRAMABLE LOGIC CONTROLLER, ALLEN BRAD	L524-0192A1781	ALLEN BRADLEY	6/30/1993		SLC-500	MT0311	CM	POWER & PLC LAB
0104182X	104182	3710	PROGRAMABLE LOGIC CONTROLLER. ALLEN BRAD	L524-0192A1767	ALLEN BRADELY	6/30/1993		SLC-500	MT0311	CM	POWER & PLC LAB

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0104183X	104183	3710	PROGRAMABLE LOGIC CONTROLLER., ALLEN BRAD	L524-0192A1768	ALLEN BRADLEY	6/30/1993		SLC-500	MT0311	CM	POWER & PLC LAB
148659	148659	3715	PC, DELL OPTIPLEX GX270 w/ 17in MONITOR	HJFKG51	DELL MARKETING	8/18/2004	P0050539	OPTIPLEX GX270	MT0213	CC	PRINT/COPIER
6001346	6001346	3740	PC, DELL, LATITUDE E6400	D6QYHL1	DELL	12/17/2009	P0066549	LATITUDE E6400	MT128A	CC	REPOSA
140971	140971	3715	PC, PENTIUM III ASSEMBLY, COMPAQ	6120JB2BA052	COMPAQ	12/2/2001	P0037597	PENTIUM III SW TW4	MT0113	CC	SCHAFER
144953	144953	3715	PC, DELL OPTIPLEX GX260T w/ 20in FLAT MONITOR	JWV3431	DELL MARKETING	8/1/2003	P0046027	OPTIPLEX GX260T	MT201A	CC	SCHAFER
6001448	6001448	3740	PC, APPLE, MACBOOK PRO 13"	W894918366H	APPLE	12/10/2009	P0066584	MACBBOK PRO 13"	MT201A	CC	SCHAFER
166905	166905	3735	PC,DELL,OPTIPLEX 755	7CT1VH1	DELL	1/16/2009	P0064000	OPTIPLEX 755	MT0203	CC	SCHRAMM
147717	147717	3700	PC, DELL LATITUDE D800	F718K51	DELL MARKETING	6/1/2004	P0049055	LATITUDE D800	MT0310	CC	SCHWIBBE
149386	149386	3700	PC, DELL, OPTIPLEX GX280	FMVMR61	DELL MARKETING	2/7/2005	P0051997	OPTIPLEX GX280	MT0310	CC	SCHWIBBE
149515	149515	3700	PC DELL OPTIPLEX GX280	BW8V171	DELL MARKETING	4/1/2005	P0052377	OPTIPLEX GX280	MT0310	CC	SCHWIBBE
166765	166765	3700	PC, DELL, OPTIPLEX 755	JRB6TH1	DELL	1/5/2009	P0064089	OPTIPLEX 755	MT310A	CC	SCHWIBBE
138902	138902	3710	PC, DELL LATITUDE C800	3D0MB01	DELL	2/1/2001	P0032394	LATITUDE C800 LAPT	MT0310	CC	SCHWIBBE
139720	139720	3710	PC, DELL PRECISION WORKSTATION w/2-17in MONI	BCJPB01	DELL MARKETING	4/1/2001	P0032381	XEON 620	MT0310	CC	SCHWIBBE
140955	140955	3710	PC, DELL OPTIPLEX GX400 w/19in MONITOR	3MNP011	DELL MARKETING	11/21/2001	P0037918	OPTIPLEX GX400	MT301P	CC	SCHWIBBE
143783	143783	3710	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	4V9KQ21	DELL MARKETING	5/1/2003	P0044357	OPTIPLEX GX260T	MT0310	CC	SCHWIBBE
143784	143784	3710	PC, DELL OPTIPLEX GX260T w/ 18in FLAT MONITOR	9V9KQ21	DELL MARKETING	5/1/2003	P0044357	OPTIPLEX GX260T	MT0310	CC	SCHWIBBE
0129513X	129513	3725	UN-INTERUPTABLE POWER SOURCE	WS9707476225	APC	3/12/1997		SMART UPS 1400	MT0310	CM	SCHWIBBE
0129514X	129514	3725	UN-INTERUPTABLE POWER SOURCE	WS9707471620	APC	3/12/1997		SMART UPS 1400	MT0310	CM	SCHWIBBE
131877	131877	3745	PC, SONY VAIO LAPTOP	28308530 3113102	SONY	10/1/2000	P0030113	Z505JS	MT0310	CC	SCHWIBBE
147479	147479	3745	PC, DELL OPTIPLEX GX270 w/ 17in MONITOR	FYV2S41	DELL MARKETING	5/11/2004	P0048735	OPTIPLEX GX270	MT0310	CC	SCHWIBBE
163639	163639	3700	PC,DELL,OPTIPLEX GX620	63RHVC1	DELL	5/1/2007	P0059251	PC,OPTIPLEX GX620	MT101A	CC	SEYBOLD
167943	167943	3703	PC LAPTOP, LENOVO, IBM THINKPAD R52	LV-V2587	LENOVO	8/3/2009		IBM THINKPAD R52	MT101A	CC	SEYBOLD
168028	168028	3745	PC, DELL, OPTIPLEX 960MT	7YRMTK1	DELL	9/1/2009	P0065913	OPTIPLEX 960MT	MT201J	CC	SHAHHOSSEINI
6001252	6001252	3745	PC, DELL, LATITUDE E6400	702C5K1	DELL	7/7/2009	P0065339	LATITUDE E6400	MT201J	CC	SHAHHOSSEINI
142657	142657	3730	PC DELL LATITUDE C840 NOTEBOOK	JNOPW11	DELL MARKETING	10/1/2002	P0042003	LATITUDE C840	MT216G	CC	SHURE
160977	160977	3730	PC DELL OPTIPLEX GX620 MT	6NH9M81	DELL MARKETING	10/17/2005	P0054652	OPTIPLEX GX620 MT	MT216G	CC	SHURE
6001437	6001437	3730	PC, DELL, LATITUDE E6400	1YVBJL1	DELL	12/17/2009	P0066612	LATITUDE E6400	MT216G	CC	SHURE
0140068X	140068	3730	PC Dell Dimension 8100 w/19in monitor	DS35L01	Dell Marketing	6/1/2001		Dimension 8100	MT216G	CC	SHURE
6001007	6001007	3740	PC, DELL, OPTIPLEX 960DT	7N6F5J1	DELL	6/9/2009	P0064962	OPTIPLEX 960DT	MT302B	CC	SMALLWOOD
166859	166859	3700	PC, ZENITH, DATA SYSTEMS ZL-0001-HA	002AC000856	ZENITH	11/1/1986		DATA SYSTEMS ZL-0(	MT0309	CC	STORAGE
166860	166860	3700	PC, IBM, THINKPAD 380XD TYPE 2635-9AM	78-MM91	IBM	10/31/1994		THINKPAD 380XD TYF	MT0309	CC	STORAGE
166110	166110	3700	PC, COMPAQ, MODEL 520	6825CCH58421	COMPAQ	7/21/1998		520	MT113B	CC	STORAGE ROOM
166858	166858	3700	PC, IBM, THINKPAD 365ED	2625-R6G	IBM	10/31/1994		THINKPAD 365ED	MT0309	CC	STORAGE ROOM

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166861	166861	3700	PC, TOSHIBA, T1000 LAPTOP	1872607	TOSHIBA	9/19/1990		T1000 LAPTOP	MT0309	CC	STORAGE ROOM
56975	123471	3710	PROGRAMMER, SYSTEM, DATA I/O, SYSTEM 19	19-6175	DATA I/O	5/1/1981	80212	SYSTEM 19	MT0307	CM	TRANS LAB
54688	54688	3710	TRACER, TEKTRONIX, 577D2 CURVE,OPT.10,	B105486	TEKTRONIX	11/1/1980	69168	577D2	MT0307	CM	TRANSISTOR LAB
146424	146424	3700	MONITOR, SHARP AQUOS 20in	312821678	SHARP	2/6/2004	P0047867	LC-20E1U	TA0107	CC	US-VES
166555	166555	3700	PC,DELL,OPTIPLEX 755	3NX3PH1	DELL	11/18/2008	P0063909	OPTIPLEX 755	MT101B	CC	WARDEN
167942	167942	3703	PC LAPTOP, LENOVO, IBM THINKPAD R52	LV-V2570	LENOVO	8/3/2009		IBM THINKPAD R52	MT101B	CC	WARDEN
6001432	6001432	3730	PC, DELL, LATITUDE E6400	4WVBJL1	DELL	12/17/2009	P0066612	LATITUDE E6400	MT216L	CC	WELSH
0134519X	134519	3710	EXPANSION RACK, ALLEN BRADLEY, SLC 500	1746-P2B	ALLEN BRADLEY	6/12/1998		SLC 500 5 MODELS	MT0312	CM	WET CONTROL PROCESS LAB
0134520X	134520	3710	EXPANSION RACK, ALLEN BRADLEY, SLC500	1746-A10A	ALLEN BRADLEY	6/12/1998		SLCV500 5 modules	MT0312	CM	WET CONTROL PROCESS LAB
0134521X	134521	3710	EXPENSION RACK, ALLEN BRADLEY, SLC500	1746-A10B	ALLEN BRADLEY	6/12/1998		SLC 500 5 MODELES	MT0312	CM	WET CONTROL PROCESS LAB
0134522X	134522	3710	EXPANSION RACK, ALLEN BRADLEY, SLC 500	1746-P2C	ALLEN BRADLEY	6/12/1998		SLC 520 5 modules	MT0312	CM	WET CONTROL PROCESS LAB
0134518X	134518	3710	EXPANSION RACK, ALLEN BRADLEY, SLC 500	1746-A10	ALLEN BRADLEY	6/12/1998		SLC 500 5 MUDULES	MT0312	CM	WET PROCESS CONTROL LAB
0104174X	104174	3710	PROGRAMABLE LOGIC CONTROLLER, ALLEN BRAD	L524-0192A1795	ALLEN BRADLEY	6/30/1993		SLC-500	MT0312	CM	WET PROCESS CTRL LAB
0104175X	104175	3710	PROGRAMABLE LOGIC CONTROLLER, ALLEN BRAD	0192A841	ALLEN BRADLEY	6/30/1993		SLC-500	MT0312	CM	WET PROCESS CTRL LAB
141878	141878	3720	PC, GATEWAY E3600 w/ 18in FLAT MONITOR	27049888	GATEWAY	6/1/2002		E3600	MT0220	CC	YAW
6001060	6001060	3740	PC, DELL, LATITUDE E6400	92VSGJ1	DELL	6/9/2009	P0064961	LATITUDE E6400	MT219C	CC	YAW
167057	167057	3700	PC, DELL,PRECISION T3400	JP6PFJ1	DELL	3/11/2009	P0064495	PRECISION T3400	MT301B	CC	ZHOU
142888	142888	3715	PC, DELL OPTIPLEX GX260T w/ 19in FLAT MONITOR	FJ21421	DELL MARKETING	12/3/2002	P0042825	OPTIPLEX GX260T	MT201K	CC	ZHOU
148699	148699	3715	PC, DELL LATITUDE 100L	15N7H51	DELL MARKETING	9/1/2004	P0050648	LATITUDE 100L	MT201K	CC	ZHOU
0137513X	137513	3715	PC, DELL DIMENSION XPS T600 WITH 17 INCH MON	5KFSE	DELL MARKETING	10/13/1999		DIMENSION XPS T60(	MT201K	CC	ZHOU
6001349	6001349	3745	PC, DELL, LATITUDE E6400	F6QYHL1	DELL	12/17/2009	P0066549	LATITUDE E6400	MT201E	CC	ZHOU
0141083X	141083	3745	PC, DELL, LATITUDE C610	C87Q411	DELL	1/15/2002		LATITUDE C610	MT201K	CC	ZHOU

INDIANA STATE LAPTOP PROGRAM

Indiana State University has taken on the commitment to bring one-to-one computing to its undergraduate students.

This extraordinary access to information and communication tools will help ISU students in their quest to become engaged in both their course work and their community through experiential learning experiences.

These skills will enhance their learning and jump start their careers as they graduate and enter the skilled and technically savvy workforce of today.

PROGRAM DETAILS

Although much research and thought has gone into the decision to require notebook computer ownership required of all undergraduate students by 2010, some implementation details are still under review by various ISU faculty, staff, and student representatives.

The planned time line for this program is below.

August 2009 Mandatory ownership for incoming freshmen, sophomore, and junior students.

August 2010 Mandatory ownership for incoming freshmen, sophomore, junior, and senior students.

FREQUENTLY ASKED QUESTIONS

FAQ TOPICS

1. General
2. Cost Issues
3. The Optional Purchase Program
4. Use of Laptops in the Classroom
5. Infrastructure Support

GENERAL

Q. When does the ISU Laptop Program officially start?
A. The first students required to have a laptop computer were those fulltime freshmen that started in fall 2007.

Q. Will students who already own a laptop computer have to buy another one?
A. No. All students who already own a laptop computer can continue to use it as long as the computer is able to support the academic requirements which are defined by meeting the standard specifications. They will be required to pay for support if and when it is needed. Students will also be required to ensure the appropriate University software is installed. All students may contact the OIT Help Desk (237-2910) for information on acquiring needed software.

Q. Will students be required to buy a Dell laptop?
A. No, but all freshmen and sophomores are required to have a computer. You may choose to purchase a different laptop or use one you already own to meet the mandatory laptop ownership requirement. If you choose to purchase or use a laptop other than the ISU recommended and supported laptop (Dell) you should be aware you will be required to pay for technical support if it is needed. All students will also be required to ensure the appropriate University software is installed and that it can support the academic requirements.

Q. How was the decision made to have students purchase laptops rather than lease them from the University?
A. Ownership by students was preferred. There is no student leasing program at Indiana State for laptops.

Q. Will students wanting a Mac computer for visual work have to buy a PC laptop computer too?
A. No. Please be aware that the student is responsible for the Macintosh computer to support academic requirements, support needed software, and that students may still have classes in which the Windows-based laptop may be required by the faculty. Unfortunately, the University will not be able to repair Macintosh equipment. Macintosh computer labs will still be available for special needs.

Q. When will current upperclassmen be phased into the initiative?
A. ISU students starting classes before fall semester 2007 will not be required to own a laptop or participate in the laptop program. Those not part of the program, including part-time students, may however take advantage of the lower cost of a Dell purchased through the University's partnership with Dell if they wish. Each incoming freshmen class beginning in fall 2007 will be part of the laptop program and be required to own a laptop. After four years (2011), all full-time undergraduate students will be participants.

Q. How will this initiative affect graduate-level programs?
A. As a general statement, graduate students will not be included in the mandatory program unless their specific program elects to adopt a mandatory laptop requirement. Each graduate program has the option to participate in the program if it makes sense within the context of that program. Students should check with their departments to learn of any requirements.

Q. What is a notebook computer? Is it like a laptop?
A. Yes, notebooks are also small, portable computers. Notebooks are normally lighter than laptops with the same functionality and power. Terms are generally used synonymously.

Q. What is the ISU Laptop Scholarship Award?
A. Indiana State University will award a laptop computer to those incoming fulltime degree seeking freshmen students who have completed an Indiana Core 40 Diploma (or out of state equivalent) and have a high school cumulative grade point average of 3.0 or higher based on a 4.0 scale and have applied and been admitted by March 1st for that year's fall semester.
ISU Laptop Award Details

COST ISSUES

Q. Can financial aid apply to the purchase of the laptop?
A. Yes, costs for a computer can be factored into the formula that determines a student's total financial aid eligibility. Students must submit the Computer Expense Form before or

within 30 days of purchasing the computer. Contact the Office of Student Financial Aid at 812-237-2215 for more information..

Q. How much does the Dell laptop cost?
A. The cost of each model is available on the Dell Indiana State purchase website. These prices are at a significant discount for Indiana State University students only. Pricing information is also shared with students and families via various mailings and events. Prices for each model are hundreds of dollars less than retail.

Q. Will carrying-bags of some sort be provided as part of the cost of the laptop?
A. No. ISU will follow the strategy employed at other institutions, such as Northern Michigan University and the University of North Carolina - Chapel Hill, where students select and purchase their own carrying bag. This is a better solution because some students prefer a "briefcase" style bag whereas others prefer "backpack" style bags. The ISU Computer Store, located in the Student Computing Complex, carries a wide assortment of laptop carrying cases, sleeves, and other peripherals.

Q. Will ISU offer loans to students or families to purchase a laptop?
A. No. Individuals will need to plan for their own financing to purchase the laptop. Costs for the laptop can be factored into the formula that determines the total financial aid eligibility. See financial aid question above.

Q. Are student laptops covered for damage?
A. Yes. Dells purchased through the ISU/Dell partnership come with a 3 year depot limited warranty for parts and labor and 1 year warranty for the battery. The Dells also come with 3 year Dell Protection. This covers accidental damage such as spills and dropped laptops. The warranty does not protect against theft or loss.

Q. Is my laptop covered if it is lost or stolen?
A. No. Please check with your home owner or property insurance carrier to see if the laptop is covered under your current policy or additional computer/home equipment rider for loss or theft. Students may purchase insurance to cover theft and loss of their laptop through the laptop website.

THE OPTIONAL PURCHASE PROGRAM

Updated information from Dell coming soon.

USE OF LAPTOPS IN THE CLASSROOM

Q. How will the laptops be integrated by faculty in the classroom?
A. There are a multitude of ways in which faculty could integrate technology into a given course or curriculum. The decision of whether to incorporate technology is solely up to the faculty member. It is reasonable to expect that the instructional use of technology will continue to increase once all students have immediate and 24-hour access to standardized technology. Without this standardization, it can be difficult for faculty to incorporate technology into instruction.

Q. How will ISU ensure all faculty will utilize the new laptops?
A. ISU will not require faculty to use the laptops in the classroom. However, professional development and course enhancement support will be offered to faculty who wish to incorporate the laptops into their curricular activities. Faculty will be asked to include information on their course syllabi about if and how laptops will be used during class time.

Q. Will textbooks be replaced?
A. The decision of whether to use a textbook is solely the choice of the faculty member teaching a given class. However, some classes will use instructional software that accompanies many textbooks and some faculty are likely to replace hard-copy textbooks with digital versions and other digital resources.

Q. How will students and faculty deal with students who are distracting other students by playing games, surfing the net, chatting, or checking e-mail?
A. Feedback we have received from faculty and students at other laptop universities indicate the sounds and clicking associated with laptop use is generally not disruptive or problematic in most cases. Faculty members retain full authority over the classroom environment and can adjust laptop computer use to address this issue if necessary. To help faculty with these new classroom management needs, techniques for the handling of such issues will be incorporated into the faculty laptop professional development program. Faculty will be asked to include information on their course syllabi about how and if laptops may be used during class time.

INFRASTRUCTURE SUPPORT

Q. Where can I go on campus if I have a problem with my laptop?
A. The Computer Support Center in the Student Computing Complex provides certified technical support for Dells. See the CSC's website for more information. (http://www.indstate.edu/oit/userservices/csc/index.html)

Q. Will there be printing centers on campus?
A. Yes. Centers supporting a variety of peripheral services (i.e., printing, scanning, etc.) will be placed in strategic locations around campus. Students may also purchase printers for their own private use.

Q. Will all of the computer labs be closed once the laptop initiative is fully implemented?
A. No. Some labs will remain open, while others may be phased out after a deliberate study of usage is conducted. This will occur over an extended period of time.

Q. Will the classrooms on campus be upgraded to meet the electrical needs of the students' laptops?
A. Electrical power in classrooms and other high laptop use areas is an important issue and one that will be addressed over an extended period of time with the help of ISU's Facilities Management team. Select rooms will be upgraded dependant on use and need.

Q. How else may classrooms on campus be enhanced to support laptop use during class?
A. The Office of Information Technology and various faculty/staff/student committees are working on plans to provide additional projection equipment, student seating and tables, and other upgrades to make the learning environment as laptop-friendly as possible.

Q. Is there a place on campus to purchase the laptop or other computer equipment?
A. The ISU Computer Store, located in the Student Computing Complex, will sell carrying bags, sleeves, and other peripherals. Samples of Dell models will be available for you to test. All sales of laptops will be through the Dell Indiana State purchase website which the Computer Store staff can help you with.

Q. How long will my battery last?
A. Currently, laptop computers provide approximately 3-5 hours of useful power depending on how the laptop is being used and how it is configured. For instance, typing a term paper takes much less battery power than surfing the Internet or gaming. The number of cells in a given battery also determines charge length. The more cells the longer the charge.

Battery power cycles and recharge cycles within laptops are improving all of the time. It is difficult to tell what battery life will be available in 2009 and beyond, but there is strong reason to believe that battery technology will be able to provide battery-life in excess of 8 hours in the next 24-36 months. Once battery life exceeds 6 hours, the need to provide continuous A/C power in the classroom will be greatly reduced. A backup battery that the student keeps fully charged is highly recommended and can be purchased from The Computer Store located in the Student Computing Complex along with other laptop accessories.

Q. Will there be a "battery café" where students can swap out a "dead" battery for a fully charged one?
A. No. The idea of a community held set of batteries is not practical where students purchase their own laptops rather than lease them. Students are encouraged to keep their batteries charged and to purchase a backup if their schedules require laptop usage for longer than the battery can hold a useful charge.

Q. Is the ISU wireless network able to carry the workload of an entire campus of wireless laptops?
A. At this point, 100% of all academic areas provide wireless access. Many general/public areas are also covered by wireless, and new wireless capacity is being added all of the time. The ISU wireless network supports both 802.11b and 802.11g and has been engineered to accommodate anticipated use. Wireless in open areas, such as the student union, has been engineered to accommodate high concentrations of use. Regular reviews and upgrades will be made so that specific areas provide sufficient wireless capacity to meet the need.

Q. Will wireless be installed in the residence halls?
A. Common areas of the residence halls may have wireless access in the future, but this is still being reviewed. Currently all residence hall rooms are equipped with a network jack per student occupant which provides much faster access to the network.

OIT COMPUTER LABS

OIT Computer Lab offices are located in the Student Computing Complex. Also in the SCC are our two 24-hour labs. These labs are open 24 hours a day, 7 days a week, while classes are in session. One of our 24-hour labs is a Quiet Lab, for those students who wish to study without distractions. We have a total of 7 computer labs located across campus. The blue buildings on this Campus Map house at least one of our computer labs.

- Lab Information -For specific information on individual labs.
    - Lab Hours - To see when any of our labs are open.
    - Reservations - To look at this week's reservations.
        - Who Can Reserve a Lab?

      Call 237-7824 or email reservelab@indstate.edu to request a new reservation.

    - Lab Usage Guidelines
    - Quiet Lab Usage Guidelines
    - Software - Accessible from every workstation
- Printing Information - Hours, Costs, Balances
    - Print Account Information - Shows how to check your balance
    - Printing Tips - What you should know before printing
    - Increasing Balance - Add money to your print account
    - Laptop Printing - How to print from your laptop
    - Printer Locations
- Surveys - How we respond to what you want.
- User Assistance - Help while using the labs
    - File Recovery Services - For Students, Staff and Faculty
    - IT Help Desk - Further assistance
- Employment - Benefits, requirements, duties, and promotions information
    - Minimum Skills Testing FAQ - What you need to know when applying
    - Staff Directory - Contact information

OFFICE OF INFORMATION TECHNOLOGY
COMPUTING AND WEB POLICIES

The University is committed to an open flow of information within and between the University and the public. Those who use University information resources are to take reasonable and necessary measures to safeguard the operating integrity of the systems and their accessibility by others while acting to maintain a working environment conducive to carrying out the University's mission of instruction, research and scholarship, and public service.

Information resources at the University, including access to local, national and international networks, are available to support students, faculty and staff. The Office of Information Technology, under the direction of the Provost and Vice President for Academic Affairs and with University community advice, provides development and management of the centrally supported digital infrastructure and related services, and proposes policies related to information technology resources.

All policies listed below are online as part of the University Handbook. Page numbers are noted for each.

Viewing PDF documents requires the free Adobe Acrobat Reader.

The Policy on Information Technology Resources was approved by the ISU Board of Trustees on October 31, 1997. The Policy may be found in the University Handbook (revised copy August 2001) Section V, pages V-10, 11, and 12.

The Use of Computer Software Policy may be found in the University Handbook (revised copy August 2003) Section V, page V-12.

The File Sharing Programs Policy may be found in the University Handbook (revised copy August 2003) Section V, page V-12 and V-13.

The Security of Data Policy may be found in the University Handbook (revised copy August 2003) Section V, pages V-13, 14, 15, and 16.

The Use of Passwords Policy may be found in the University Handbook (revised copy August 2003) Section V, pages V-17.

The University-Related Websites Policy may be found in the University Handbook (revised copy August 2003) Section V, pages V-20 and 21.

The Domain Naming Policy may be found in the University Handbook (revised copy July 2004) Section V, pages V-21, 22, and 23.

The Non-Profit Website Hosting Policy may be found in the University Handbook (revised copy July 2004) Section V, pages V-23 and 24.
(Agreement Forms, PDF, 2 pages)

OTHER PROCEDURES, STANDARDS AND GUIDELINES

Please report violations of ISU computing policies to the OIT Help Desk

COMPUTING POLICIES AND PROCEDURES

These are policy statements regarding the management of computer resources at Indiana State University. They reflect general privileges and responsibilities within the computing environment. Members of the University community will be provided central computing access to appropriate central and campus computing resources and their attached networks. Fees are charged for some services. The University will make its central and campus computing resources and networks available to users with the fewest interruptions possible. Anyone who uses the computing services of the University agrees by such use to comply with the expectations outlined here.

SECURITY

Indiana State University will help its users protect their stored information from accidental loss, tampering, or unauthorized search or other access. The University regrets any inadvertent or non malicious actions resulting in the loss of or damage to that information, but the ultimate responsibility for prevention and resolution of such problems rests with the user.

CONFIDENTIALITY

In general, information stored on computers is considered confidential, unless the owner intentionally makes that information available to other groups or individuals. Requests for disclosure of confidential information will be honored only when approved by University officials or when required by state or federal law. Except when inappropriate, computer users will receive prior notice of such disclosures.

RESPONSIBILITIES OF THE USER

Access to computing resources is a privilege to which all University faculty, staff and students are entitled, much like the privilege of using the ISU library system. Use of ISU computing resources is limited to purposes related to the University's mission of education, research, and public service. Certain responsibilities accompany that privilege and understanding them is important for all computer users. For example: Computer accounts, passwords and other types of authorization are assigned to users and should not be shared with others. The user should select an obscure account password and change it frequently.

CENSORSHIP

Free expression of ideas is central to the academic process. ISU computer system administrators will not remove any information from active individual accounts or from electronic bulletin boards maintained on them unless the appropriate system administrator determines that:

- The presence of the information involves illegality (e.g., copyrighted material).
- The information in some way endangers computing resources or the information of other users (e.g., a computer worm, virus, or other destructive program).
- The information is unrelated to or is inconsistent with the mission of the University.
- The information involves the use of obscene or abusive language.

ILLEGAL USAGE

Computing resources may not be used for illegal purposes. Examples include:

- Unauthorized copying or use of copyrighted material.
- Destruction of or damage to hardware, software, or data belonging to ISU or other users.
- Disruption or unauthorized monitoring of electronic communications.
- Harassment of other users.

The accidental or intentional introduction of a destructive program, such as a "virus", can have serious consequences. Users should be aware of the threat of viruses on networks and in public labs and use adequate protection against spreading them to their own machines. Both freeware and commercial antiviral programs are available from various sources. Any attempt to compromise the University computer security systems will not be tolerated.

ETHICAL USAGE

Computing resources shall be used in accordance with the high ethical standards of the University community. Examples of unethical use, which also may involve illegality, include:

- Violations of computer system security.
- Unauthorized use of computer accounts, files and data which do not belong to the user.
- Unauthorized use of access codes assigned to others.
- Intentional use of computer telecommunication facilities in ways that impede the computing activities of others.
- Academic dishonesty (plagiarism, cheating).
- Violation of software license agreements.
- Violation of network usage.
- Violation of another user's privacy.

REASONABLE USAGE

Proper use follows the same standards of common sense, courtesy and restraint in the consumption of shared resources that govern use of other public facilities. It includes:

- Regular deletion of unneeded files from one's accounts on central machines.
- Refraining from overuse of connect time, information storage space, printing or processing capacity.
- Refraining from overuse of interactive network utilities (such as those on the Internet).

Activities like network games are lower priority and as such may be limited by Computing Services Personnel. Faculty, staff and non class-related student computer accounts are annually renewable. Unrenewed accounts are subject to deletion by the University. Class-related student computer accounts are deleted at the end of each term. Accounts assigned to students who are not enrolled for the current semester will also be deleted. The University reserves the right to delay, restart or cancel any job or program in order to improve system performance.

SANCTIONS

Violation of these policies will be dealt with seriously and will be subject to the disciplinary procedures of the University; in addition, the loss of some or all computing privileges may result. Illegal acts involving ISU computing resources may also be subject to prosecution by state or federal authorities. These University computing policies have been endorsed by ISU Information Technology, Academic Computing Advisory Committee, Administrative Software Coordinators, and the Faculty Affairs Committee of the ISU Faculty Senate.

Please report violations of ISU computing policies to the OIT Help Desk.

OFFICE OF INFORMATION TECHNOLOGY

STRATEGIC PLAN

TECHNOLOGY DIRECTION – CHARTING THE COURSE

As Indiana State University strives to move technology adoption and use to the next level, the alignment of technology with the strategic direction of the institution becomes increasingly important if we are to achieve the desired outcomes in service, student learning, research and engagement. For a higher education institution to be competitive in today's environment, the information technology (IT) solutions employed must move beyond basic competency. Rather, technology must be an integral part of the institutional fabric and the IT strategies must integrate with, and support, the business strategies of the organization. Moreover, the technology direction must anticipate future institutional needs and provide leverage and support for long-term change.

During 2007, the Information Technology Advisory Committee (ITAC) engaged in a strategic planning activity that resulted in a planning document (Information Technology Plan 2008-2010) which will guide ISU's information technology direction during this period. The plan is consciously aligned with institutional strategic priorities and is intentionally aspirational.

The plan is comprised of 5 strategic goals with each goal supported by a number of conceptual initiatives which will be operationalized through the development and completion of targeted set of projects, tasks, and activities. The goals and initiatives for 2008-2010 are as follows:

Goal 1: Student Learning and Success – select and implement information technology and other strategies that integrate with other institutional efforts to foster the development of learning environments, address the needs of current and future students, and contribute to student success.

- Support institutional efforts to improve student success in gateway courses (courses with high rates of drop, withdrawal and failure).
- Improve and enhance faculty professional development opportunities, programs and activities.
- Support and promote the exploration, adoption and assessment of innovative teaching strategies designed to improve learning.
- Improve the quality and delivery of, and support for, distance and "blended/hybrid" courses and programs.
- Improve student access to information resources and educational tools.
- Assists and support faculty and student efforts related to knowledge creation and dissemination.

Goal 2 : Research – support the scholarly and creative activities of the faculty with appropriate technology-related and technology-enhanced tools, services and infrastructure.

- Enhance the technology infrastructure (voice, video, and data) in support of faculty research activities.

- Develop/identify and implement appropriate technology solutions and/or capabilities that facilitate the communication and dissemination of information related to ISU research activities.
- Support faculty research efforts (particularly in STEM disciplines) through the enhancement of visualization and high-end computing capabilities.
- Expand and enhance support for grant activities (writing, project/research efforts, assessment, and dissemination of results) to include both technology and non-technology-based projects and research (particularly in the area of humanities and professional disciplines/schools).
- Identify and implement best practices to encourage and support creative activities of the faculty in their respective disciplines.

Goal 3: E-Connection – support the expansion, availability, effectiveness, security and efficiency of institutional services through the use and application of technology-based solutions.

- Improve and enhance the voice, video, and data infrastructure in support of the current and future needs of students, faculty and staff.
- Assist and support the investigation, adoption, implementation, and assessment of technology solutions that improve communication, collaboration and information sharing in support of the learning, research, communications, and administrative functions of the institution.
- Enhance the security for the network, servers, and user workstations to further protect institutional data and the communications/video/data environment.
- Investigate, select, and implement technology solutions and tools that augment and enhance learning, support faculty teaching, and improve access to information.
- Improve and increase e-service capabilities for students and employees.
- Improve and increase technology-based solutions that foster and improve office and administrative effectiveness and efficiency.

Goal 4: Recognition and Reputation – pursue state, regional, and national recognition of, and reputation for, Indiana State's integration and application of technology in the academic enterprise.

- Improve communication and information dissemination on campus and in the local community.
- Identify and participate in state initiatives and activities to improve the awareness of and visibility for Indiana State University with higher education institutions, government, parents and prospective students, general public, business, and philanthropic agencies.
- Develop and participate in regional (mid-west multi-state) higher education activities, collaborations, consortiums, and organizations
- Support of the marketing and enrollment services efforts of Indiana State University
- Increase the visibility for Indiana State University by disseminating information about innovative uses of technology through publications, conference presentations, organizational membership and participation on national committees and subcommittee (i.e., Merlot, Educause, etc.)
- Build and enhance the "service orientation" and "support responsiveness" of the OIT and CIRT units.

Goal 5: Outreach – work cooperatively with extended communities to enhance the general technology environments supporting educational, social, and business and economic development activities.

- Develop and pursue opportunities for partnerships with K-12 institutions, locally and at the state level, to improve academic preparation, encourage college attendance, and improve student success.
- Identify and participate in community engagement projects that support community improvement, promote life-long learning, and assist other non-profit groups and agencies.
- Seek out and build cooperative and collaborative relationships with other local higher education institutions (particularly Ivy Tech) in order to expand student and faculty opportunities
- Identify and support the efforts of faculty and the Center for Business Engagement to foster and promote local and state business and economic development opportunities.
- Work with faculty and the Office of International Affairs to develop, enhance, and support international collaborations, educational programs, and institutional relationships.

Following is a list of the members of the 2007 ITAC Committee:

Arts and Sciences	Leslie Barratt	2677	lbarratt@isugw.indstate.edu
Arts and Sciences	Guo-Ping Zhang	3330	gpzhang@indstate.edu
Business	Bruce McLaren	3606	bmclaren@isugw.indstate.edu
Education	Susan Powers	2918	spowers@isugw.indstate.edu
Nurs., Health, and Human Srvcs	Marsha Miller	2320	mmiller25@isugw.indstate.edu
Nurs., Health, and Human Srvcs	Tom Nesser	2901	tnesser@indstate.edu
Technology	Nicholas Farha	2865	nfarha@isugw.indstate.edu
At-large Faculty (2)	SAMy Anderson	2738	samy@indstate.edu
	Jennifer Inlow	2242	jinlow@isugw.indstate.edu
Business Affairs (1)	Jeff Jacso	3525	jjacso1@isugw.indstate.edu
Development (1)	Amy Westgard	7610	ahardinwest@isugw.indstate.edu
ICSC (Chair–1)	Sharon Gick	2483	s-gick@indstate.edu
Library (1)	Tim Gritten	2057	tgritten@isugw.indstate.edu
OIT (CIO–1)	Ed Kinley	8439	ed.kinley@indstate.edu
President's Office (1)	Kevin Snider	7778	k-snider@indstate.edu
SITAC (1)	Open		
Student Affairs (1)	Mark Frederick	2653	mfrederick@isugw.indstate.Edu
Support Staff (1)	Roxanne Torrence	2086	rtorrence@isugw.indstate.edu

[Phone numbers are accessible externally by dialing 812-237 + number]

Appendix C – Organization & Leadership

The Chief Information Officer / Associate Vice President for Academic Affairs, provides direction to the Office of Information Technology (OIT) and Center for Instruction, Research, and Technology (CIRT). As of the end of the fiscal year 2006/7 OIT had 79 full-time staff and was organized around three units. CIRT had 17 full-time staff. Over 300 student workers contributed valuable services in support of these offices' missions. The students came from all six colleges with the majority (63 percent) being juniors and seniors.

Institutional Computing Services (ICS) manages computer systems and applications to support the administrative functions of Indiana State. This includes the development, enhancement, maintenance, and production support activities of administrative applications as well as administrative systems and support utilities. Most of ICS' work revolves around systems impacting the campus as whole. One such system is the Banner data system which houses student, staff, and financial records.

Technical Infrastructure Services (TIS) implements and maintains the campuswide infrastructure for the delivery of technology and technology-based services. This group researches, specifies, and implements network hardware and software to support the delivery of voice, video, and data; installs and maintains the telephone-based system as well as the cable infrastructure that supports all technologies including voice, video, and data; and installs and maintains the hardware and operating system software for all IT central servers and other network-based services.

User Services (US) provides phone and face-to-face support for the ISU community, specifically associated with desktop computers and software. Implementing and maintaining the state-of-the-art instructional facilities on campus including technology-ready classrooms, public and discipline specific labs, and distance learning classrooms reside within this unit. Student support is a primary function within US and is provided through the Computer Support Center, Residence Computing Consultant program, and the walkin Help Desk. The Computer Store is another function of the US area which gives students, faculty, and staff a convenient place on-campus to view and purchase all types of computer related technology.

Center for Instruction, Research, and Technology (CIRT) explores, develops, promotes, and supports effective teaching and research practices to advance knowledge and active learning at Indiana State University. CIRT endeavors to have a measurable impact on the academic community by building the reputation of Indiana State for innovative instruction and technology-enhanced research. Services within this group consist of faculty development and instructional design; research and emerging technology support; interactive and multimedia design; and evaluation and research support.

Appendix D: Technology Profile Annual Report

Annually, the Office of Information Technology (OIT) and the Center for Instruction, Research and Technology (CIRT) produce a profile that documents the activities of the prior year. Through this document, OIT/CIRT strives to share information about the growth and progress of technology at Indiana State with members of the campus community as well as with external audiences such as educators, governmental agencies and foundations. The Technology Profile is produce in hard copy but is also available in electronic format . Those interested in reading the Technology Profile can request a complimentary copy of the document from the Office of Information Technology or by access the document on the Internet at the following address:
http://www.indstate.edu/oit/comm/profile.htm
[Reports are available for the following years: 2004, 2005, 2006, and 2007]

INSTRUCTIONAL SOFTWARE SUPPORT

Helping faculty incorporate technology into the teaching and learning process across all disciplines within Indiana State is one of the goals of CIRT. CIRT provides assistance with integrating technology into instruction by offering training, documentation, and pilot programs for new technologies.

CURRENT INSTRUCTIONAL TECHNOLOGIES

- Blackboard
- Adobe Connect (Breeze) - a Adobe tool for creating remote presentations and training material complete with polling, videoconferencing, application sharing, and interactive chat over the Internet using FlashPlayer from most Web browsers.
- Hot Potatoes – a software suite that allows instructors to quickly and easily create interactive gap-fill, crossword, matching/ordering and jumbled-sentence, exercises for the Web.
- PRS - an interactive, personal response system that allows for instant feedback to the instructor from student-held transmitters.
- Quandary - software used to create Web-based Action Mazes consisting of decision points and options that the learner can select. These can be used for problem-solving, diagnosis, and procedural training.
- Technology-enhanced Classrooms - electronically enhanced lecture halls and classrooms. Classroom documentation and training are provided by CIRT.

In addition, a "digital sandbox" where faculty can play with instructional media is provided in the CIRT office on the third floor of Normal Hall. The digital sandbox contains both PCs and Macintosh computers with the newest hardware and software.

To schedule “play” time in the digital sandbox or learn more about instructional technologies at ISU, call the CIRT office at x2676.

RESEARCH SOFTWARE PACKAGES AT INDIANA STATE UNIVERSITY (Updated March 17, 2006)

QUANTITATIVE ANALYSIS SOFTWARE

AMOS

Version	Platform	Compliant	Location	Licensure	Access Information	Remark
5.01	Microsoft Windows® 98, Me, NT® 4.0 with Service Pack 6 (SP6), 2000, or XP	Y2K compliant	Available on the Network	20 Concurrent Licenses shared with other available Windows Versions	Access available for individual windows workstations. See instructions for Adding AMOS for Windows, Version 5.01 to Your Windows Workstation	For more information call ext. 2953

EQS

Version	Platform	Compliant	Location	Licensure	Access Information	Remark
6.1	Runs only on Windows 98, ME, 2000, XP and NT 4.0	Y2K compliant	Available on Digital Sandbox at IRTS office	5 Concurrent licenses shared with other available Windows Version	Access information available on individual workstation	For more information call ext. 2953

MINITAB

Version	Platform	Compliant	Location	Licensure	Access Information	Remark
14.0	Runs on Windows 95, 98, 2000, Me, XP and NT 4	Y2K Compliant	Available on the Network	55 Licenses	Access available in all public Windows Labs Access available to distance education and degree link students through the server set up for distance education Call the Help Desk at ext. 2910 for details. Access available for individual windows workstations See instructions for Adding Minitab for Windows, Release 13.32, to Your Windows Workstation	

MLwiN

Version	Platform	Compliant	Location	Licensure	Access Information	Remark
1.10	Microsoft Windows® 95, 98, NT® 4.0 with Service Pack 6 (SP6), 2000, or XP	Y2K compliant	Available on Digital Sandbox at IRTS office	A single user license (no. of license could be increased if use is high)	Access information available on individual workstation	For more information call ext. 2953

SAS

Version	Platform	Compliant	Location	Licensure	Access Information	Remark
9.2	Windows 95, 98 and NT	Y2k compliant Call the Help Desk at ext. 2910 for additional information from SAS.	Available on the network	10 Concurrent Licenses shared with version 8.2	Access available in all public Windows Labs Access available for individual windows workstations Call the Help Desk at ext. 2910 for information and assistance with installation Information: SAS Home User License Agreement	
8.2	Windows 98, 2000, XP and NT 4.0	Y2k compliant	Available on the network	10 Concurrent Licenses shared with version 8	Access available in all public Windows Labs Access available for individual windows workstations Call the Help Desk at ext. 2910 for information and assistance with installation. Information: SAS Home User License Agreement	

SPSS

Version	Platform	Compliant	Location	Licensure	Access Information	Remark
14.0	Runs only on Windows 98, ME, 2000, XP and NT 4.0 (**NOT** on Windows 95)	Y2K compliant	Available on the Network	50 Concurrent Licenses shared with other available Windows Versions	Access available for individual windows workstations. See instructions for Adding SPSS for Windows, Version 14.0 to Your Windows Workstation	
13.0	Runs only on Windows 98, ME, 2000, XP and NT 4.0 (**NOT** on Windows 95)	Y2K compliant	Available on the Network	50 Concurrent Licenses shared with other available Windows Versions	Access available for individual windows workstations. See instructions for Adding SPSS for Windows, Version 13.0 to Your Windows Workstation	
6.1	Macintosh	**NOT** Y2k compliant	Available on the Network	10 Licenses	Access available in the public MAC Labs Access available for individual workstations See instructions for SPSS, Version 6.1, Installation for the Macintosh	
10.0	Macintosh					We will be making this Y2K compliant version available to the campus in the near future. The exact date has yet to be determined. When it is ready, we will send an announcement through Global

Version	Platform	Compliant	Location	Licensure	Access Information	Remark
						Mail and the ISU Research Listserv.

QUALITATIVE ANALYSIS SOFTWARE

QSR N6

Version	Platform	Compliant	Location	Licensure	Access Information	Remark
6.0	Runs on Windows 95, 98, Me, NT 4.0, 2000, XP	Y2K compliant	Available on the network	20 Licenses	Contact IRTS office at ext. 2953 for complete download instruction.	

Nvivo 2.0

Version	Platform	Compliant	Location	Licensure	Access Information	Remark
2.0	Runs on Windows 95, 98, Me, NT 4.0, 2000, XP	Y2K compliant	Available on the Network	20 Licenses	Contact IRTS office at ext. 2953 for complete download instruction.	

ETHNOGRAPH

Version	Platform	Compliant	Location	Licensure	Access Information	Remark
5.08	Windows 3.1, 95, 98, some precautions when installing under Windows XP, NT or 2K	Y2K compliant	Available on Digital Sandbox at IRTS office	A single user license (no. of license could be increased if use is high)	Access information available on individual workstation	For more information call ext. 2953

SPATIAL AND NETWORK ANALYSIS SOFTWARE

ArcView

Version	Platform	Compliant	Location	Licensure	Access Information	Remark
9.0	PC-Intel Windows NT 4.0 with Service Pack 6a (or) Windows 2000 (or) Windows XP (Home Edition and Professional)	Y2K compliant	Available on Digital Sandbox at IRTS office and the GIS lab of the department of Geography, Geology and Anthropology	Unlimited Concurrent Licenses shared with other users	Access information available on individual workstation	For more information call ext. 2953

Technology Provided by Building

Business, College of
- Technology-Enhanced Classrooms 11
- General Use Lab 1
- Discipline-Aligned Labs 3
- Video Conferencing Site 3

Dreiser Hall
- Technology-Enhanced Classrooms 9
- Video Conferencing Sites 2

Education, College of
- Academic Technology Resource Center
- Technology-Enhanced Classrooms 16
- General Use Lab 2
- Discipline-Aligned Labs 2
- Video Conferencing Sites 3

Erickson Hall
- Technology-Enhanced Classrooms 2
- Discipline-Aligned Labs 3
- Video Conferencing Site 1

Fairbanks Hall
- Discipline-Aligned Lab 1

Family and Consumer Sciences
- Technology-Enhanced Classrooms 2
- Discipline-Aligned Lab 1

Fine Arts
- Technology-Enhanced Classroom 2
- General Use Lab 1
- Discipline-Aligned Labs 4

Gillum Hall
- OIT Administration
- Telecommunications
- Video Conferencing Site 1

Health and Human Performance Building, College of
- Technology-Enhanced Classrooms 7
- General Use Lab 1
- Discipline-Aligned Lab 1

Holmstedt Hall
- Technology-Enhanced Classrooms 11
- Discipline-Aligned Lab 1
- Video Conferencing Site 2

Normal Hall
- Center for Instruction, Research, and Technology
- Center for Visualization
- Video Conferencing Sites 1

Nursing Building
- Technology-Enhanced Classrooms 6
- General Use Lab 1
- Video Conferencing Sites 3

Rankin Hall
- Institutional Computing Services
- Technical Infrastructure Services
- Video Conferencing Site 1

Root Hall
- Technology-Enhanced Classrooms 8
- General Use Lab 1
- Discipline-Aligned Labs 4

Science Building
- Technology-Enhanced Classrooms 11
- General Use Lab 1
- Discipline-Aligned Labs 9

Stalker Hall
- User Services—Educational Technology Services
- Technology-Enhanced Classrooms 7

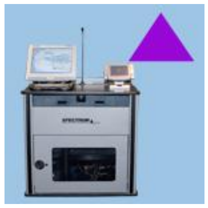
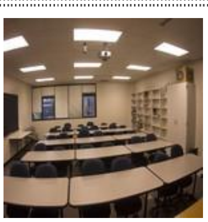
Student Computing Complex
- User Services—Help Desk
- User Services—Lab Management
- General Use Labs 2

Technology Building A
- Technology-Enhanced Classrooms 6
- Discipline-Aligned Labs 3

Technology Center, John T. Myers
- Technology-Enhanced Classrooms 13
- General Use Lab 1
- Discipline-Aligned Labs 14
- Video Conferencing Site 1

Landsbaum Center for Health Education
- Technology-Enhanced Classrooms 4
- Discipline-Aligned Clusters 8
- Video Conferencing Sites 4

TECH-READY CLASSROOMS

Classroom Details				
Room View	**Type**	**Building**	**Room #**	**Capacity**
		JOHN T. MYERS TECHNOLOGY CENTER (TC)	105	100
		JOHN T. MYERS TECHNOLOGY CENTER (TC)	114	39
Picture Coming Soon		JOHN T. MYERS TECHNOLOGY CENTER (TC)	202	24
		JOHN T. MYERS TECHNOLOGY CENTER (TC)	206	30
		JOHN T. MYERS TECHNOLOGY CENTER (TC)	207	40
		JOHN T. MYERS TECHNOLOGY CENTER (TC)	209	30

		JOHN T. MYERS TECHNOLOGY CENTER (TC)	211	16
		JOHN T. MYERS TECHNOLOGY CENTER (TC)	303	24
		JOHN T. MYERS TECHNOLOGY CENTER (TC)	304	48
		JOHN T. MYERS TECHNOLOGY CENTER (TC)	305	24
		JOHN T. MYERS TECHNOLOGY CENTER (TC)	307	24

Tech-Ready Classrooms

Classroom Details				
Room view	**Type**	**Building**	**Room #**	**Capacity**
		TECHNOLOGY BUILDING A (TA)	122	20
Picture Coming Soon!		TECHNOLOGY BUILDING A (TA)	137A	25
Picture Coming Soon!		TECHNOLOGY BUILDING A (TA)	137B	25
		TECHNOLOGY BUILDING A (TA)	204	24

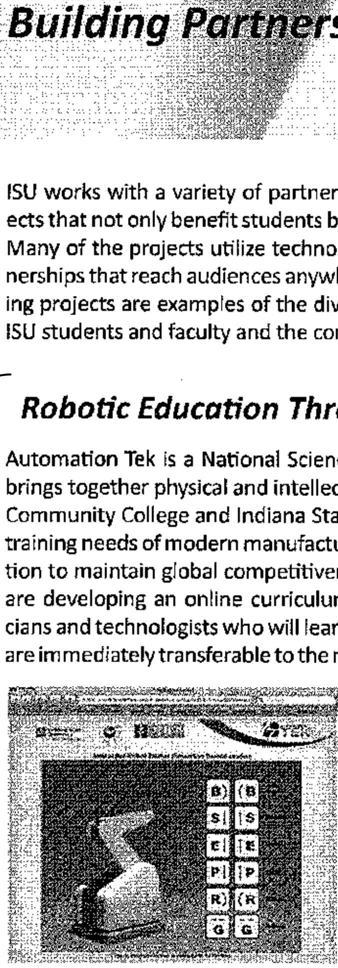
Picture Coming Soon!		TECHNOLOGY BUILDING A (TA)	214	24
Picture Coming Soon!		TECHNOLOGY BUILDING A (TA)	227	15
Picture Coming Soon!		TECHNOLOGY BUILDING A (TA)	229	15

Building Partnerships

ISU works with a variety of partners to develop unique projects that not only benefit students but the community as well. Many of the projects utilize technology to facilitate the partnerships that reach audiences anywhere, anytime. The following projects are examples of the diverse interaction between ISU students and faculty and the community.

Robotic Education Through NSF Grant

Automation Tek is a National Science Foundation Grant that brings together physical and intellectual resources of Ivy Tech Community College and Indiana State University to meet the training needs of modern manufacturers who rely on automation to maintain global competitiveness. The two institutions are developing an online curriculum for automation technicians and technologists who will learn processes and skills that are immediately transferable to the manufacturing workplace, using versatile remote access to automation equipment. The automation Tek Hands-on remote Labs Automation Curriculum will allow learners to operate equipment—robots, programmable logic controllers, rapid prototyping systems, milling machines, wet process control systems, and a wide variety of other equipment—over the Internet with detailed expert instruction, video and audio feedback, and evaluation of their work—all in a complete educational structure and delivery system.



Extending the State I-Light Network

Indiana State University's Office of Information Technology has collaborated with I-Light, the State of Indiana's optical fiber network for higher education, to complete network backbone connections for the southwestern part of the state. In conjunction with a previous project with the Sullivan County School Corporation, ISU installed additional fiber capacity from the campus to Carlisle for future growth. Under an agreement with the Indiana Higher Education Telecommunication Systems, ISU agreed that some of the unused capacity could be employed to extend the I-Light network to Carlisle where it could be linked with the network extending northward from Vincennes. As part of this agreement, I-Light installed fiber optic cable to the state prison facility in Carlisle. It is ISU's intent to use this to improve and expand the delivery of distance education courses that are part of the prisoner education program. This agreement has saved significant money for both IHETS/I-Light and ISU.

Digital Preservation—Saving the Past for the Future

Capturing the sometimes fleeting digital information for future generations can be done by working together. That was the message during the Digital Preservation Summit held at Indiana State University May 21, 2008. The Office of Information Technology and the Library, along with Wabash Valley Visions and Voices, Online Computer Library Center (OCLC), and EMC co-sponsored a Digital Preservation Summit for Indiana and Eastern Illinois.

APPENDICES

COT DEGREES AWARDED

College of Technology, Summary of Degrees Awarded by Program

	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
Aviation Technology	**35**	**80**	**72**	**58**	**74**	**67**
Aviation Management	13	21	21	22	23	17
General Aviation Flight Tech (AS)	2	13	5	9	18	20
Professional Aviation Flight Tech	20	46	46	27	33	30
Electronics, Comp., and Mech. Eng. Tech.	**57**	**68**	**63**	**51**	**53**	**49**
Automation & Control Engineering Tech	7	3	5	1	2	7
Automotive Technology Management	11	14	13	18	13	10
Computer Engineering Tech	5	9	8	4	7	7
Electronics Technology	19	27	22	21	20	10
Electronics & Computer Tech (AS)	3	4	1	2	5	2
Mechanical Engineering Technology	12	11	14	5	6	13
Technology Management	**123**	**108**	**98**	**96**	**93**	**84**
Advanced Manufacturing Management	6	2	0	2	1	6
Career and Tech Education	10	11	7	9	14	11
Career and Tech Education (AS)	5	6	2	0	3	2
Construction Management	34	28	28	24	26	20
Construction Tech (AS)	11	11	15	5	6	1
Human Resource Development	29	34	26	28	25	28
Packaging	7	2	5	5	2	7
Printing Management	2	0	0	0	0	0
Technology Engineering Education	14	5	7	6	8	5
Technology Management	5	9	8	17	8	4
Total Undergraduate Degrees	**215**	**256**	**233**	**205**	**220**	**200**
MASTER LEVEL PROGRAMS						
Career & Tech Education	0	16	0	1	1	0
Electronics & Computer Technology	18	44	21	28	21	33
Human Resource Development	21	9	57	51	48	39
Industrial Technology	7	0	11	18	20	6
Technology Education	1	0	1	1	1	1
Vocational-Technical Education	2	2	0	0	0	0
PhD PROGRAM						
Technology Management	3	2	11	10	1	9
Total Graduate Degrees	**52**	**73**	**101**	**109**	**92**	**88**
Total Degrees in the College	**267**	**329**	**334**	**314**	**312**	**288**

APPENDICES

COT GPA

Cumulative GPA for ISU Undergraduates, Fall 2009

School	Students	Average GPA
College of Arts and Sciences	2395	3.02
College of Business	842	3.07
College of Education	487	3.28
College of Nursing, Health, & Human Services	1067	3.15
Non-Degree	61	3.66
Student Academic Services Center	389	2.48
College of Technology	653	3.02
TOTAL	5893	3.04

Cumulative GPA for COT Undergraduates by Major, Fall 2009

	Students	Average GPA
Aviation Department		
Aviation Management	41	3.09
General Aviation Flight Technology	2	2.60
Professional Aviation Flight Technology	109	3.15
Electronics, Computer, and Mechanical Engineering Technology Department		
Automation & Control Engineering Technology	11	3.23
Automotive Technology Management	43	2.89
Computer Engineering Technology	22	2.91
Electronics Technology	35	3.08
Electronics & Computer Technology (AS)	3	2.84
Mechanical Engineering Technology	70	2.98
Technology Management Department		
Advanced Manufacturing Management	6	3.33
Career & Technical Education	17	3.39
Construction Management	117	2.82
Human Resources Development	95	3.00
Packaging	20	2.88
Technology & Engineering Education	16	3.21
Technology Management	43	3.23
Technology Non-Designated	3	1.68
TOTAL	653	3.02

APPENDICES

COT FACULTY LIST/
FACULTY SALARIES

College of Technology – Faculty Listing*

Aviation Department

Mr. Harry Minniear, Chair
Dr. Troy Allen
Dr. Richard Baker
Mr. Vern Bothwell
Mr. Donald Burger
Ms. Victoria Dunbar
Mr. Stephen Shure
Mr. Bruce Welsh

Electronics, Computer, and Mechanical Engineering Technology Department

Dr. Ming Zhou, Chair
Mr. Todd Alberts
Dr. Joe Ashby
Dr. Affan Badar
Dr. David Beach
Dr. William Clyburn
Dr. Phillip Cochrane
Dr. Gerald Cockrell
Dr. William Croft
Dr. Robert English
Dr. Xiaolong Li
Dr. Yuetong Lin
Mr. David Malooley
Dr. Randell Peters
Dr. Mehran Shahhosseini

Technology Management Department

Dr. James Smallwood, Chair
Dr. Cindy Crowder
Dr. Lee Ellingson
Dr. Bassou El-Mansour
Dr. Barbara Eversole
Ms. Beth Fauber
Dr. Tad Foster
Dr. Carroll Graham
Dr. Kara Harris
Dr. Michael Hayden
Dr. Chul Kim
Dr. Stephen McCaskey
Dr. Gordon Minty
Mr. Richard Nightingale
Dr. John Reposa
Dr. Marion Schafer
Dr. Carole Yaw

*Resumes of all ATMAE related faculty are located in the resource room, TC314.

Faculty Salaries

2009-2010 Regular Tenured and Tenure Track Faculty Report

College of Technology

Aviation Technology (AVT)						
			FY09	FY10	FY10	FY10
Rank	Dept	Name	FY09 Budget 7.1.08	Promo Adj.	Total Adj.	FY10 Budget 7.1.09
Ch Ast Prof	AVT	#Minniear, Harry	$75,808		0	$75,808
Asc Prof	AVT	Allen, Ronald	$58,939	$2,100	$2,100	$61,039
Ast Prof	AVT	Baker, Richard	$65,000		0	$65,000
Ast Prof	AVT	Burger, Donald	$53,866		0	$53,866
Ast Prof	AVT	Shure, Stephen	$57,853		0	$57,853
Ast Prof	AVT	Welsh, Bruce	$59,123		0	$59,123
Subtotal	Aviation Technology		$370,589	$2,100	$2,100	$372,689
Electronics, Computer, and Mechanical Engineering Technology (ECMET)						
Ch Prof	ECMET	#Zhou, Ming	$77,594		0	$77,594
Ast Prof	ECMET	Ashby, Joe	$58,633		0	$58,633
Asc Prof	ECMET	Badar, M. Affan	$62,064		0	$62,064
Prof	ECMET	Beach, David	$78,829		0	$78,829
Asc Prof	ECMET	Clyburn, William	$67,953		0	$67,953
Ast Prof	ECMET	Cochrane, Phillip	$58,167		0	$58,167
Prof	ECMET	Cockrell, Gerald	$80,356		0	$80,356
Prof	ECMET	Croft, William	$77,875		0	$77,875
Ast Prof	ECMET	Li, Xiaolong	$60,000		0	$60,000
Ast Prof	ECMET	Lin, Yuetong	$59,699		0	$59,699
Asc Prof	ECMET	Malooley, David	$70,483		0	$70,483
Ast Prof	ECMET	Peters, Randell	$59,207		0	$59,207
Ast Prof	ECMET	Shahhosseini, Mehran	---	0	0	$65,000
Subtotal	Electronics, Computer, and Mechanical Eng. Technology		$810,860	0	0	$875,860
Technology Management Department (TM)						
Ch Prof	TM	#Smallwood, Jim	$94,412		0	$94,412
Ast Prof	TM	Crowder, Cynthia	$54,503		0	$54,503
Asc Prof	TM	Ellingson, Lee	$66,228		0	$66,228
Asc Prof	TM	El Mansour, Bassou	$54,912	$2,100	$2,100	$57,012
Ast Prof	TM	Eversole, Barbara	$60,000		0	$60,000
Prof	TM	Hayden, Michael	$81,101		0	$81,101
Asc Prof	TM	Fauber, Beth	$63,336		0	$63,336
Ast Prof	TM	Graham, Carroll	$62,500		0	$62,500
Ast Prof	TM	Harris, Kara Sue	$62,500		0	$62,500
Asc Prof	TM	Kim, Chul	$69,345		0	$69,345
Prof	TM	Maughan, George	$73,275		0	$73,275
Prof	TM	Minty, Gordon	$84,292		0	$84,292
Asc Prof	TM	Reposa, John	$75,555		0	$75,555
Asc Prof	TM	Schafer, Marion	$66,829		0	$66,829
Asc Prof	TM	Yaw, D. Carole	$58,473		0	$58,473
Subtotal	Technology Management Department		$1,027,261	$2,100	$2,100	$1,029,361
Subtotal	**College of Technology**		**$2,208,710**	**$4,200**	**$4,200**	**$2,277,910**

APPENDICES

COT GRADUATE FACULTY

College of Technology – Graduate Faculty

Graduate Faculty for the Aviation Department

Dr. Troy Allen
Dr. Richard Baker*

*Also has PhD Consortium graduate faculty status.

Graduate Faculty for the Electronics, Computer, and Mechanical Engineering Technology Department

Dr. Ming Zhou, Chair
Dr. M. Affan Badar*
Dr. David Beach*
Dr. William Clyburn*
Dr. Phillip Cochrane
Dr. Gerald Cockrell*
Dr. William Croft*
Dr. Robert English*
Dr. Xiaolong Li
Dr. Yuetong Lin*
Dr. Randell Peters*

*Also has PhD Consortium graduate faculty status.

Graduate Faculty for the Technology Management Department

Dr. James Smallwood*, Chair
Dr. Cindy Crowder
Dr. Lee Ellingson*
Dr. Bassou El-Mansour*
Dr. Barbara Eversole*
Dr. W. Tad Foster*
Dr. Carroll Graham*
Dr. Kara Harris
Dr. Michael Hayden*
Dr. Chul Kim*
Dr. George Maughan*
Dr. Jeffrey McNabb*
Dr. Gordon Minty*
Dr. John Reposa
Dr. Marion Schafer*
Dr. Bradford Sims*
Dr. D. Carole Yaw*

*Also has PhD Consortium graduate faculty status.

APPENDICES

COT FACULTY DEMOGRAPHICS

COLLEGE OF TECHNOLOGY

Faculty Demographics

2009-2010

11/10/2009

Title	First Name	Last Name	Dept.	Highest Degree	Institution	Field of Preparation	Employment Status	Faculty Rank	Teach. Exper.
Mr.	Todd	Alberts	ECMET	M.S.	Indiana State University	Mechanical Engineering Technology	Temporary	Instructor	4 years
Dr.	Troy	Allen	AVT	Ph.D.	Indiana State University	C & I - Industrial Technology Ed.	Tenured	Associate Professor	8 years
Mr.	Joe	Ashby	ECMET	M.S.	Indiana State University	Industrial Automation	Tenure Track	Assistant Professor	7 years
Dr.	M. Affan	Badar	ECMET	Ph.D.	University of Oklahoma	Mechanical Engineering	Tenured	Associate Professor	11 years
Dr.	Richard	Baker	TMGT	Ph.D.	Nova Southeastern University	Information Systems	Tenure Track	Assistant Professor	19 years
Dr.	David	Beach	ECMET	Ph.D.	Univ. of MO-Columbia	Industrial Education	Tenured	Professor	37 years
Mr.	Vernon	Bothwell	AVT	B.S.	Northeast Louisiana University	Aviation	Temporary	Instructor	30 years
Mr.	Donald	Burger	AVT	M.S.	Indiana State University	Vocational Technology Education	Tenured	Assistant Professor	33 years
Dr.	William	Clyburn	ECMET	Ed.D.	Mississippi State University	Instructional Technology	Tenured	Associate Professor	15 years
Dr.	Philip	Cochrane	ECMET	D.B.A.	University of Phoenix	Business Administration	Tenure Track	Assistant Professor	14 years
Dr.	Gerald	Cockrell	ECMET	Ed.D	Indiana University	Occupational Education	Tenured	Professor	32 years
Dr.	William	Croft	ECMET	Ph.D.	Indiana University	Mathematics Education	Tenured	Professor	26 years
Dr.	Cindy	Crowder	TMGT	Ph.D.	University of Tennessee	Human Resource Development	Tenure Track	Assistant Professor	9 years
Ms.	Victoria	Dunbar	AVT	M.S.	Indiana State University	Human Resource Development	Temporary	Instructor	2 years
Dr.	Lee	Ellingson	TMGT	Ph.D.	Texas A & M	Architecture	Tenured	Associate Professor	12 years
Dr.	Bassou	El-Mansour	TMGT	Ph.D.	Indiana State University	Education Administration	Tenured	Associate Professor	16 years
Dr.	Robert	English	ECMET	Ed.D.	Indiana University	Instructional Systems Technology	Tenured	Professor	27 years
Dr.	Barbara	Eversole	TMGT	Ph.D.	Colorado State University	Education & Human Resources Studies	Tenure Track	Assistant Professor	3 years
Ms.	Beth	Fauber	TMGT	M.S.	Indiana State University	Industrial Technology	Tenured	Associate Professor	24 years
Dr.	W. Tad	Foster	TMGT	Ed.D.	University of Illinois	Technology Education	Tenured	Professor	32 years
Dr.	Carroll	Graham	TMGT	Ed.D.	University of Arkansas	Education (Adult Education)	Tenure Track	Assistant Professor	6 years
Dr.	Kara	Harris	TMGT	Ed.D.	Clemson University	Career & Technology Education	Tenure Track	Assistant Professor	10 years
Dr.	Michael	Hayden	TMGT	Ph.D.	Iowa State University	Industrial Education & Technology	Tenured	Professor	25 years
Dr.	Chul	Kim	TMGT	Ph.D.	Univ. of IL at Urbana-Champaign	Civil Engineering	Tenure Track	Associate Professor	7 years
Dr.	Xiaolong	Li	ECMET	Ph.D.	University of Cincinnati	Electrical Engineering	Tenure Track	Assistant Professor	3 years
Dr.	Yuetong	Lin	ECMET	Ph.D.	University of Arizona	Systems and Industrial Engineering	Tenure Track	Assistant Professor	5 years
Mr.	David	Malooley	ECMET	M.S.	Indiana University	Vocational Education	Tenured	Associate Professor	30 years
Dr.	George	Maughan	TMGT	Ed.D.	West Virginia University	Technology Education	Tenured	Professor	31 years
Dr.	Stephen	McCaskey	TMGT	M.S.	Southern Illinois University	Workforce Education & Development	Temporary	Visiting Assist. Prof.	4 years
Dr.	Jeffrey	McNabb	TMGT	Ph.D.	Indiana State University	Technology Education	Tenured	Associate Professor	29 years
Mr.	Harry	Minniear	AVT	M.S.	Troy State University	Management, Airline Pilot	Tenure Track	Assistant Professor	9 years
Dr.	Gordon	Minty	TMGT	Ph.D.	Michigan State University	Industrial Education	Tenured	Professor	33 years
Mr.	Richard	Nightingale	TMGT	B.S.	Indiana State University	Construction Management	Temporary	Instructor	2 years
Dr.	Randell	Peters	ECMET	Ph.D.	Indiana State University	C & I/Industrial Technology Educ.	Tenure Track	Assistant Professor	7 years

COLLEGE OF TECHNOLOGY
Faculty Demographics
2009-2010
11/10/2009

Title	First Name	Last Name	Dept.	Highest Degree	Institution	Field of Preparation	Employment Status	Faculty Rank	Teach. Exper.
Dr.	John	Reposa	TMGT	Ph.D.	Florida Institute of Technology	Civil Engineering	Tenure Track	Associate Professor	19 years
Dr.	Marion	Schafer	TMGT	Ph.D.	Indiana State University	Industrial Technology Education	Tenured	Associate Professor	16 years
Dr.	A. Mehran	Shahhosseini	ECMET	D. Eng.	Lamar University	Mechanical Engineering	Tenure Track	Assistant Professor	8 years
Mr.	Stephen	Shure	AVT	M.A.	University of CA-Davis	Anthropology/Archaeology	Tenured	Assistant Professor	27 years
Dr.	Bradford L.	Sims	TMGT	Ph.D.	Purdue University	Indust. Tech./Educ Curr. & Instruct Design	Tenured	Professor	15 years
Dr.	James	Smallwood	TMGT	Ph.D.	Indiana State University	C & I/Industrial Arts	Tenured	Professor	21 years
Mr.	Bruce	Welsh	AVT	M.S.	Indiana State University	Vocational Technology Education	Tenured	Assistant Professor	29 years
Dr.	Carole	Yaw	TMGT	Ph.D.	Indiana State University	Technology Management - HRD	Tenured	Associate Professor	9 years
Dr.	Ming	Zhou	ECMET	Ph.D.	University of Arizona	Industrial Engineering	Tenured	Professor	15 years

APPENDICES

FACULTY POSITIONS

College of Technology
Aviation Technology Department
Faculty Positions

2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Barnhart	Barnhart	Barnhart	Barnhart	Barnhart	Barnhart	Corcoran	Baker
Burger	Burger	Burger	Burger	Burger	Burger	Burger	Burger
Schwab	Schwab	Schwab	Schwab	Schwab	Schwab	Dunbar	Dunbar
Shure	Shure	Shure	Shure	Shure	Shure	Shure	Shure
Welsh	Welsh	Welsh	Welsh	Welsh	Welsh	Welsh	Welsh
Greenlaw	Greenlaw	Greenlaw	Allen	Allen	Allen	Allen	Allen
6	Allen	Allen	Minniear	Minniear	Minniear	Minniear	Minniear
	7	7	Bothwell	Bothwell	Bothwell	Bothwell	Bothwell
			8	8	8	8	8

Air Force ROTC
Faculty Positions

2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Aufderheide	Aufderheide	Allen	Lundborg	Lundborg	Lundborg	Schramm	Schramm
Hamilton	Hamilton	Hamilton	Theeck	Theeck	Cordrey	Cordrey	Cordrey
Paschall	Paschall	Creighton	Creighton	Creighton	2	Buchanan	Buchanan
3	3	3	3	Cordrey		3	3
				4			

Electronics and Computer Technology Department
Faculty Positions

2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Beach	Beach	Beach	Beach	Beach	Beach
Clyburn	Clyburn	Clyburn	Clyburn	Clyburn	Clyburn
Cockrell	Cockrell	Cockrell	Cockrell	Cockrell	Cockrell
Croft	Croft	Croft	Croft	Croft	Croft
English	English	English	English	English	English
Greenfield	Greenfield	Greenfield	Ashby	Ashby	Ashby
Maloba	Maloba	Maloba	Maloba	Lin	Lin
Malooley	Malooley	Malooley	Malooley	Malooley	Malooley
Heath	Farha	Farha	Farha	Farha	Farha
Jinbo	9	Raeisi	Raeisi	Raeisi	Raeisi
10		10	10	10	10

Industrial and Mechanical Technology Department
Faculty Positions

2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Hayden	Hayden	Hayden	Hayden	Hayden	Hayden
Hellman	Badar	Badar	Badar	Badar	Badar
Nicoletti	Nicoletti	Nicoletti	Nicoletti	Cochrane	Cochrane
Schafer	Schafer	Schafer	Schafer	Schafer	Schafer
Zhou	Zhou	Zhou	Zhou	Zhou	Zhou
5	5	Peters	Peters	Peters	Peters
		Barker	Hagedorn	Hagedorn	Hagedorn
		Han	Tadigiri	7	7
		8	8		

Industrial Technology Education Department
Faculty Positions

2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Gilberti	Gilberti	Gilberti	Gilberti	Gilberti	Gilberti
Busby	Busby	Busby	Wanninger	Lanoue	Lanoue
Foster	Foster	Foster	Foster	Foster	Foster
Mupinga	Mupinga	Mupinga	Mupinga	Mupinga	Mupinga
Nora	Nora	Nora	Crowder	Crowder	Crowder
Fagert	Fagert	Fagert	Yaw	Yaw	Yaw
6	Crowder	Crowder	El-Mansour	El-Mansour	El-Mansour
	Yaw	Yaw	Maughan	Maughan	Maughan
	8	El-Mansour	8	8	Maxwell
		Maughan			9
		10			

Manufacturing & Construction Department
Faculty Positions

2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Minty	Minty	Minty	Minty	Minty	Minty
Bringman	J. McNabb	J. McNabb	J. McNabb	J. McNabb	J. McNabb
Dallman	Dallman	Dallman	Dallman	Dallman	Reposa
Ellingson	Ellingson	Ellingson	Ellingson	Ellingson	Ellingson
Fauber	Fauber	Fauber	Fauber	Fauber	Fauber
Gravitt	Gravitt	Gravitt	Gravitt	Gravitt	Kim
Huber	Huber	Huber	Huber	Huber	D. McNabb
7	Bentil	Bentil	Bentil	D. McNabb	Haddad
	Buenker	Kiani	Kiani	Haddad	Smallwood*
	D. McNabb	D. McNabb	D. McNabb	Smallwood	9
	Smallwood	Smallwood	Smallwood	10	
	11	11	11		
					*Chair of ITE&MCT

Electronics, Computer, and Mechanical Engineering Technology Department
Faculty Positions

2008-09	2009-10
Zhou	Zhou
Alberts	Alberts
Ashby	Ashby
Badar	Badar
Beach	Beach
Clyburn	Clyburn
Cochrane	Cochrane
Cockrell	Cockrell
Croft	Croft
English	English
Farha	Farha
Li	Li
Lin	Lin
Malooley	Malooley
Peters	Peters
15	15

Technology Management Department
Faculty Positions

2008-09	2009-10
Smallwood	Smallwood
Crowder	Crowder
El-Mansour	El-Mansour
Ellingson	Ellingson
Eversole	Eversole
Fauber	Fauber
Foster	Foster
Harris	Harris
Hayden	Hayden
Kim	Kim
Maughan	Maughan
J. McNabb	J. McNabb
Minty	Minty
Reposa	Reposa
Schafer	Schafer
Yaw	Yaw
Herling	Baker
Lanoue	Graham
D. McNabb	McCaskey
Mupinga	Nightingale
Shinkareva	20
21	

Department of Health, Safety, and Environmental Health Science
Faculty Positions

2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Plummer	Bell	Bell	Blair	Blair	Sheldon	Sheldon	Peterson
Bell	Bermudez	Bermudez	Bell	Bell	Bell	Bermudez	Bermudez
Bermudez	Blyukher	Blyukher	Bermudez	Bermudez	Bermudez	Blyukher	Blyukher
Blyukher	Ferng-Kuo	Cooper	Blyukher	Blyukher	Blyukher	Campbell	Campbell
Ferng-Kuo	Gabany	Ferng-Kuo	Ferng-Kuo	Drabczyk	Drabczyk	Ferng-Kuo	Ferng-Kuo
Gabany	Henderson	Gabany	Gabany	Ferng-Kuo	Ferng-Kuo	Henderson	Henderson
Henderson	Lawrence	Henderson	Henderson	Gabany	Gabany	Hutchins	Hutchins
Lawrence	Peterson	Lawrence	Lawrence	Henderson	Henderson	Johnson	Johnson
Peterson	Plummer	Peterson	Legault	Legault	Legault	Peterson	Melacon
Sheldon	Sheldon	Plummer	Peterson	Peterson	Peterson	9	Moayed
Timmons	Timmons	Sheldon	Plummer	Plummer	Plummer		Sheldon
11	11	Timmons	Sheldon	Sheldon	Timmons		11
		12	Timmons	Timmons	12		
			13	13			

APPENDICES

COT FACULTY RANK HISTORY

College of Technology
Tenured/Tenure Track Faculty Rank History
2009-2010

Hire Date	Faculty Name	1977/78-1981/82	1982/83-1986/87	1987/88-1991/92	1992/93-1996/97	1997/98-2001/02	2002/03 2006/07	2007/08 2011/12
1977	Dr. Gerald Cockrell	I I A A A	O O O O P	P P P P P	P P P P P	P P P P P	P P P P P	P P P
1979	Mr. Donald Burger	I I A	A A A A A	A A A A A	A A A A A	A A A A A	A A A A A	A A A
1979	Mr. David Malooley	I I A	A A O O O	O O O O O	O O O O O	O O O O O	O O O O O	O O O
1980	Mr. Bruce Welsh	I I	I I A A A	A A A A A	A A A A A	A A A A A	A A A A A	A A A
1981	Dr. David Beach	O	O O O P P	P P P P P	P P P P P	P P P P P	P P P P P	P P P
1982	Dr. Robert English		A A A A O	O O O O O	O O P P P	P P P P P	P P P P P	P P P
1983	Dr. William Croft		A A A A	O O O O O	O O O O O	O O O O P	P P P P P	P P P
1985	Dr. Gordon Minty		O O	O O O O O	O O P P P	P P P P P	P P P P P	P P P
1985	Ms. Beth Fauber		A A	A A A A A	A A A O O	O O O O O	O O O O O	O O O
1986	Mr. Stephen Shure		A	A A A A A	A A A A A	A A A A A	A A A A A	A A A
1996	Dr. Michael Hayden				O	O O P P P	P P P P P	P P P
1996	Dr. Jeffrey McNabb				A	A A O O O	O O O O O	O O O
1996	Dr. Ming Zhou				A	A A A O O	O O O P P	P P P
1997	Dr. Lee Ellingson					A A A A A	A O O O O	O O O
1997	Dr. Marion Schafer					A A A A A	A O O O O	O O O
1998	Dr. W. Tad Foster					P P P P	P P P P P	P P P
2001	Dr. William Clyburn					A	A A A O O	O O O
2002	Dr. James Smallwood						P P P P P	P P P
2002	Dr. Affan Badar						A A A A A	A O O
2002	Dr. Carole Yaw						A A A A A	A O O

Legend
P - Professor
O - Associate Professor
A - Assistant Professor

College of Technology
Tenured/Tenure Track Faculty Rank History
2009-2010

Hire Date	Faculty Name	1977/78-1981/82	1982/83-1986/87	1987/88-1991/92	1992/93-1996/97	1997/98-2001/02	2002/03 2006/07	2007/08 2011/12
2003	Dr. Bassou El-Mansour						A A A A	A A O
2003	Dr. George Maughan						O O O P	P P P
2004	Dr. Troy Allen						A A A	A A O
2004	Dr. Randell Peters						A A A	A A A
2005	Mr. Harry Minniear						A A	A A A
2005	Dr. Yuetong Lin						A A	A A A
2005	Dr. Cindy Crowder						A A	A A A
2005	Mr. Joe Ashby						A A	A A A
2007	Dr. Phillip Cochrane							A A A
2007	Dr. Chul Kim							O O O
2007	Dr. John Reposa							O O O
2008	Dr. Richard Baker							A A
2008	Dr. Barbara Eversole							A A
2008	Dr. Carroll Graham							A A
2008	Dr. Kara Harris							A A
2008	Dr. Xiaolong Li							A A
2009	Dr. Bradford L. Sims							P
2009	Dr. Mehran Shahhosseini							A

Legend
P - Professor
O - Associate Professor
A - Assistant Professor

APPENDICES

COT FACULTY RETIREMENT PROJECTIONS

COLLEGE OF TECHNOLOGY
Fall 2009 Retirement Projections

11/5/2009							
Dept	Hire Date	Faculty Member	Birthday	2006-2010	2011-2015	2016-2020	2021-2025
AVT	1986	Mr. Stephen Shure	7/15/1939	67-68-69-70			
TMGT	2002	Dr. D. Carole Yaw	9/16/1945	61-62-63-64-65	66-67-68-69-70		
ECMT	1981	Dr. David Beach	3/29/1946	60-61-62-63-64	65-66-67-68-69	70	
TMGT	1985	Ms. Beth Fauber	7/11/1947	59-60-61-62-63	64-65-66-67-68	69-70	
ECMT	1977	Dr. Gerald Cockrell	2/28/1948	58-59-60-61-62	63-64-65-66-67	68-69-70	
TMGT	1985	Dr. Gordon Minty	3/23/1948	58-59-60-61-62	63-64-65-66-67	68-69-70	
TMGT	2008	Dr. Richard Baker	9/17/1948	60-61-62	63-64-65-66-67	68-69-70	
TMGT	2003	Dr. George Maughan	3/24/1949	57-58-59-60-61	62-63-64-65-66	67-68-69-70	
TMGT	1997	Dr. Lee Ellingson	6/19/1949	57-58-59-60-61	62-63-64-65-66	67-68-69-70	
TMGT	2003	Dr. Bassou El-Mansour	7/15/1949	57-58-59-60-61	62-63-64-65-66	67-68-69-70	
AVT	1979	Mr. Donald Burger	5/13/1950	56-57-58-59-60	61-62-63-64-65	66-67-68-69-70	
ECMT	1979	Mr. David Malooley	8/20/1951	55-56-57-58-59	60-61-62-63-64	65-66-67-68-69	70
ECMT	1983	Dr. William Croft	1/23/1952	54-55-56-57-58	59-60-61-62-63	64-65-66-67-68	69-70
TMGT	2007	Dr. John Reposa	2/5/1952	55-56-57-58	59-60-61-62-63	64-65-66-67-68	69-70
TMGT	2008	Dr. Carroll Graham	3/19/1952	56-57-58	59-60-61-62-63	64-65-66-67-68	69-70
ECMT	2005	Mr. Joe Ashby	4/16/1952	54-55-56-57-58	59-60-61-62-63	64-65-66-67-68	69-70
TMGT	1997	Dr. Marion Schafer	7/29/1952	54-55-56-57-58	59-60-61-62-63	64-65-66-67-68	69-70
ECMT	1982	Dr. Robert English	7/9/1953	53-54-55-56-57	58-59-60-61-62	63-64-65-66-67	68-69-70
TMGT	1998	Dr. W. Tad Foster	9/21/1953	53-54-55-56-57	58-59-60-61-62	63-64-65-66-67	68-69-70
TMGT	2002	Dr. James Smallwood	10/8/1953	53-54-55-56-57	58-59-60-61-62	63-64-65-66-67	68-69-70
AVT	2005	Mr. Harry Minniear	4/29/1956	50-51-52-53-54	55-56-57-58-59	60-61-62-63-64	65-66-67-68-69
AVT	1980	Mr. Bruce Welsh	5/12/1956	50-51-52-53-54	55-56-57-58-59	60-61-62-63-64	65-66-67-68-69
TMGT	1996	Dr. Jeffrey McNabb	6/27/1956	50-51-52-53-54	55-56-57-58-59	60-61-62-63-64	65-66-67-68-69
ECMT	1996	Dr. Ming Zhou	9/16/1956	50-51-52-53-54	55-56-57-58-59	60-61-62-63-64	65-66-67-68-69
ECMT	2001	Dr. William Clyburn	9/26/1957	49-50-51-52-53	54-55-56-57-58	59-60-61-62-63	64-65-66-67-68

COLLEGE OF TECHNOLOGY
Fall 2009 Retirement Projections
11/5/2009

Dept	Hire Date	Faculty Member	Birthday	2006-2010	2011-2015	2016-2020	2021-2025
TMGT	2008	Dr. Barbara Eversole	6/18/1958	50-51-52	53-54-55-56-57	58-59-60-61-62	63-64-65-66-67
TMGT	1996	Dr. Michael Hayden	7/9/1958	48-49-50-51-52	53-54-55-56-57	58-59-60-61-62	63-64-65-66-67
TMGT	2007	Dr. Chul Kim	5/23/1960	47-48-49-50	51-52-53-54-55	56-57-58-59-60	61-62-63-64-65
ECMT	2004	Dr. Randell Peters	11/17/1963	43-44-45-46-47	48-49-50-51-52	53-54-55-56-57	58-59-60-61-62
ECMT	2009	Dr. A. Mehran Shahhosseini	9/23/1965	44-45	46-47-48-49-50	51-52-53-54-55	56-57-58-59-60
ECMT	2002	Dr. Mohammad Badar	7/8/1966	40-41-42-43-44	45-46-47-48-49	50-51-52-53-54	55-56-57-58-59
TMGT	2009	Dr. Bradford L. Sims	12/14/1966	43-44	45-46-47-48-49	50-51-52-53-54	55-56-57-58-59
AVT	2004	Dr. Troy Allen	2/3/1967	39-40-41-42-43	44-45-46-47-48	49-50-51-52-53	54-55-56-57-58
TMGT	2005	Dr. Cindy Crowder	5/18/1970	36-37-38-39-40	41-42-43-44-45	46-47-48-49-50	51-52-53-54-55
ECMT	2005	Dr. Yuetong Lin	10/29/1972	34-35-36-37-38	39-40-41-42-43	44-45-46-47-48	49-50-51-52-53
TMGT	2008	Dr. Kara Harris	9/3/1974	34-35-36	37-38-39-40-41	42-43-44-45-46	47-48-49-50-51
ECMT	2008	Dr. Xiaolong Li	11/19/1977	31-32-33	34-35-36-37-38	39-40-41-42-43	44-45-46-47-48

APPENDICES

LIBRARY

Accreditation Report for the College of Technology

Library Resources and Services

November 2009

Note: The full report (139 pages) is in the Resource Room, TC314.

Table of Contents

Library Vision Statement

Indiana State University Library strives to become an innovative and creative partner in advancing the teaching, research, and service missions of the University. The Library will accomplish this by:

- ***Providing*** a learning environment in which users of all abilities and backgrounds feel welcome and secure
- ***Partnering*** with faculty to ensure all students become skilled in discovering and analyzing information as they progress through their academic careers
- ***Promoting*** interdisciplinary collaboration in the creation of knowledge
- ***Working*** with other libraries and agencies to preserve the intellectual content of information resources regardless of physical format
- ***Using*** new technologies and methods to enhance access to information resources
- ***Systematically collecting*** data to measure user satisfaction so that services, processes, programs, and resources can be continuously improved
- ***Continually updating*** the skill sets of the staff in order to offer new resources and services

INDIANA STATE UNIVERSITY LIBRARY GOALS

User services

- Assist clientele in identifying, locating, and interpreting information and knowledge in a variety of formats.
- Provide proactive training and instructional support to clientele so they become more self-reliant,
- Self-confident information consumers.

Information Resources

- Select, develop and manage information resources to support the present and future programs of the University.
- Review and evaluate the quality of library collections, resources, and services.
- Engage in state, regional, national and international efforts of interlibrary cooperation to provide access to needed information located elsewhere as a supplement to local information resources.

Technological support services

- Provide appropriate technology to improve library services and resources to members of the academic community, on campus and in remote locations.

Reference/Instruction Department

Mission
The Reference Department works to support the Library's mission as described in the Indiana State University Strategic Plan by providing reference and instructional services to the ISU community. We feel that along with providing these services it is important in an academic setting that we teach patrons how to use and evaluate available information resources. The Reference Department strives to make these services available to the on-campus ISU community, the distance learner and the residents of Indiana.

Services

The Reference Department is responsive to the information and instructional needs of the ISU community. It provides assistance to patrons (both students and faculty) as they use library materials in pursuit of research and curriculum related information needs.

The Reference Desk, located on the first floor of the library, is staffed at all times when the library is open. Please check the hours on the web or call (812) 237-2375.

Reference assistance is also available in the following ways:

- By telephone at: (812) 237-2580
- Via e-mail using our Ask a Librarian Service. You can expect to receive a response within 24 hours, Monday to Friday, excluding holidays.
- Through our chat service during library hours using Reference Live!

Instruction Services

Classroom instructional sessions are conducted to complement the academic curriculum, from undergraduate through graduate level. These sessions can be held in the library or the classroom. Classroom and individualized instruction is for both ISU-affiliated and community users.

Library Tutorials

A series of interactive online library tutorials has been created to assist library users in the research process. More tutorials are added on a regular basis.

Catalog & Database Searching

- Search Tools
- ISU Catalog Records
- Cochrane Library
- Choosing a Database
- CINAHL
- EBSCO
- ProQuest
- ProQuest Historical Newspapers
- Web of Science
- ScienceDirect Registration
- ScienceDirect Search

Subject-Based Resources

- Government Documents
- Countries and Organizations
- Company Data

Researcher's Toolkit

- Introduction to the ISU Library
- Finding Full Text Step 1
- Finding Full Text Step 2
- Finding Full Text Step 3
- Finding Full Text Step 4

Other Resources

- Library Research Guides
- Video Tutorials

Circulation Notices

- As a courtesy, due date reminders are sent to the e-mail address in your library account.
- Overdue and fine and fee notices are also sent to your university email account or mailed if you do not have a university e-mail account.

Fines and Fees
There are two types of fines and fees.

- Lost Item Replacement, which is typically $40 for stacks books (i.e., non-reference) and $50 for browsing media; however, replacement fees will be more for more expensive items.
- Lost Item Processing, which is a non-refundable fee of $8.00

Appeal of Library Charges

- If you think the library has made an error or if you think you have a special situation, you may file an online appeal.
- Charges may be upheld, reduced or canceled.
- Appeals must be filed within one month of billing
- The appeal process takes approximately seven working days to complete
- Appeals based on not knowing the library rules or the amount of fines, being out of town, failing to receive an overdue notice, etc., are not regarded as valid reasons for cancelling or reducing library charges.
- Replacement charges are forgiven if items are returned within a year's time.

Appeals are filed online at fineappeal.html

Payment of Fines
Fines are payable at the Office of the Controller. For more information you may contact them by calling 237-3511, visiting them in Parsons Hall or their eb page
www.indstate.edu/controller/

Library Hours

FALL & SPRING SEMESTER
Monday-Thursday, 7:30 a.m. - 2:00 a.m.
Friday, 7:30 a.m. - 7:00 p.m.
Saturday, 12:00 p.m. - 9:00 p.m.
Sunday, 12:00 p.m. - 2:00 a.m.

Catalog

Library materials may be searched online from anywhere on campus or remote locations via the library's online catalog. The online catalog also includes the holdings of Rose-Hulman Institute of Technology and Saint Mary of the Woods. ISU students and faculty have barrowing privileges at these institutions. Students and faculty also have access to the WordCat database. WorldCat is a catalog of more than 100 million books, web resources, and other materials from libraries throughout the world. From this database, you can electronically request items via interlibrary loan.

Interlibrary Loan

Interlibrary Loan is a service offered to current Indiana State University faculty, staff, and students. The purpose of ILL is to obtain requested materials not held by ISU from other libraries. Patrons can electronically request items via interlibrary loan from all of the databases provided by ISU. In addition, ISU Interlibrary Loan will process requests from currently enrolled Distance Education students who need materials owned by Cunningham Memorial Library.

Databases

The ISU Library also maintains an extensive list of online databases. A number of the databases include full-text articles. The library provides 360 Link to assist the patron find full-text articles. 360 Link is a link resolver that enables item-level linking across resources available in a library's collection. 360 Link solves the problem of connecting users to the appropriate content from e-journals, to aggregated full-text databases, to bibliographic records with indexing in secondary databases, to library catalog entries. 360 Link works with the ILLiad software to process interlibrary loans. This requires that all ILL requests be initiated online.

Recommended Databases

Discipline oriented

- ACM Digital Library
- Air University Library Index to Military Periodicals
- ASCE Research Library
- ASME Digital Library
- CCINFO Chemical and Occupational Hazards
- ProQuest Science Journals
- Health & Safety Science Abstracts
- National Technical Information Service
- Science Citation Index
- Science Direct

General

- Academic Search Premier
- Research Library (ProQuest)

Materials Allocations and Expenditures

AVAILABLE FUNDS	FY 2006-07	FY 2007-08
Library Budget		
Allocation, LIBR 78790	2,037,761.00	2,170,375.00
Reimbursement from Fines for Lost Books	26,002.54	21,509.14
Carry forward $ from previous year	58,754.66	111,104.54
Subtotal, LIBR 78790	**2,122,518.20**	**2,302,988.68**
Foundation Funds		
Floyd (30230)	9,823.90	9,823.90
Foundation Books & Serials/Debs (30511)	7,032.33	6,628.80
Parents Fund (30205)	66,845.34	64,943.28
Rankin (60708)	2,132.67	2,132.67
Special Collections (30817)—New Fund	3,083.82	3,083.82
Subtotal, Foundation	88,918.06	86,612.47
Total Available Funds	**2,211,436.26**	**2,389,601.50**

Expendituesdi	Total	Firm Orders	Serial
LIBR 78790 FY 2007-08 Payments		357,467.33	1,688,287.85
Prepayment toward 2009 Journal Subscriptions			100,000.00
End-of-year firm order encumbrances		24,532.00	
Payments on previous budget year's commitments (2006-07)		30,412.00	
Commitments for Approval Plan Deposit Account		0.00	
Operational Expenditures			$82,021.50
Total LIBR 78790	**2,282,720.68**	**412,411.33**	**1,870,309.35**

Foundation Funds		
Debs (30511)	407.00	00.00
Parents Fund (30205)	16,972.04	
Special Collections (30817)-- New Fund	736.56	
Total Foundation Expenditures	**18,728.10**	

CIRCULATION DEPARTMENT STATISTICS

CATEGORY	2005/2006	2006/2007	Percentage Increase or Decrease
Gate Count	372,758	381,850	2%
Circulation			
Items Charged	150,980	154,274	2%
Renewals	27,005	24,001	-11%
Items Discharged	155,672	158,820	2%
In-house use (Browse)	65,368	116,023	77%
Remote Storage Retrievals	299	204	-32%
Borrowing cards made for high school student visits	185	305	65%
Stacks Maintenance			
Items Shelved	180,440	187,884	4%
Searches Processed	539	490	-9%
Searches Found	390	370	(see next statistic)
Percent Found	72%	76%	4%
Reserve			
Items Processed for Reserve	1,210	1,405	16%
Items Charged	1,889	2,314	22%
E-Reserves Hits	26,931	27,007	0%
Total Reserves Use	28,820	29,321	2%
Billing			
Overdue Notices	14,184	28,004	97%
Lost Book Bills	2,608	6,456	150%
Fine Appeals Processed	38	53	39%
Interlibrary Loan Bills	186	108	-42%
Stack Searches Found	235	196	-17%
Public Safety			
Incidents reported to Public Safety	22	22	0%

Interlibrary Loan CATEGORY	2004/2005	2005/2006	Percentage Increase or Decrease
BORROWER			
Patron requests completely processed	10,171	10,112	-1%
Loan requests filled	2,421	2,736	13%
Photocopy requests filled	5,076	4,691	-8%
Total requests filled	7,497	7,427	-1%
Percent requests filled in fiscal year	74%	73%	-1%
Patron requests cancelled	2,674	2,685	0.4%
Reasons for request cancellation			
Patron requests found at ISU	1,069	1,564	46%
Not received by deadline or end of semester	25	41	64%
Duplicate requests	177	161	-9%
No source found (or bad citation)	105	55	-48%
Bad citation	79	60	-24%
Turned down by all known lenders	368	196	-47%
Other (textbooks, non-ISU patron, etc.)	851	608	-29%
Requests pending as of June 30	2	3	50%
LENDER			
Requests received from other libraries	24,065	24,347	1%
Loan requests filled	7,494	7,718	3%
Photocopy requests filled	4,902	5,526	13%
Total requests filled	12,396	13,244	7%
Total requests unfilled	11,669	11,103	-5%
Percent filled	52%	46%	-6%
Special Programs With Other Institutions			
Indiana Academic Research Libraries			
Borrower			
Total Requests	3,498	3,165	-10%

Technology Book and Bound Periodical Holdings

Classification	Label	Books Pre 2000	Books 2000-	Bound Periodicals titles
HD4801-8943	Labor. Working Class.	5398	379	132
HF5548.7-5548.85	Industrial Psychology.	183	39	1
HF5548.7-5549.5	Personnel management.	1643	548	122
T	Technology (General)	2148	501	27
TA	Engineering (General). Civil Engineering	1671	341	59
TD	Environmental Technology. Sanitary engineering	1303	191	40
TE	Highway engineering. Roads and pavements.	209	8	3
TF	Railroad engineering & operation	210	57	20
TG	Bridge engineering	59	2	0
TH	Building construction	686	298	51
TJ	Mechanical engineering and machinery	333	191	36
TK	Electrical engineering. Electronics. Nuclear engineering.	2814	873	81
TL1-484	Motor vehicles.	594	231	37
TL500-777	Aeronautics	1241	217	52
TL780-4050	Rockets. Astronautics.	289	64	8
TN	Mining engineering. Metallurgy	603	28	39
TP	Chemical technology	1118	182	69
TS	Manufactures	1789	372	120

Technology: Full-Text E-Journals

Topic	Number of Full-text Titles
Applied Mathematics	50
Applied Physics	40
Chemical & Materials Engineering	257
Civil & Environmental Engineering	365
Computer Science	265
Electrical & Computer Engineering	371
Engineering - General	139
Industries	421
Labor & Workers' Economics	183
Management	587
Mechanical Engineering	657
Technology – General	163
Transportation Economics	81

APPENDICES

STUDENT ORGANIZATIONS

COLLEGE OF TECHNOLOGY
STUDENT ORGANIZATIONS

Alpha Eta Rho (Aviation)

Faculty Sponsor:
Mr. Bruce Welsh

Officers:
President: Corey Hill
Vice-President: Daniel Elliott
Treasurer: Christian Reid
Secretary: Blake McCall
Historian: Nick Hogue
Sergeant of Arms: Patrick Doyle
New Member Educators: Kyle Wright and Jeff Gardner

American Association of Airport Executives

Faculty Sponsor:
Dr. Troy Allen

Officers:
President: Nick Hogue
Vice-President: Josh Heisler
Treasurer: Blake McCall
Secretary: n/a

National Intercollegiate Flying Association (NIFA) – Competition for 2010

Faculty Sponsor:
Mr. Vern Bothwell

Officers:
President: Corey Hill
Vice-President: Matthew Dessuit and Blake McCall
Treasurer: Christian Reid
Secretary: Andrew Carboneau

"The Flying Sycamores (Flight Team)"

Faculty Sponsor:
Mr. Vern Bothwell

Officers:
President: Jessica Campbell
Vice-President: Jeff Gardner
Treasurer: Josh Heisler
Secretary: Chris Allen
Historian: Chris Allen

Hot Air Ballooning (HABISU)

Faculty Sponsor:
Dr. Troy Allen

Officers:
President: Dustin Meredith
Vice-President: Evan Thoms
Treasurer: Michael DeCleene
Secretary: Blake McCall

Construction Club

Faculty Sponsor:
Dr. John Reposa

Officers:
President: Kevin Fromm
Vice: Christopher Kelley
Treasurer: Adam Kniola
Secretary: Chris Sullivan

International Construction Honor Society - Sigma Lambda Chi

Faculty Sponsor:
Dr. Lee Ellingson

Officers:
President: Clay Cottom
Vice-President: Jedd Willis
Treasurer: Morgan Nash
Secretary: Trey Lydick
Web Master: Jung-Hoe Kim

Institute of Packaging Professionals (IoPP)

Graduate Advisor:
Mr. Brian James

Officers:
President: J.D. Jukes
Vice-President: Andy Spugnardi
Treasurers: Jessica Oberle and Nicholas Koop
Secretary: Jennifer Goetz

Wabash Valley Collegiate Society of Human Resource Management (WVSHRM) Chapter

Faculty Sponsor:
ISU: Dr. Cindy Crowder and SMWC: Mr. Frank Whittle

Officers:
President: Loren Hewins
Vice-President: Bre'Auna McCurdy
Secretary: LaShaunda Smith
PR Director/Website: Chung Chae (Chad)
Historian: Min Hsuan Wu

Technology Education Club (TECA)

Faculty Sponsor:
Dr. Kara Harris

Officers:
President: Megan Jackson
Vice-President: Kevin Cook
Treasurer: Paul Schulz
Secretary: Josh Strain
Reporter: Daniel Lewellen

International Society of Automation

Faculty Sponsor:
Dr. Yuetong Lin

Officers:
President: Wesley Mershon
Vice-President: Amanda Cockrell
Treasurer: Raphael Moore
Secretary: Brooke Arnald

Team Sycamore Racing

Faculty Sponsor:
Dr. Randy Peters

Officers:
Drivers:
National Events: Derek Parkes
Divisional Events: Matt Williams
ET Events: Megan Jackson

Leadership Team:
Crew Chief: Matt Williams
Driver Operations: Derek Parkes
Event Planning: Kaci Lientz
Sponsorship: Kyle Neisen
Marketing and Advertising: Cody Kinney
ISU Liaison: Arlo Daunhauer
Public Relations and Communications: Elise Hobbs
Finance and Accounting: David Lund

Society of Automotive Engineers (SAE)

Faculty Sponsor:
Dr. Randy Peters, Dr. Phil Cochrane, and Mr. Todd Alberts

Officers:
President: CJ Brenner (resigned as of spring 2010)
Vice-President: Cameron Bidwell
Treasurer: Garrett Alstatt
Secretary: Dan Smolecki

Society of Manufacturing Engineers (SME)

Faculty Sponsor:
Dr. M. Affan Badar

Officers:
President: Samyak Vallabhaneni
President-Elect: Larry Parvin
Treasurer: Justin Bargo
Secretary: Nick Fairfield

Females in Technology (FiT)

Faculty Sponsor:
Mrs. Bev Bitzegaio

Officers:
President: Sarah Marrietta
Vice-President: Megan Jackson
Treasurer: Jennifer Goetz
Secretary: Jami Higdon
Events Coordinator: Laura Mott
Communications: Kay Brown

APPENDICES

SURVEYS

The Indiana State University College of Technology has begun to use on-line surveying instruments and techniques to get feedback from students, alumni, and advisory board members. The survey tool used for our recent questionnaires' design is Qualtrics; data collection is achieved through Qualtrics and Facebook.

During ATMAE's 2009 Annual Conference, Associate Dean Jeff McNabb attended a workshop entitled ATMAE Accreditation Self-Study Development. The presenters were the Co-Chairs of ATMAE's Accreditation Personnel Committee, Dr. Sid Conner and Dr. Mark Durivage. In discussing surveys they emphasized the advisability of moving to on-line instruments and provided suggestions for implementation.

Our recent on-line surveys were sent out to: 1) advisory board members, 2) senior students other than Packaging majors, and 3) Packaging majors of all grade levels and including some graduates. As part of the survey, Packaging majors identified their level of education, thus enabling us to separate students from alumni. We used Qualtrics for developing all the surveys, and direct e-mail was the means of communication to all advisory board members and seniors other than Packaging majors. For packaging majors only, we experimented with using Facebook as the means of communication.

This method will allow us to survey more frequently and with a higher rate of return. The results of the surveys will be evaluated as part of the data collection process of each program's assessment plan.

The results of these surveys, and other survey materials, are available in a binder in the ATMAE team's Resource Room, Myers Technology room 314.

Section III

Compliance with Standards

Electronics, Computer and Mechanical Engineering Technology Department

Automotive Engineering Technology B.S.

Section III

Compliance with Standards

Electronics, Computer and Mechanical Engineering Technology Department

Automotive Engineering Technology B.S.

6. Standards for Accreditation – *Baccalaureate Degree Programs*

The objective of accreditation is to ensure that programs in Industrial Technology which are accredited meet or exceed established standards. Consideration will be given to both the qualitative and quantitative criteria set forth in these standards.

6.1 Preparation of Self-Study Report--
Self-Analysis: The Self-Study Report shall follow the guidelines and be completed by a representative portion of the institution's administrative staff, teaching faculty, and students.

Information for this self study is provided by the faculty in the Automotive Engineering Technology Program, the Academic Affairs Department, the Career Center, the Dean and Assistant Dean of the College of Technology, the Electronics, Computer and Mechanical Engineering Technology Department, program alumni, Automotive Engineering Technology students, and the Automotive Engineering Technology Advisory committee.

6.2 Philosophy and Objectives---

6.2.1 Mission: The department, college, and institutional missions shall be compatible with the approved definition of Industrial Technology.

The definition of Industrial Technology as defined by ATMAE is:

> Industrial Technology is a field of study designed to prepare technical and/or technical management- oriented professionals for employment in business, industry, education, and government.
> Industrial Technology degree programs and professionals in Industrial Technology careers typically will be involved with the
>
> - application of theories, concepts, and principles found in the humanities and the social and behavioral sciences, including a thorough grounding in communication skills.
> - understanding of the theories and the ability to apply the principles and concepts of mathematics and science and the application of computer fundamentals.
> - application of concepts derived from, and current skills developed in a variety of technical, engineering technology, technical management, and related disciplines.
> - completion of a field of specialization, for example, graphics , construction, safety, manufacturing, automation, electronics, design, transportation, distribution, CAD.

The following statements are taken from the www.indstate.edu website. From the highest levels of the university through the college level and on to the departmental level, the vision, mission, values, and goals are more than compatible with the ATMAE definition of Industrial Technology.

University Vision

Inspired by a shared commitment to improving our communities, Indiana State University will be known nationally for academic, cultural, and research opportunities designed to ensure the success of its people and their work.

University Mission

Indiana State University combines a tradition of strong undergraduate and graduate education with a focus on community and public service. We integrate teaching, research, and creative activity in an engaging, challenging, and supportive learning environment to prepare productive citizens for Indiana and the world.

Indiana State University Value Statements

- We value high standards for learning, teaching, and inquiry.
- We provide a well-rounded education that integrates professional preparation and study in the arts and sciences with co-curricular involvement.
- We demonstrate integrity through honesty, civility, and fairness.
- We embrace the diversity of individuals, ideas, and expressions.
- We foster personal growth within an environment in which every individual matters.
- We uphold the responsibility of University citizenship.
- We exercise stewardship of our global community.

College Mission

The College of Technology will provide exemplary undergraduate and graduate programs, generate solutions and knowledge through research, and serve the technology needs of the State, the nation, and the international community.

College Values

- The study of technology is an essential part of our cultural heritage and of a university education.
- High quality, state-of-the-art programs and the embracing of future technologies are highly valued.
- The College of Technology faculty value experiential instruction using modern laboratories to develop knowledge and skill.
- The College of Technology is a student-centered academic unit (i.e., high quality teaching and advising as well as meeting individual needs of students is central for all). The College of Technology is dedicated to identifying, enhancing, and rewarding faculty and student excellence in scholarship (all forms) and service, and is committed to excellence, in general.
- Based upon these core values, the College of Technology commits itself to fulfilling the mission and goals.

College Goals

- Be recognized as a global leader in the preparation of future professionals for careers in technology, teachers/trainers for industry and education.
- Continue to increase participation of underrepresented groups in technology careers.
- Develop critical thinking, problem solving, and communication skills through the use of practical experiences.
- Provide the knowledge and skills to prepare people to create, understand, apply, manage, and evaluate technology ethically and responsibly.

- Contribute to the areas of state economic development, technology transfer professional development and community service.
- Extend partnerships with schools, businesses, industry, and other agencies through co-op programs, internships, research and development projects to expand access to higher education and better prepare our future workforce.
- Evaluate, refine, and enhance all academic programs to assure a sound basis for lifelong learning and living in a multi-cultural and interdependent world
- Maintain a concern for future developments; be known for innovativeness; and participate in the search and application of new technologies.

Department Mission

The mission of the Department of Electronics, Computer, and Mechanical Engineering Technology (ECMET) at Indiana State University is to prepare students for careers as technical professionals in an environment that involves applications in design, manufacture, control and integration of electro-mechanical products or systems, and requires a practical problem solving approach that emphasizes hands-on skill with modern productivity tools (e.g. design, analysis, control, diagnostic, and project management tools).

6.2.2 Program Definition: The program of study definition and purpose shall be compatible with the approved definition of Industrial Technology.

The following statements are the approved vision and mission for the automotive engineering technology program. As is evident in the writings, this program is clearly compatible with the ATMAE definition of Industrial Technology.

Program Vision

The Automotive Engineering Technology Program will be a leader in integrating teaching, research, and creative activity in an engaging, challenging, and supportive learning environment preparing productive citizens for Indiana and the world while creating and maintaining a credible presence within the confines of the automotive sector of education and industry.

Program Mission

The mission of the Automotive Engineering Technology program is to prepare application oriented graduates with the technical and managerial skills necessary to enter globally competitive automotive careers. Current automotive technology and design considerations are explored with emphasis on experiential learning opportunities engaging students in engine research, testing, design, and analysis. Students also develop essential managerial knowledge, skills and abilities assuring a comprehensive understanding of automotive operations ranging from retail to industrial applications.

Guiding Principles (we will)

- Inculcate high standards for learning, teaching, and inquiry
- Provide a well-rounded education that integrates professional preparation and study in the arts and sciences with co-curricular involvement
- Demonstrate integrity through honesty, civility, and fairness
- Embrace the diversity of individuals, ideas, and expressions
- Foster personal growth within an environment in which every individual matters
- Uphold the responsibility of University citizenship
- Exercise stewardship of our global community

6.2.3 Program Acceptance: Each program of study shall be understood and accepted by appropriate individuals and representative groups within the internal university community and the external business and industrial community.

The Automotive Engineering Technology program has been accepted on and off campus. This is evident in continued student enrollment and subsequent job placement/advancement in the field. Enrollment for over 30 years has ranged from a low of 35 to a high of 69 students in the program just three years ago. With the current automotive manufacturing situation across the country, enrollment in the 2009 academic year has slipped to just over 50.

Faculty members and staff routinely visit secondary schools and other organizations informing potential students about the automotive engineering technology program.

The industry need for co-op students in the automotive engineering technology field remains high. The employment outlook continues to be positive, despite the recent automotive crises.

With the help of the Advisory Committee, support of the program continues to grow with both prospective students and employers.

6.2.4 Program Goals: Each program of study shall have: (1) clearly written short and long range goals and objectives, which are consistent with the program mission statement; and (2) plans for achieving them.

Program Goals:

- Develop and maintain student enrollment and retention strategies responsive to industry
- Develop and maintain a modern laboratory equipment suite
- Develop and maintain a curriculum that addresses both student and industry needs
- Develop and maintain enriching community engagement and outreach programs and activities
- Develop and maintain clear, consistent, and concise faculty development strategies to ensure world class automotive faculty

Each overarching program goal listed above has both long term (5+ years) and short term (0-5 year) sub-goals.

Short Term

- Develop and maintain student enrollment and retention strategies responsive to industry
    - Goal – 25 new freshmen and 15 new transfer students per academic year by fall 2012
      Action – visit 7 high schools in the region each year with repeat visits each semester
      Action – identify high school automotive programs in a 150 mile radius and contact both instructors and guidance counselors informing them of the program
    - Goal – attain 85% retention/graduation rate by May 2012
      Action – monitor retention/graduation rate
      Action – utilize advising resources to identify and assist low achieving students

- Develop and maintain a modern laboratory equipment suite
    - Goal – identify changing laboratory needs annually
      Action – survey faculty, advisory committee, and students regarding laboratory equipment
      Action – visit industry and educational facilities with similar programs
    - Goal – obtain funding for equipment
      Action – seek assistance from advisory board members
      Action – seek and write grants
    - Goal – increase research capabilities
      Action – identify areas of expertise and equipment necessary to conduct research

Action – circulate/validate the list among advisory members
  - Goal – upgrade facility in regard to lighting, paint, and workbenches
    Action – engage interior design students in projects to enhance facility
    Action – submit plans to Dean(s)

- Develop and maintain a curriculum that addresses both student and industry needs
  - Goal – assess the current state of the curriculum
    Action – compile survey results and other assessments
  - Goal – infuse experiential learning into the curriculum
    Action – enhance curriculum with motorsports engineering

- Develop and maintain enriching community engagement and outreach programs and activities
  - Goal – identify community engagement that enhances program

- Develop and maintain clear, consistent, and concise faculty development strategies to ensure world class automotive faculty
  - Goal – identify gaps in faculty expertise related to program needs
  - Goal – maintain certifications of faculty
  - Goal – increase research expertise of faculty

Long Term
- Maintain student enrollment and retention strategies responsive to industry
- Maintain a modern laboratory equipment suite
- Maintain a curriculum that addresses both student and industry needs
- Develop and maintain enriching community engagement and outreach programs and activities
- Develop and maintain clear, consistent, and concise faculty development strategies to ensure world class automotive faculty

6.3 Program of study---

6.3.1 Program Name: Each program of study and/or program option shall have appropriate titles consistent with the approved ATMAE definition of Industrial Technology.

The name **Automotive Engineering Technology** is appropriate to the definition of Industrial Technology as defined by ATMAE. The name of the program was recently changed from Automotive Technology Management to better portray the program for what it is and to serve as an attractor for increased enrollment.

6.3.2 Program Level: The program of study shall lead to the baccalaureate degree, and not less than the junior and senior years of baccalaureate level study shall be offered by the institution seeking accreditation. Appropriate lower division requirements may be offered by the same institution or may be transferred from other institutions such as community colleges and technical institutes.

The Automotive Engineering Technology program leads to a Bachelor of Science degree. It is a four-year program with a 124 semester credit requirement for graduation. Articulation agreements with specific community colleges and universal articulations with two-year National Automotive Technicians' Education Foundation accredited automotive service programs from regionally accredited institutions allow 64 semester credits to transfer into the program.

6.3.3 Program Definition: The program of study may have more than one option, specialization, or concentration; but specific course requirements for each option shall be clearly specified, and the requirements for all program options shall meet or exceed appropriate ATMAE standards.

As in the previous accreditation cycle the Automotive Engineering Technology Program has no “option.” The program course requirements are listed in Table 6.1. There are free electives built into the program which readily allows students the opportunity to enhance their degree program through concentrations of study or minors.

6.3.4 Program Emphasis: Primary emphasis in the program of study shall reflect the current technology and management of industry.

Automotive faculty members strive to keep the curriculum up-to-date through continued research in the automotive field. By attending technical seminars and training and through actively participating in professional organizations related to their areas of expertise, faculty members ensure course content maintains relevancy to the industry needs. Dr. Peters is a member of ATMAE, Society of Automotive Engineers (SAE), and the American Society of Engineering Educators (ASEE) and regularly attends conferences and seminars in each. Dr. Cochrane is a member of ASEE and publishes in and attends conferences at both the regional and national levels.

Current automotive texts are used in courses. Some examples are:

AET 132 – Modern Automotive Technology – Duffy – 2009 edition
AET 233 – Computerized Engine Controls – Hatch – 2008 edition
AET 239 – Automotive Chassis: Brakes Steering and Suspension – Gilles – 2004 edition

The program utilizes recent vehicles such as a 2006 Buick Lucerne, 2002 Isuzu Axiom, and a 2002 Subaru Outback for various courses.

In AET 435 students are studying and completing projects on two 2006 model GM LS2 engines and a LS7 engine donated by General Motors.

6.3.5 Foundation Requirements: Program of study shall be a minimum of 120 semester hours (or equivalent) and must meet the minimum foundation requirements shown in Table 6.1. Programs may exceed the maximum foundation requirements specified in each area, but appropriate justification shall be provided for each program and/or program option that exceeds the maximum limits. A specific list of courses and credit hours that are being counted toward each curricular category shall be included in the Self-Study Report.

Any baccalaureate degree from Indiana State University requires a minimum of 124 credit hours. As depicted in Table 6.1 the Automotive Engineering Technology degree program satisfies the expectations of both Indiana State University and the ATMAE accrediting body.

While the General Education category shows 47 credits required by ISU and ATMAE suggests a maximum of 36, if an admitted student were well prepared from high school, the student would take one instead of two freshman writing courses and would not have any further foreign language requirement which would bring the required total to only 38 credits. All other categories are within the ATMAE guidelines.

Table 6.1 - Program of Study
Foundation Requirements Semester Hours
General Education - Humanities, English, History, Economics, Sociology, Psychology, Speech,etc.**18-36**
Mathematics - Algebra, Trigonometry, Analytical Geometry, Calculus, Statistics, etc.______________**6-18**
Physical Sciences - Physics, Chemistry, etc*____**6-18**
Management - Quality Management, Quality Control, Production Planning and Control, Supervision, Finance/Accounting, Safety Management, Facilities Layout, Materials Handling, Legal Aspects/Law, Marketing, Leadership, Project Management, International Business, Teaming, and/or other courses consistent with the approved definition of Industrial Technology______________________________**12-24**

Technical - Computer Integrated Manufacturing, Computer Aided Design, Electronics, Materials Science/Testing, Computer Science/Technology, Packaging and Distribution, Construction, Manufacturing Processes, and/or other courses consistent with the approved definition of Industrial Technology______ **24-36**
Electives______ **0-18**
Minimum total semester hours______ **120**

**Life Sciences may be appropriate for selected programs of study.*
NOTE: BCSP (Board of Certified Safety Professionals). Programs in safety designed to gain recognition for students in the safety profession may have specific requirements based on local market needs and on national professional safety practice studies and standards. Examples are BCSP Technical Report #3 and ANSI Z590.2.19

Automotive Engineering Technology

Table 6.1

Course Name	Course #	ISU REQ.	ATMAE REQ.
General Education		**47**	**18 – 36**
English Composition (3-6 credits)	ENG 101&105 or 107	6	
Upper division ENG approve course	Approved list	3	
Communication	COMM 101	3	
Physical Education	P E 101/L	2	
Information Technology Literacy	ITL Approved course	3	
Social/Behavioral Studies	Approved List	6	
Literature/Arts/Philosophical Studies	Approved List	6	
Historical Studies	Approved List	3	
Multicultural Studies	Approved List	6	
Foreign Language (0-6 credits)	H.S. equiv. or Approved List	6	
General Education Capstone	Approved List	3	
Mathematics		**6**	**6 – 18**
Mathematics	MATH 111 or 115 or higher	3	
Graphic Analysis	MET 215	3	
Physical Sciences		**8**	**6 – 18**
Chemistry	CHEM 100	3	
Chemistry Lab	CHEM 100L	1	
Physics	PHYS 101/105	3	
Physics Lab	PHYS 101L/105L	1	
Management/Professional		**19**	**12 – 24**
Intro to Industrial Health and Safety	HLTH 212	**3**	
Survey of Management	MGT 301 or TMGT 492	3	
Coop. Industrial Practice	MET 351	3	
Senior Seminar	MET 430	1	
Parts Distribution and Marketing	AET 432	3	
SVC Facility Organization & Mgt	AET 433	3	
Fixed Operations Management	AET 440	3	
Technical		**36**	**24 – 36**
Introduction to Technical Graphics	MET 103	3	
Theory of Internal Combustion Engines	AET132	3	
Electronic Fundamentals	ECT 160	3	
Engine Systems and Controls	AET 233	3	
Automotive Chassis	AET 239	3	
Fluid Power	MET 329	3	
Power Systems	MET 333	3	
Body Control Systems	AET 335	3	
Engine Fuels and Lubricants	AET 336	3	
Engine Thermodynamics	AET 435	3	
Diesel Engines	AET 436	3	
Industrial Processes	MFG 370, 371, or 372	3	
Free Electives (8-17 credits depending on Gen Ed)		**8**	6 – 18
Grand Total		**124**	**120**

6.3.6 Course Sequencing: There shall be evidence of appropriate sequencing of course work in each program of study to ensure that advanced level courses build upon concepts covered in beginning level course work.

The following table 6.2 is given to each student as part of the student advising program. The table consists of a strongly suggest sequence for taking courses that will lead the student to success. Several courses have prerequisites that ensure a proper sequencing of work. Some courses are not offered every semester or even every other semester. Rollouts for at least four years are used by advisors to help students meet their requirements in eight semesters. Students are strongly encouraged to attend an advising session each semester to ensure they stay current with the course rollout.

Table 6.2 Sequencing

Sample eight semester sequence

Semester 1 Fall	Credits
COMM 101	3
ENG 101 or 107	3
ITL approved course	3
AET 132	3
ECT 160	3
P E 101 & 101L	2
Total	17

Semester 2 Spring	Credits
HLTH 212	3
ENG 105, Minor or Elective	3
MATH 111 or 115	3
AET 233	3
AET 239	3
	15

Semester 3 Fall	Credits
PHYS 105 or 101	3
PHYS 105L or 101L	1
MET 103	3
MET 215	3
Gen Ed HS	3
FL 101, Minor or Elective	3
Total	16

Semester 4 Spring	Credits
CHEM 100	3
CHEM 100/L	1
Elective	3
Gen Ed SBS:F	3
MET 333	3
FL 102, Minor or Elective	3
Total	16

Semester 5 Fall	Credits
MET 329	3
AET 335	3
AET 433	3
MFG 370 or 371 or 372	3
Gen Ed SBS:F or E	3
Total	15

Semester 6 Spring	Credits
Junior English	3
AET 336	3
AET 432	3
Gen Ed LAPS: LL	3
Gen ED MCS:USD	3
Total	15

Semester 7 Fall	Credits
MET 430	1
AET 436	3
MGT 301 or TMGT 492	3
Gen Ed LAPS: LL or E	3
Minor or Elective *	3
MET 351	3
Total	16

Semester 8 Spring	Credits
AET 435	3
CAPSTONE	3
Gen Ed MCS: IC	3
AET 440	3
Minor or Elective *	2
Total	14

Total Hours 124

*** Strongly** suggest taking approved courses at the 300/400 level in order to meet the 50 hr minimum graduation requirement

6.3.7 Application of Mathematics and Science: Appropriate applications of the principles of mathematics and science shall be evident in technical and management course work.

Mathematics and scientific principles are inherent to each technical course in Automotive Engineering Technology. Additional evidence is available on-site in course notebooks. Some examples are as follows:

MET 103 – Intro to Technical Graphics – Problems involve geometric calculations and developments, measurement conversions and scale use, dimensioning, clearances and tolerances and introduction to micro computer graphics.

AET 132 – Theory of Internal Combustion Engines – Basic calculations include engine displacement, compression ratios, power overlap and horsepower. Many scientific principles are common to the chemicals and mechanical processes involved in basic engine theory.

AET 233 – Engine Systems and Controls – Scientific principles are involved with the ignition systems, fuel systems, combustion principles, and cooling systems.

MET 329 – Fluid Power – Calculation of pressures, flows, forces, application of the venturi principle, Pascal's law, and Bernoulli's principle are common to this course.

MET 333 – Power Systems – Calculations include gearing and torque multiplication associated with power transmission. Physical characteristics of gears, friction, and lubrication depict scientific principles common to the course.

AET 336 – Engine Fuels and Lubricants – The required ASTM tests and research project involve a variety of mathematical and scientific applications. (Distillation, Reid Vapor pressure, kinematic viscosity, flash point, and grease penetration tests)

AET 335 – Body Control Systems – Power assists, comfort control, and suspension systems all involve tests and comparative data when making diagnosis. Many systems today are computer driven and require very sophisticated electronic measurement.

6.3.8 Computer Applications: The program of study shall include instruction on computer application software, and the use of computers for information retrieval and problem solving.

In the Automotive field, computer interaction is required at all levels. Several computer applications are incorporated in various courses. Student work available with course material provided on-site is evidence of this incorporation. Reference material such as Mitchell on Demand 5, a CD/online based automotive repair manual and management system, is incorporated in courses such as AET 132, 233, 239, 334, 335, 432, 433, 435, and 436.

Students study, in depth, the on-board computer control systems used in the automotive industry. These systems not only monitor and collect data, but control various sub-systems utilizing machine logic and artificial intelligence, and have much built in diagnostic capability as well.

In more traditional usage, students must conduct research, construct articles, tables, graphs, etc. in virtually every facet of coursework ensuring the graduate has developed a strong sense of information technology literacy.

6.3.9 Communications: Oral presentations and technical report writing shall be evident in both technical and management course requirements.

Oral and written communication is addressed in virtually every required AET program course offered and is evident in the syllabus and in student works, which will be available to the on-site team.

Program management courses such as AET 432, 433, and 440 place increased emphasis on developing oral and written communication skills.

All Indiana State University students are required to take communications and a junior level writing course.

6.3.10 Industrial Experience: Each program of study shall include appropriate industrial experiences such as industrial tours, work-study options/cooperative education, and/or senior seminars focusing on problem-solving activities related to industry. Industrial experiences shall be designed to provide an understanding of the industrial environment and what industry expects of students upon employment.

Industrial visitation is used in the Automotive Engineering Technology Program. The student Chapter of SAE (Society of Automotive Engineers) typically sponsors two to three industrial visits per year. The SAE Chapter also sponsors a trip to the SAE "World Congress" in Detroit each year. Every Automotive major is strongly encouraged to become an active member of this student chapter.

As a result of the recommendations of the industrial advisory board, a course has been added to the curriculum MET 351 requiring a co-op/internship experience. Thus, every automotive major must participate in a co-op or internship experience prior to graduation.

Many students also participate in the University's Cooperative Professional Practice Program (Co-op). Students may be employed in industry for one or two academic semesters or during the summer for up to six (6) credits or students may simply elect to have the experience documented on their transcript without the academic credit.

The MET 430 Senior Seminar course provides students with skills necessary in securing a position and increases students' knowledge of how industry functions with respect to hiring, promotions and related personnel issues.

6.3.11 Competency Identification: Student competencies shall be identified for each program of study, including all options, which are relevant to current employment opportunities available to graduates.

Program Outcomes: (what a student is expected to be able to know or do by graduation)
Students will demonstrate an appropriate mastery of the knowledge, techniques, skills, and modern tools of automotive engineering technology.

Specifically, students will demonstrate:

1. an ability to read, interpret, and edit technical drawings
2. knowledge of the principles of industrial health and safety
3. and apply theory through practical experience in industrial settings
4. knowledge of automotive engine systems and design considerations
5. an understanding of service facilities management and organization
6. an ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering, and technology
7. an ability to conduct, analyze and interpret experiments, and apply experimental results to improve processes
8. an ability to apply creativity in the design of automotive systems, components, or processes
9. an ability to function effectively on teams
10. an ability to identify, analyze and solve technical automotive related problems
11. an ability to communicate effectively

12. the ability to plan, organize, prepare, and deliver effective automotive technical reports in written, oral, and other formats
13. a recognition of the need for, and an ability to engage in lifelong learning
14. an ability to utilize appropriate automotive literature and use it as a principal means of staying current in the automotive industry
15. an ability to understand professional, ethical and social responsibilities
16. a respect for diversity and a knowledge of contemporary professional, societal and global issues
17. a commitment to quality, timeliness, and continuous improvement

6.3.12 Competency Validation: Validation of program of study outcomes/student competencies shall be an on-going process and shall be accomplished through a combination of external experts, industrial advisory committee(s), and follow-up studies of program graduates. Documentation of this validation shall be provided in the Self-Study.

The Automotive Advisory Committee is intended to meet twice per year. The committee is asked to give input on all aspects of the programs with emphasis on program content. Advisory Committee minutes for the last several years will be available for the visiting team.

The automotive advisory committee is a powerful group of automotive professionals consisting of employers, past graduates, educators, engineers and managers who believe in the automotive program and wish to see its continued success.

This committee has helped to develop research regarding the need of a Master of Science degree in automotive technology, helped to modify the course content and structure of the program, assisted in improving articulation agreements, and even suggested the name change to Automotive Engineering Technology.

Informal feedback from employers and former students are also used for program improvement.

6.3.13 Program Development, Revision, and Evaluation: Program of study development, revision, and evaluation shall involve currently enrolled students, faculty, program graduates, and representative employers.

Faculty members are primarily responsible for program development.

Input is sought from the advisory committee and employers of graduates. Information is also obtained from the five year follow-up study of graduates.

Current students also have a chance to evaluate each course that they are enrolled in. This invaluable information is evaluated for program improvement.

Program and course changes must be approved by faculty government and the administration as prescribed by the University Handbook.

6.3.14 Transfer Course Work: Institution and/or department policies shall be used to evaluate course work transferred from other institutions. All programs/options, including those with a significant amount of transfer course work, must meet the minimum credit hour foundation course requirements (Table 6.1) in each curricular category.

University policies regarding transfer credit are outlined in the current online Undergraduate Catalog. In addition, students can receive more information from http://www1.indstate.edu/transfer/ which is ISU's Transfer Central.

The automotive program, in accordance with the university's transfer policies, accepts transfer course work from accredited institutions of higher education. Courses must be college level with a letter grade of C or better. Credit is transferred on a course-by-course basis by faculty evaluation. The Dean's office approves faculty recommendations and applicability of transfer credit. ISU faculty work with the faculty from the lower division schools to ensure that courses/degrees transferred into ISU contain the appropriate content and are taught at the appropriate level utilizing appropriate methods to be valid in ISU programs.

A new block style of credit transfer is in place for the automotive engineering technology program. This new policy allows students who have completed a degree for an associate of science or associate of applied science in automotive service technology that is accredited by NATEF (the National Automotive Technicians Education Foundation) from a regionally accredited institution to transfer their entire degree into the automotive program at ISU as a block. Thus each transfer student, regardless of individual course variations from institutions, has exactly the same coursework left to complete at ISU. NATEF is very prescriptive in the accreditation requirements. Several institutions were analyzed for course content and overall program competency. The program outcomes were very similar and thus allowed for approval of the program to actually be transferred rather than each individual course.

6.3.15 Upper Division Course Work: Students shall successfully complete a minimum of 15 semester hours of junior and/or senior level major courses at the institution seeking program accreditation.

All students are required to complete a minimum of 50 semester hours of course work at the junior/senior level for any Bachelor of Science degree conferred at Indiana State University. A minimum of 30 semester credits must be completed as residence credits from Indiana State University. In addition, all transfer students in the College of Technology must complete at least 24 semester credits in College of Technology courses, 12 hours of which must be from the department housing the student's degree program.

6.3.16 Program Publicity - Adequate and Accurate Public Disclosure: Institutions shall broadly and accurately publicize, particularly to prospective students: (a) Industrial Technology program goals and objectives, (b) preadmission testing, evaluation requirements, and standards, (c) assessment measures used to advance students through the program(s), and (d) fees and other charges.

The goals and objectives are listed on various pages of ISU's website with the bulk of the material of the program listed here: http://www.indstate.edu/tech

Brochures are available depicting the program curriculum. Included are objectives and goals, and prospects for graduates of the program.

Tech Trek is a program of the College of Technology that involves high school students. Students come to campus and participate in activities that enhance their learning as well as depict what the College of Technology has to offer them after high school. While this program is not solely for the Automotive Program, the Automotive Program does benefit from the exposure.

Fees, admission testing, and satisfactory academic progress for the Automotive Program are the same as the University Standards. These standards are readily available to students on the main web site www.indstate.edu under such headings as Academics and Admissions.

6.3.17 Legal Authorization: Only institutions legally authorized under applicable state law to provide degree programs beyond the secondary level, and that are recognized by the appropriate national or regional accrediting agency, are considered for ATMAE accreditation.

The Automotive Engineering Technology program at Indiana State University is approved by the Indiana Department of Higher Education as a program of study within the university. Indiana State University was chartered by the State of Indiana as an institution of higher learning in 1865, and has been operating under the legal authorization of the State continuously since that time. The University is regionally accredited with NCA.

6.4 Instruction --

6.4.1 Course Syllabi: Course syllabi must be presented which clearly describe appropriate course objectives, content, references utilized, student activities, and evaluation criteria. Representative examples of student's graded work shall be available for coursework.

Course syllabi exceed the ATMAE guidelines. Course syllabi, outlines, textbooks, lab sheets, and graded work will be available to the visiting team in room 314 of the John T Myers building.

6.4.2 Reference Materials: Appropriate reference materials such as periodicals, audio-visual materials, websites, and computer application software (when appropriate) shall be utilized for each course or series of courses to supplement textbooks or course packs.

The Cunningham Memorial Library has extensive resources related to the Automotive Technology Program. Examples include the reference catalog set of the American Society of Testing Materials (ASTM) standards, as well as publications from the Society of Automotive Engineers (SAE).

The University Computing Center has hardware and software available to all students.

6.4.3 Program Balance: Appropriate laboratory activity shall be included in the program(s) and a reasonable balance must be maintained in course work between the practical application of "how" and the theoretical/conceptual emphasis of "why."

An appropriate balance will be evident through lab worksheets and classroom activities and instruction by reviewing materials for courses made available on-site. Many classes, such as AET 132, AET 233, and AET 336, consist of nearly 50% lab work and 50% lecture. Management style classes, such as AET 433, have considerably less lab work.

6.4.4 Problem-Solving Activities: Emphasis in instruction shall be focused on problem-solving activities which reflect contemporary industrial applications.

Problem solving is a major focus of the automotive curriculum. Examples of problem solving activities in automotive courses include:

AET329 (3) Fluid Power—Analysis of "fluid" circuits and problems related to them are a significant portion of the laboratory experiences

AET334 (3) Automotive Drive Trains—Students determine problems inherent to drive trains which include: visual inspection, noise analysis, shift points, (automatic units). This also includes testing of electrical/electronic, hydraulic, and vacuum components.

AET335 (3) Electronic Diagnosis—The laboratory portion of this course is predominantly diagnostic activities on the electrical/electronic systems, powertrain control computers and other on-board computer applications found on today's vehicles.

AET336 (3) Automotive Materials and Related Products—A significant portion of the lab requirements are research questions relating to application and testing of finishes, fuels, lubricants and coolants.

AET433 (3) Service Facility Organization and Management—Students are involved in actual automotive dealer management problems via role playing activities.

6.4.5 Supervision of Instruction: Appropriate supervision of instruction shall be evident throughout the program.

The Electronics, Computer and Mechanical Engineering Technology Department has a Faculty member with a ½ time administrative appointment to be Chair of the Department. One of the Chair's duties is to supervise instruction. See University Handbook exhibited during the on-site visit. Each faculty member, in conjunction with colleagues and the Chair, develops yearly and long-range goals. As per the Departmental Faculty Evaluation plan, faculty are evaluated by their colleagues and the chair. Evidence and documentation of teaching performance is by peer and chair evaluation of teaching student Assessment of teaching, and other means.

6.4.6 Scheduling of Instruction: The organization and scheduling of instruction shall allow adequate time for completion of appropriate homework assignments and laboratory problem-solving activities.

The Scheduling of Instruction is the duty of the Department Chair with input from the faculty, students, other Chairs, and the Dean's office. Emphasis is given to accessibility of the classes for the students, and to class/lab capacity. Class schedules are made from 8 a.m. to 10 p.m.

Full-time freshman are encouraged to take up to 15-16 credit hours. Sophomores, juniors and seniors are advised to take class loads commensurate with their ability, time and grade point average. The student's schedule must be approved by their advisor, and if over 18 credit hours, must also have the approval of the Dean's Office. See Course Schedules exhibited during the on-site visit.

6.5 Faculty ---

6.5.1 Full-Time Faculty: Each program of study option shall have an adequate number of full-time faculty.

The department has 11 tenured or tenure track faculty, including the Chair. The department also has 1 full-time non-tenure track faculty members. It is difficult to break down the faculty by program, because faculty members often teach in other programs within the department and in some cases other departments. Additionally, many courses within and external to the department are of a service nature and not focused on one major.

Two full-time tenure-track faculty members have primary responsibility for the Automotive Program.

6.5.2 Minimum Faculty Qualifications: The review of program faculty qualifications shall include current faculty resumes providing clear evidence documenting the extent and currency of: (a) academic preparation, (b) industrial experience at the management/supervisory levels, (c) applied industrial experience related to the program content area(s), (d) current certifications/licensure related to the program content area(s), (e) membership and participation in appropriate professional organizations, and (f) scholarly activities. The minimum academic qualifications for regular tenure track, or full time, faculty members shall be a graduate degree in a discipline closely related to the instructional assignment.

The two faculty members primarily teaching in the automotive program have terminal degrees appropriate to the discipline. Both participate in SAE, ASEE, and ATMAE. Both contribute scholarly works as evidenced by personal data sheets included in the self study report.
The College Promotion and Tenure Document requires a terminal degree at the doctorate level appropriate to the discipline for promotion and tenure.

6.5.3 Academic Preparation of Faculty: A minimum of fifty percent of the regular tenure track, or full-time, faculty members assigned to teach in the program of study content area(s) shall have an earned doctorate or appropriately defined terminal degree. Exceptions may be granted to this

standard if the institution has a program in place that will bring the faculty demographics into compliance within a reasonable period of time.

Both faculty members have doctorate degrees; one in Curriculum Instruction specializing in industrial technology education and one in Business Administration.

6.5.4 Selection and Appointment Policies: Policies and/or procedures utilized in the selection and appointment of faculty shall be clearly specified and shall be conducive to the maintenance of high quality instruction.

The department adheres to University and COT section and appointment policies. See the Indiana State University Handbook section three located on the web at http://www.indstate.edu/adminaff/handbook/SectionIII.pdf , and COT Promotion & Tenure Standards available on site.

6.5.5 Tenure and Reappointment Policies: Faculty tenure and/or reappointment policies and procedures shall be comparable to other professional program areas in the institution. Requirements in the areas of teaching, service, and scholarly activity shall be clearly specified for faculty in Industrial Technology.

The department adheres to University and COT section and appointment policies. See the Indiana State University Handbook section three located on the web at http://www.indstate.edu/adminaff/handbook/SectionIII.pdf , and COT Promotion & Tenure Standards available on site.

6.5.6 Faculty Loads: Faculty teaching, advising, and service loads shall be comparable to the faculty in other professional program areas at the institution. Consideration shall be given in faculty teaching load assignments to high contact hours resulting from laboratory teaching assignments.

It is typical for departmental faculty to teach a 12-hour load (four 3-credit courses) with 20 or more contact hours due to lab requirements. Over the past several years, student credit hours generated per faculty has continually averaged 150-180, depending on enrollment trends, sabbaticals, and other faculty staffing and scheduling issues. This translates to 12-15 students per class as an average.

6.6 Students---

6.6.1 Admission and Retention Standards: Admission and retention standards shall be used to ensure that students enrolled are of high quality. These standards shall compare favorably with the institutional standards. Sources of information may include admission test scores, secondary school rankings, grade point averages, course syllabi, course examinations, written assignments, and oral presentations.

The Department follows University Admission and Retention Standards found in the Undergraduate Handbook, accessible on the University's web site, at http://catalog.indstate.edu/content.php?catoid=7&navoid=127 .

6.6.2 Scholastic Success of Students: Students in Industrial Technology shall have scholastic success comparable to those in other professional curricula in the institution. Grading practices in Industrial Technology courses shall be comparable to other departments and/or programs in the institution.

Scholastic achievement of Automotive Program majors is comparable to the University average and on par with the College of Technology as a whole.

6.6.3 Placement of Graduates: The initial placement, job titles, job descriptions, and salaries of graduates shall be consistent with the program(s) goals and objectives. Industry's reaction to graduates as employees must be favorable. Follow-up studies of graduates shall be conducted every two to five years. Summary statistics relating to follow-up studies of graduates shall be made available to the visiting team. These statistics shall include placement rates as well as salary levels of program graduates.

The faculty do not place students in positions, they assist graduates in connecting them with prospective employers matching the needs of the employer and the graduate. Thus employment of graduates in the automotive field is high averaging more than 90% within 6 months of graduation. Many prospective employers serve on the advisory committee which helps to ensure the program continues to serve the needs of the industry. Summary statistics will be made available to the visiting team.

6.6.5 Student Evaluation of Program(s): Evaluations of the Industrial Technology program(s) shall be made by its graduates on a regular basis (two to five years). Reactions and recommendations shall be considered in program revisions.

Current students, at the end of the semester, complete a course/instructor evaluation for each course in which they are enrolled. This information will be available on site.

Former graduates are surveyed every 5 years. Detailed results of this survey will be made available to the visiting team.

This information, after being discussed among faculty, is presented to the advisory committee, discussed, and acted upon accordingly. Through the recommendations of the Automotive Advisory Committee, the program is appropriately revised.

6.6.6 Student Enrollment: Enrollment shall be adequate in each program area to operate the program(s) efficiently and effectively. The level of available financial and facility resources shall be considered as a constraint on the maximum number of qualified students to be admitted to the program(s). Enrollment trends shall be tracked, and factors affecting enrollment patterns shall be identified and analyzed. Enrollment projections shall be made which relate closely to short and long-range goals, as well as financial and physical resource needs.

Student enrollments and trends are tracked. Enrollments in the automotive program have increased slightly over the thirty year existence of the program. For twenty years the program averaged 35 students, peaked at 69 students in the fall of 2006, and over the past six years that average has increased to 55 students. Even though the economic situation in the automotive industry has impacted enrollment, graduates continue to find employment opportunities.

6.6.7 Advisory and Counseling Services: Adequate and timely advising and counseling services shall be available to students.

All tenured and tenure-track faculty advise students. Faculty advise students regarding academic development and career choices. A centralized scheduling is used to ensure students have the latest information to appropriately schedule courses to ensure timely completion of their degree programs.

6.6.8 Ethical Practices: Ethical practices shall be fostered, including reasonable student refund policies and nondiscriminatory practices in admissions and student employment.

Indiana State University, the College of Technology, and the Department of Electronics, Computer and Mechanical Engineering Technology are committed to non-discriminatory equal access policies. Equality for all students and faculty, and an embrace of diversity, are hallmarks of the campus.

6.7 Administration--

6.7.1 Program Administration: Programs in Industrial Technology are expected to have an identifiable, qualified individual with direct responsibility for program coordination and curriculum development. This individual shall be a full-time employee of the institution.

The Department has a half-time administrative chair (6 hr. teaching load). Each program has a coordinator. All coordinators are full-time regular faculty. The coordinator position is conferred by faculty consensus upon the faculty member best capable to provide leadership for a program. Faculty have the primary authority and responsibility for curriculum development.

6.7.2 Administrative Leadership: Individuals assigned to administer Industrial Technology programs must demonstrate effective leadership and a high level of support for Industrial Technology.

The Department Chair Serves as the head coach and cheerleader for the department. The chair is the spokesperson for the Department and is the primary liaison between the Department and the rest of the University community. The chair is responsible for reporting and record keeping requirements. For most activities, the chair as one entity and the rest of the departmental faculty as another share equal authority. For example, curriculum decisions, faculty evaluations and program administration. The chair has discretionary authority concerning budgeting and scheduling. In these and all other matters, the chair is required to seek faculty input. See University Handbook and ECMET Departmental Handbook exhibited during the on-site visit.

6.7.3 Administrative Support: There must be appropriate support for Industrial Technology from the personnel holding leadership positions in the departments and colleges where Industrial Technology is administratively located.

All the programs in the department are Technology programs. All faculty, the Chair, Associate Dean and Dean are committed to the ideals of Industrial Technology. A review of personal data sheets will support this statement.

6.8 Facilities and Equipment --

6.8.1 Adequacy of Facilities and Equipment: Physical facilities and equipment, which are suitable to serve the goals and objectives of the program(s), shall be available for each program and option. Where facilities and equipment appear to be minimal to support a quality program(s), comparisons with support levels for other professional programs at the institution will be made by the visiting team.

The automotive laboratories are essentially adequate for the number of majors we have.

Departmental equipment budget has been insufficient for a number of years. This has inevitably impacted the automotive equipment. The most significant investment in automotive equipment was in 1982. One dynamometer has been upgraded and one new unit installed since the last accreditation. New scan tools have been purchased. Some of the electronic test equipment is outdated and is replaced on an ongoing basis. The wheel alignment equipment is relatively current and most equipment is functional and allows for reinforcement of theories taught in the classroom.

Supplies for instruction continue to be adequate as well as maintenance funding for upkeep of existing equipment.

6.8.2 Support for Facilities and Equipment: Facility and equipment needs shall be reflected in the long range goals and objectives for the program(s) and option(s), and sources of potential funding shall be identified.

Automotive laboratory facilities can meet our long range goals with planned equipment upgrades. Since the yearly portion of the ISU equipment and maintenance budgets for the automotive program has remained unchanged, at about $3000, it continues to be necessary to obtain alternate funding and donations for equipment, software, and maintenance needs. Long range goals stated earlier reflect our intentions for soliciting donations from industry. Local dealerships continue to donate automotive assemblies and components upon request. Automobile Manufacturers donate entire vehicles to the program.

The automotive program receives funding in line with other programs within the COT.

6.8.3 Appropriateness of Equipment: Equipment shall be appropriate to reflect contemporary industry. Student use of equipment reflecting current technology practices shall be evident.

The automotive equipment is relevant and does offer an adequate perspective of the automotive industry. Constant updating will be needed to rise to the level of current and future automotive technology.

6.9 Computer Systems ---

6.9.1 Availability of Computer Systems: Appropriate and current computer systems and software shall be available to both students and faculty. These systems must cover appropriate functions and applications in each program area. These systems may be on or off-site, as long as the systems are accessible to students and faculty.

The College of Technology and the University have numerous computer labs. Some labs are open 24 hours, others for extended periods at night and on the weekends. The campus has implemented a laptop policy requiring all incoming freshman to have a laptop. The campus is virtually 100% wireless and continues efforts to reach that goal. Additionally, many students utilize computers and Internet access available at their home, place of employment, and/or local library (city and other public institution). Every campus dorm room has a connection to the campus backbone which allows access to the Internet and the campus “image.”

6.9.2 Utilization of Computer Systems: Evidence shall be available which indicates that students and faculty are making significant use of computer systems related to program curricula.

Most courses in the automotive program require use of computers to complete assignments. The use of computers is inherent in many courses, e.g. CAD, CAM, CIM, etc. Computers are used during scheduled and open lab hours. Many courses have writing elements that require assignments to be word processed. Some require the use of e-mail or investigation of World Wide Web sites etc... See Course Syllabi exhibited during the on-site visit.

6.10 Financial Resources---

6.10.1 Financial Support: The budget for the Industrial Technology program(s) shall be adequate to support program objectives. When judging sufficiency, the visiting team shall make comparisons with the support levels given to other professional programs at the institution.

The ECMET department receives funding comparable to other units on campus. Some years, other non-recurring funds from the university and/or Dean’s level are available. In recent years, these extra funds have been expended to upgrade computers, fund faculty travel for professional development and dissemination of research. Each new tenure-track faculty member is allowed $1500-3500 for start-up research activity.

6.10.2 External Financial Support: There shall be evidence of external support for the program(s) in Industrial Technology. However, this external support shall be treated as supplementary support, and is to be used to achieve and maintain a high level of program excellence. This external support shall not be used to displace funding support normally provided by the institution.

External financial support is regularly sought from industry partners and from individual supporters to finance activities and purchases beyond those required for normal operations.

- Proposed and secured donation of battery testing equipment from alums for use throughout the Automotive Technology Management Program valued at over $1,500.
- Proposed and secured donation of 18 Saab 2.8L V-6 Turbocharged Engines from General Motors to replace 1990 model equipment for use in IMT 132 Intro to Automotive Engines valued at over $35,000. (2006)
- Proposed and secured donation of 2006 Buick Lucerne from General Motors for use in CAN networking course IMT 335 valued at over $12,000. (2006)
- Proposed and secured from Cummins Inc. for an ISX 600 engine including supporting diagnostic software and training materials for use in the IMT 436 Diesel Engines course, valued at over $30,000. (2005)
- Proposed and received 6 vehicles for laboratory use ($130,000 value) October 2004
    - Re-distributed 4 older vehicles to area high schools

6.11 Library and Information Resources--

6.11.1 Library and Internet Resources: The administrative unit containing the Industrial Technology program(s) and/or the institutional library shall have access to technology resources, literature, and reference materials adequate to meet the curriculum and research needs of students and faculty.

Library resources are quite adequate. The COT has a library budget comparable to other units on campus. The library responds readily to requests for books and periodicals needed for COT programs. Adequate books, periodicals, and computer-based materials are available for reference and for circulation. A growing number of internet and CD resources and search aids are available on-line through the Cunningham Memorial website.

The automotive engineering section of the library is quite impressive with more than $3,000 worth of materials purchased in each of the last 3 years.

6.11.2 Utilization of Library and Internet Resources: Evidence shall be available which indicates that students and faculty are making adequate and appropriate use of library and reference resources.

Faculty frequent the library for materials to use in the classroom. In AET 132, four automotive videos are shown during the course of the semester including Engine Fundamentals, Two Stroke Engines, Auto shop Safety, and How Cars and Trucks. These videos are maintained by the Library. In other examples, courses such as AET 132, 233, 335, 336, and 435 have writing assignments requiring students to produce articles with references from books in addition to internet sources. Additional evidence of library usage can be supported in additional syllabi available to the visiting team in room 314.

6.12 Support Personnel ---
Support Personnel: Personnel such as teaching assistants, student workers, office professionals, and laboratory technicians shall be adequate to support program objectives.

The ECMET Department has one full-time secretary, a number of graduate assistants, and multiple student workers who average working 15 hours a week each. Most student worker hours are spent in support of labs. Graduate assistants are used to assist faculty with lab work, research, and teaching. Support is adequate for the Department's eleven regular faculty members. Lab support is adequate for the Department's labs. The COT has a full-time technician for mechanical issues as well as a full-time technician for computer related issues.

6.13 Placement Services--

6.13.1 Placement Services: Appropriate services shall be available to assist with the placement of program graduates. Placement of graduates shall be tracked and the effectiveness of placement services shall be evaluated by the administrative unit containing the Industrial Technology program(s).

The University has an aggressive Placement Service (part of the Career Center). College of Technology graduates consistently lead the University in placement rates and starting salaries. Placements of graduates are tracked by the Career Center and that information is made available to the ISU Colleges and Departments upon request. The College of Technology faculty work closely with the Career Center.

6.13.2 Cooperative Education/Internship: If cooperative education or internship is either a required or an elective part of the program, then appropriate services shall be provided to assist with the placement and supervision of students.

As a result of advisory committee involvement Co-ops or relevant internships are now required in the Automotive Program. The Career Center assists in documenting co-ops and internships for the University. Co-ops are taken for credit (3 hours) and can be repeated twice for credit in the major. A Departmental faculty member is the instructor of record.

The advisory committee has made a commitment to helping students find internships. Of course, some internships are unpaid while others are paid very well. Implemented in the fall of 2006 the internship requirement is just now being fully tested. The requirement is proving to be a worthwhile venture as students struggle to find relevant and meaningful work. The ability to seek such an internship with the assistance of academic advisors should be extremely helpful to students as they transition from seeking internships to seeking career employment.

At this time, enough internships are available to accommodate automotive students.

6.14 Industrial Advisory Committee(s) --

6.14.1 Program Advisory Committee(s): An industrial advisory committee shall assist in the validation of program content. If more than one program of study or program option is available, then appropriately qualified industrial representatives shall be added to the committee or more than one committee shall be maintained. Policies shall be presented to indicate the: (a) procedures used in selecting members, (b) length of appointment, (c) organization of the committee, (d) committee responsibilities, (e) frequency of meetings, and (f) methods of conducting business.

The automotive program has quite possibly the most robust and active advisory committee in the college. The purpose of the advisory committee is to assist the Automotive Engineering Technology program at Indiana State University in determining curriculum needs, determining laboratory needs, aid in finding funding sources, aid in recruiting students, and to keep the automotive program in tune with the needs of the industry.

The automotive advisory committee handbook provides for selection procedures and establishes a term of five years. The committee is organized with a chair and vice chair who are not employed as tenure, tenure-track faculty within the University. The program coordinator works with the chair of the committee to schedule meetings and provide an agenda.

The handbook and minutes of meetings will be available on site in TC 314 (the visiting team resource room.)

6.14.2 Advisory Committee Meetings: The industrial advisory committee(s) shall meet at least once each year, and minutes shall be kept of these meetings showing agenda items, actions taken, and recommendations made.

Typically, the automotive advisory committee meets twice per year. The automotive advisory committee has met at least once each year with minutes taken at each.

6.15 Educational Innovation ---
Educational Innovation: There shall be evidence that program objectives are based upon long-range planning related to the industries being served. Program content must be current in both content and delivery of instruction.

The University, College, Department and automotive program faculty are pursuing innovative distance education delivery systems. Integrating within the Blackboard management system, Breeze, Integrity, and Illuminate are just some of the new tools being explored to enhance distance and on-campus teaching. Further attempting to meet the needs of non-traditional students, core classes with laboratory elements not consistent with on-line delivery, are being scheduled at night.

Current technology such as using the 2006 LS-7 427 cu.in. General Motors power plant in the AET 435 Engine Thermodynamics classroom engages students in meaningful exercises and laboratory experiments.

6.16 Assessment --
Assessment Plan and Integration: An assessment plan shall be comprised of, but not limited to, the following for each program: (1) program mission statement, (2) program outcomes/student competencies, (3) evidence that the program incorporates these outcomes/student competencies, (4) assessment measures used to evaluate student mastery of the student competencies stated, (5) compilation of the results of the assessment measures, and (6) evidence that these results are used to improve the program.

(1) Mission Statement – The mission of the Automotive Engineering Technology program is to prepare application oriented graduates with the technical and managerial skills necessary to enter globally competitive automotive careers. Current automotive technology and design considerations are explored with emphasis on experiential learning opportunities engaging students in engine research, testing, design, and analysis. Students also develop essential managerial knowledge, skills and abilities assuring a comprehensive understanding of automotive operations ranging from retail to industrial applications.

(2) Program outcomes/student competencies –
Program Objectives*: (what a student is expected to have accomplished a few years following graduation)*

Graduates of the program will:

1. be competent in the application of computer technologies commonly used in industry
2. have a working knowledge of the design, manufacture, and maintenance of automotive major subsystems and technologies
3. demonstrate the ability to apply modern and effective management skills in identification and investigation of problems, analysis of data, synthesis and implementation of solutions, and operations of facilities
4. have technical and managerial skills necessary to enter careers in manufacturing, marketing, operation, and maintenance in the field of automotive technology

Program Objectives*: (what a student is expected to be able to know or do by graduation)*
Students will demonstrate an appropriate mastery of the knowledge, techniques, skills, and modern tools of Automotive Engineering Technology.

Specifically, students will demonstrate:

1. an ability to read, interpret, and edit technical drawings
2. knowledge of the principles of industrial health and safety
3. and apply theory through practical experience in industrial settings
4. knowledge of automotive engine systems and design considerations
5. an understanding of service facilities management and organization
6. an ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering, and technology
7. an ability to conduct, analyze and interpret experiments, and apply experimental results to improve processes
8. an ability to apply creativity in the design of automotive systems, components, or processes
9. an ability to function effectively on teams
10. an ability to identify, analyze and solve technical automotive related problems
11. an ability to communicate effectively
12. the ability to plan, organize, prepare, and deliver effective automotive technical reports in written, oral, and other formats
13. a recognition of the need for, and an ability to engage in lifelong learning
14. an ability to utilize appropriate automotive literature and use it as a principal means of staying current in the automotive industry
15. an ability to understand professional, ethical and social responsibilities
16. a respect for diversity and a knowledge of contemporary professional, societal and global issues
17. a commitment to quality, timeliness, and continuous improvement

(3) Evidence of Incorporation of Competencies –
The syllabi reflect that these competencies, objectives, and mission are incorporated within the courses.

Since the competencies/objectives listed above were formally made a part of the program in the fall of 2009 confirmation evidence of incorporation of these competencies is limited. The advisory committee will investigate these competencies/objectives in the fall 2010 meeting.

A chart indicating which courses specifically incorporate each competency/objective will be provided to the visiting team in the resource room with the syllabi.

(4) Assessment Measures Used –
Pretests/posttests assess classroom learning. Exams in each course measure the course objectives.

Students evaluate courses and faculty each semester by filling out standardized questionnaires. These questionnaires are used in faculty evaluations, and course evaluations.

Advisory Committees provide industry perspective. In some advisory meetings students deliver presentations regarding specific courses. Advisory members listen to the presentations and critique the students regarding the strength of the presentation. Then, the advisory members critique the course based on its objectives and relevancy to the program goals and objectives.

Accreditation results are reviewed by faculty, students, and advisory committees.

(5) Assessment Results –

Student SRI evaluations indicated a need to explicate the learning objectives in the course syllabi and provide a more rigorous and detailed outline connecting the course to the program.

The advisory committee results indicated a need to change the program title to more accurately reflect the program and effectively market the program to potential students as well as employers.

2004 accreditation results indicated a significant need to update the program.

(6) Evidence Results were used to improve the Program –

The AET Program uses a quality assurance 360 degree feedback process that provides for continual improvement. Program inputs, operation, and outcomes are monitored and the feedback informs and improves the program.

The following is an excerpt taken from the major program revision in 2006:

> All changes proposed to the Automotive Technology Management Program stem from interviews with recent graduates and advice from the ATMAC, colleagues, and industry professionals. Many proposed changes are a result of issues addressed by the 2004 visiting team from the National Association of Industrial Technology (NAIT) who accredits our Automotive Technology Management Program. Further support for the changes is addressed in the following paragraphs.
>
> As cited by NAIT in the last accreditation on-site visit, the Automotive Technology Management Program needs new technology in the lab. Further stated, we should be engaging students in the very latest technology of hybrids and alternative fuels. Since the NAIT visit, we have obtained six relatively new vehicles from Subaru of Indiana America in Lafayette, IN. Cummins Engine Inc. of Columbus has donated an engine and testing software. However, a great need still exists for new technology. With traditional funding shrinking each year, the Automotive Technology Management Program must seek new avenues for revenue. At present, new grant work and research in the automotive technology realm in areas such as bio-diesel, alternative fuels such as E-85, hybrid technology, and many other areas are hampered by our 30 and 40 year old testing equipment. While many grants will fund equipment, virtually none will provide enough funding to allow for an entire update to the lab. The competition among institutions is too great to allow for such expenditures.
>
> The Automotive Technology Management Advisory Committee (ATMAC) has reaffirmed what the NAIT visiting team stated: we must update our program. It was argued by the faculty that since we don't train technicians, our level of technology could be a few years behind what is currently being manufactured. However, the ATMAC members, while agreeing that we indeed do not train technicians, we educate technical managers that must have a grasp of the current technology. Thus, we should strive to stay at the forefront of the technology, instead of several years behind. They also alluded to the fact that staying at the forefront of technology means staying *ahead* of the manufacturers.
>
> Addressing the needs of the Automotive Technology Management Program, in order to move the program into the lead position of seventeen such institutions throughout the United States, we must rework our curriculum. Simply stated, we must update current course content and then redistribute the content into courses that meets not only today's needs but has the ability to meet tomorrow's needs as well. Working with other educational institutions, NAIT, NATEF, the ISU ATMAC, and SAE (Society of Automotive Engineers), a revised program proposal has been derived. Several courses must be redefined, a few courses should be eliminated, and a few courses should be added.
>
> - The requirement for PHYS 101/101L will be expanded to include the option to take PHYS 105/105L. Accreditation NAIT requires a physics course, preferably taught by physics professors. Either of these two courses, with their corresponding lab courses, will provide a solid foundation in physics, which is essential for Automotive Technology Management graduates. The option of taking either class provides for more possible solutions to course scheduling or course transfers and articulation agreements without the need for special processing.
> - MATH 115 better prepares students for IMT 215 Graphic Analysis. In order to enhance students' mathematical problem solving abilities MATH 115 will become the minimum math requirement for the ATM program, raising the prior standard of MATH 111.
> - The need for IMT 130 Introduction to Technology will be satisfied by IMT 132 Introduction to Automotive Engines. Thus, IMT 130 will no longer be required in the ATM program.

- HLTH 212 Introduction to Industrial Health and Safety is added to the major to ensure graduates have foundational knowledge in regard to safety within the occupational environment.
- IMT 215 Graphic Analysis will have a prerequisite of MATH 115 or consent of the instructor as IMT 215 also serves other majors within the IMT Dept.
- IMT 233 Basic Automotive Service and Testing will have its course title changed to Engine Systems and Controls, and will have the content modified accordingly. Essentially, electronics coursework will be shifted to IMT 136, while the tire and wheel content will shift to IMT 239. Engine controls content will be pulled from IMT 335 and become core content in this course, IMT 233.
- IMT 239 Chassis Systems will be created covering steering, suspension, and braking systems. The bulk of existing material from IMT 434 and existing material from IMT 233 and IMT 335 will come together in this course to better organize the content into a more cohesive format. Removing a 400 level class and replacing it with a 200 level class is more reflective of the actual content and strategies previously used in IMT 434. No detrimental effects from the move regarding hours at the 3/400 level are anticipated.
- The ATMAC (the Automotive Technology Management Advisory Committee) has addressed the need for graduates to be better prepared to work with statistics. Several courses are currently available throughout the university. MATH 241 Principles of Statistics, BUS 205 Business Statistics I, or EPSY 302 Introduction to Applied Psychological Statistics would serve to provide ATM graduates with sufficient statistical background to utilize statistics effectively in their chosen occupation. Thus, students will be able to chose which statistics course is best suited to their intended occupation within the automotive industry.
- The requirement for MCT 295 Industrial Computer Applications will be dropped. Students needing to fulfill the Information Technology Literacy requirement through coursework would be advised to take MCT 295. However, if students pass the ITL exam, that will be considered acceptable. If a student, perhaps one who has changed majors or transferred, has received credit for or wanted to take another ITL approved course, that too, would be acceptable. No reduction in students taking the MCT 295 is expected. This change simply alleviates special administrative paperwork.
- IMT 335 Electronics Diagnosis will have its course title changed to Advanced Automotive Electronics, and will have the content modified accordingly. New material will be added regarding vehicle communications as advised by the ATMAC. In addition, due to the fact that Air Conditioning is now significantly electronically controlled, HVAC material will be removed from IMT 434 and incorporated into this course.
- IMT 336 Automotive Materials and Related Products will have its course title changed to Fuels and Lubes. The paint portion of the course will be removed and a new elective course IMT 338 Paint and Refinishing will be created. As advised by the NAIT visiting team, course material regarding alternative fuels will become a core requirement of the ATM program.
- IMT 337 Thermo Systems will be replaced by IMT 435 Contemporary Engines. IMT 337 once served many majors within the College of Technology. Currently, only Automotive Technology Management Majors are required to take this course. While thermo systems play an important role in automobiles, less than 20% of the coursework in IMT 337 used the automobile for application. IMT 435 addresses thermodynamic issues and is specific to automobiles.
- IMT 432 Parts Distribution and Marketing will become a core class in the Automotive Technology Management Program as recommended by the NAIT visiting team and the Automotive Technology Management Program Advisory Committee.
- IMT 434 Allied Systems will be banked. Its course content will move into IMT 239 and IMT 335. It is illogical to teach brakes, suspension, steering, and HVAC in the same course.

- IMT 435 Contemporary Engines will have it title changed to Engine Thermodynamics to better reflect the course content. IMT 435 will then replace IMT 337 as a core course in the Automotive Technology Management Program.
- IMT 436 Diesel Engines will become a core course in the Automotive Technology Management Program as advised by the ATMAC (advisory committee).
- IMT 439 Fixed Operations Management will be created addressing the financial, personnel management, and strategic planning strategies related to automotive businesses. The ATMAC addressed the need for such skills citing a lack of initial performance in such items as interpreting a spreadsheet, planning a logical course of action, and interviewing skills. This IMT 439 course will become a core course in the ATM program with IMT 433 as the prerequisite.
- MCT 473 Quality Control of Industrial Products 1 will be added to the ATM program ensuring graduates have knowledge of industry standards regarding quality processes.
- MCT 497 Problem Solving Techniques will be removed from the program as the need for the course is no longer apparent, based on personal interviews with recent graduates.
- The requirement for MCT 492 Industrial Supervision will be modified so that either MCT 492 or MGT 301 Survey of Management can be taken. These two courses, based on graduate interviews, currently serve essentially the same purpose for the Automotive Technology Management Program.

These changes will provide for an Automotive Technology Management Program that is responsive to the needs of the automotive industry. Based on sound teaching principles, advice from the NAIT visiting team and on repeated advice from the Automotive Technology Management Advisory Committee, these changes will move the program in a positive direction. A more defined, refined, and perhaps most importantly, a more marketable program will result.

The changes listed above were the result of the NAIT self-study in 2004, several ATMAC meetings, significant input from recent graduates, and input from current students. And, as the name was changed from ATM to AET, the following information was provided to the University Curriculum and Academic Affairs Committee further documenting the use of advisory committee and accreditation team visits in a full feedback model to keep the automotive program up-to-date.

> “The change to Automotive Engineering Technology more accurately reflects the current program content. The Accreditation Board of Engineering and Technology (ABET) provides a competency structure and the Society of Automotive Engineers (SAE) guides automotive engineering technology programs. The competencies set forth in the current ATM program match very well with these criteria. Surveys of graduates indicate they are taking positions such as engineering tech, quality engineer, repair logistic engineer, just to name a few.
>
> The Automotive Technology Management program was created in the early 1970’s to fulfill a need to educate teachers in a specific area of industrial arts. From that beginning, the students graduating from the program have expressed an increased need to incorporate more technical content beyond the level normally required of a high school automotive educator. The program’s name was changed in the early 1980’s to Industrial Automotive Technology reflecting the change in the program focus. Graduate surveys indicated an industry-wide lack of understanding of the Industrial Automotive Technology name. In 2003, the name was changed to Automotive Technology Management in an effort to better reflect the positions graduates were taking.
>
> More than 15 significant changes to the ATM curriculum have been incorporated since 2004. These changes have reinforced the technical content and streamlined the management specific courses. The Automotive Technology Management Advisory Committee (ATMAC) has discussed the issue of a name change at more than three meetings spanning three years. While the ATMAC is supportive of the name change to Automotive Engineering Technology, they find no need to change program content, indicating that the Automotive Engineering Technology name accurately reflects the current program content.

The ATM program has been accredited by the National Association of Industrial Technology for more than 20 years. NAIT has recently reorganized and changed its name to the Association of Technology, Management, and Applied Engineering (ATMAE). NAIT did not allow the word engineering to be in the title of a program. ATMAE has lifted that restriction and made engineering part of its framework. At this time, the AET program will continue to seek reaccreditation from ATMAE."

Section III

Compliance with Standards

Electronics, Computer, & Mechanical Engineering Technology Department

Computer Engineering Technology B.S.

6.1 Preparation of the Self-Study Report

The Computer Engineering Technology (CET) program faculty collaborated closely on the preparation of Self-Study Report. Senior faculty Dr. Croft led the group in deliberating individual tasks on evidence collection and report composition. Each faculty was assigned to respond to certain ATMAE accreditation standards. Dr. Yuetong Lin, the program coordinator, prepared the major portion of the initial report. Inputs from Dr. Croft and Li were then assembled to form the full version. The final write-up was revised and approved by the entire group.

6.2 Philosophy and Objectives

6.2.1 Mission: The department, college, and institutional missions shall be compatible with the approved definition of Industrial Technology.

The Computer Engineering Technology program embraces the same mission of the parent unit, the Electronics, Computer, and Mechanical Engineering Technology Department:

The mission of the Department of Electronics, Computer, and Mechanical Engineering Technology at Indiana State University is to prepare students for careers as technical professionals in an environment that involves applications in design, manufacture, control and integration of electromechanical products or systems, and requires a practical problem solving approach that emphasizes hands-on skill with modern productivity tools (e.g. design, analysis, control, diagnostic, and project management tools).

The mission statement is published in University catalog and available online at http://www1.indstate.edu/ecmet/index.htm.

6.2.2 Program Definition: The major program definition and purpose shall be compatible with the approved definition of Industrial Technology.

The CET program consists of curricular experiences that are application-oriented; with technical content, information, and theory for the design, development, and utilization of digital computer circuitry, microprocessor applications, networking systems, and other related technologies.

The CET program meets the definition of an Industrial Technology Program because its curriculum prepares students for technical and technical management-oriented professional positions in business, industry, and government. The curriculum provides:

1. Foundational Studies that integrate liberal arts, behavioral science, and communication skills.

2. Mathematics and physical science concepts and theories that are critical to the understanding and applications of computer engineering technology.

3. Concepts and principles of management, human resource, and production control in manufacturing industry.

4. All-around training in microcontroller, robotics and automation, digital systems, data communication, networking, and circuit analysis.

6.2.3 Program Acceptance: Each major program shall be understood and accepted by appropriate individuals and representative groups within the internal university community and the external business and industrial community.

The Computer Engineering Technology program is accepted throughout the University. Faculty members are represented on College of Technology Faculty Council and major College of Technology committee.

The support offered to the program by industrial donations and willingness of industrial individuals to serve on the advisory board demonstrate their acceptance and unqualified belief in the value of the Computer Engineering Technology to provide viable graduates able to perform and meet the needs of the employers.

6.2.4 Program Goals: Each major program shall have clearly written short and long range goals and objectives, which are consistent with the mission statements, and plans for achieving them.

Based on the mission statement the program developed the following educational objectives (the short title at the end of each objective statement is created for future reference in this document):

CET graduates are expected to demonstrate:

1. Technical proficiency by applying disciplinary reasoning and critical thinking to identify, analyze and solve problems in computers, systems integration, automation, digital systems, data communications, computer networks, and electronics (Technical Competency).

2. Effective communication skills in both oral and written form to articulate technical knowledge, ideas, and proposals to peers, management, and other potentially diverse audience (Communication Competency).

3. Organizational, and increasing levels of managerial skills in their chosen field (Managerial Competency).

4. The awareness of professional, ethical and social responsibility and impact of engineering technology practices in Indiana and a diversified world (Responsibility Awareness).

5. The ability to function effectively, think independently and work collaboratively in a multidisciplinary team environment (Teamwork Competency).

6. Individual desire and commitment to remain technically current by engaging in continuous self-improvement and lifelong learning (Lifelong Learning Competency).

6.3 Major Program(s)

6.3.1 Program Name: Each program of study and/or program option shall have appropriate titles consistent with the approved ATMAE definition of Industrial Technology.

Computer Engineering Technology

6.3.2 Program Level: The program of study shall lead to the baccalaureate degree, and not less than the junior and senior years of baccalaureate level study shall be offered by the institution seeking accreditation. Appropriate lower division requirements may be offered by the same institution or may be transferred from other institutions including community colleges and technical institutes.

Bachelor of Science, 124-130 semester hours. Student must complete a minimum of 50 hours of 300/400 level course work in order to graduate with a CET baccalaureate degree.

6.3.3 Program Definition: The program of study may have more than one option, specialization, or concentration; but specific course requirements for each option shall be clearly specified, and the requirements for all program options shall meet or exceed appropriate ATMAE standards.

The Computer Engineering Technology is a day program designed for on campus full-time students. The program is offered on semester basis: one 50-minute lecture or one 100-minute lab session per week in a sixteen-week semester constitutes one-credit. The Indiana State University (ISU) academic year consists of Fall, Spring and Summer sessions. During Summer no CET courses are normally taught, but students may take Foundational Studies courses. Students are encouraged to participate in co-operative education, summer internships and summer professional experiences. The 2009-10 curriculum is provided in Figure 4 to give the reader a brief overview of the CET program. The educational objectives and learning outcomes are implemented throughout this curriculum.

6.3.4 Program Emphasis: Primary emphasis in the program of study shall reflect the current technology and management of industry.

The ECT faculty constantly seeks to maintain a contemporary level of technology in all of its programs. This is accomplished through a variety of methods including meetings with the Department's advisory board; and contacts with alumni and local industry leaders.

Visitation to area industrial facilities and contacts with colleagues through participation in professional organizations are also used to provide feedback in maintaining a contemporary level of technology in our program.

6.3.5 Foundation Requirements: Programs of study shall be a minimum of 120 semester hours (or equivalent) and must meet the minimum foundation requirements shown in Table 6.1. Programs may exceed the maximum foundation requirements specified in each area, but appropriate justification shall be provided for each program and/or program option that

exceeds the maximum limits. A specific list of courses and credit hours that are being counted toward each curricular category shall be included in the Self-Study Report.

The minimum 120 semester hours of CET curriculum was designed to meet ATMAE foundation requirements. Table 6.1 offers a detail breakdown of the curricular categories, ATMAE limits, and CET courses associations.

See next page for Table 6.1.

Computer EnfgineeringTechnology
B.S. Degree Program
Minimum/Maximum Foundation Requirements

	Course Sem. Hrs.	**ATMAE Requirements**	**ISU Requirements**
General Education			
Eng. 101 & 105 or Eng 107	3-6		
Communications 101	3		
Physical Education	2		
English 305T	3		
Social & Behavioral Studies	6		
Literary, Artistic, and Phil. Studies	6		
Historical Studies	3		
Multicultural Studies	6		
Gen. Educ. Capstone Course	3		
Foreign Language	0-6		
		18-36	**35-44**
Mathematics			
Math 115 – College Algebra	3		
Math 301 – Applied Calculus	3		
CS 256 – Prin. Of Structured Des.	3		
		6-18	**9**
Physical Science (any combination of the following)			
Physics, Chemistry, Life Science, Geology	8	**6-18**	**8**
Management			
ECT 437 – Comp. Systems Mgt.	3		
MCT 471 – Production Planning	3		
MCT 478 – Ind. Organization	3		
MCT 492 – Ind. Supervision	3		
ECT 130 – Intro. to Electronics	2		
ECT 430 – Senior Seminar	1		
Select 6 hrs of Mgt. Courses from Courses such as: TMGT 471 – Prod. Plan & Control TMGT 478 – Ind. Org. & Function TMGT 492 – Ind. Supervision MET 404 – Eng. Des. & Mgt. MET 405 – Econ. Anal. for Tech.	6		
		12-24	**21**
Technical			
ECT 165 – D.C. Ckts. & Design	3		
ECT 167 – A.C. Ckts. & Design	3		
ECT 168 – Comp. Des. Tech.	3		
ECT 231 – Digital Computer Logic	3		
ECT 232 – Digital Computer Ckts.	3		
ECT 281 – Robotics Controls	3		
ECT 301 – Comp. Net. Mgt. Tech.	3		
ECT 303 – Micro. Hdw. & Soft.	3		
ECT 306 – Tech. Data Mgt. & App.	3		
ECT 308 – Micro. App. & Interfacing	3		
ECT 401 – Data Comm. & Internet Technology	3		
ECT 403 – Prac. Digital Logic Design	3		
ECT 406 - Comp. Systems Integration	3		
		24-36	**39**
Electives	6	**6-18**	**6**
Total Required Hours			**124-130**

6.3.6 Course Sequencing: There shall be evidence of appropriate sequencing of course work in each program of study to ensure that advanced level courses build upon concepts covered in beginning level course work.

To ensure that advanced level courses in computer engineering technology build upon concepts covered in beginning-level course work, the curriculum structure is specific: all 100-level courses are intended for entry-level students; the 200-level courses are for students in the second year of their program; 300-level courses are for third-year students, and 400-level courses are for seniors. See Undergraduate Catalog 2009-2010 for listing of courses with prerequisite requirements. See Appendix A for courses of study and Typical Four Year Plan.

6.3.7 Application of Mathematics and Science: Appropriate applications of the principles of mathematics and science shall be evident in technical and management course work.

There are two required math courses in CET foundational studies: MATH 115 is the entry-level math course that teaches college algebra and trigonometry; MATH 301 fundamentals and application of calculus covers integral and differential calculus. These two courses provide the level and focus of mathematics content to meet ATMAE requirement, and offer students the foundation of math skills in solving technical problems.

Many of the courses in CET also involve theoretical concepts requiring the use of mathematics and science as tools. For circuit design, calculation of power consumption, and electron-flow characteristics, the appropriate application of mathematics and science are essential. See University Catalog 2009-2010 for listing of courses required by this program. See Table 6.1, syllabi, and course textbooks for clarification of use of mathematics and science in this program. See copies of student exams in course notebooks for further clarification of use of mathematics in this program.

6.3.8 Computer Applications: The program of study shall include instruction on computer applications, and the use of computers for information retrieval and problem solving.

CET curriculum builds around computers and their applications. In most CET major courses, computers are widely used in circuit design, simulation, programming, and control. Skillful use of word processing, powerpoint presentation, and spreadsheet software is also of necessity for students to finish homework assignments, laboratory or project reports.

6.3.9 Communications: Oral presentations and technical report writing shall be evident in both technical and management course requirements.

CET Students' oral and written skills are developed primarily in three courses (9 hours): Communications 101 and English 101-105/107 are basic English writing and speech classes where students practice writing and presenting general topics with clarity and style. English 305T is designed specifically for technical writing and presentation. In addition, communications skills are enhanced in several CET major courses where term papers and in-class presentations are mandatory and carry significant weight in student's final grades.

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6.3.10 Industrial Experiences: Each program of study shall include appropriate industrial experiences such as industrial tours, work-study options/cooperative education, and/or senior seminars focusing on problem-solving activities related to industry. Industrial experiences shall be designed to provide an understanding of the industrial environment and what industry expects of students upon employment.

For supervised industrial experiences, ECT 490A **-** Z, ECT 351 Cooperative Experience is an elective course available for the students. For several courses periodic tours are scheduled in conjunction with class activities. Also, plant and facility tours are arranged by the various student professional organizations.

6.3.11 Competency Identification: Competencies shall be identified for each program of study, including all options, which are relevant to current employment opportunities available to graduates.

The educational objectives were developed based on several considerations including ATMAE requirements and mission statements of parent units. In the process we consulted intensively with our constituencies, with primary external source of input being the Industrial Advisory Board (IAB). The rationale for such this reliance is because of the start-up nature of the program, other external constituencies, such as alumni and employers, all have very limited numbers. Therefore we consider the IAB's feedback to be the most comprehensive and expedient for our cause.

We also recognize the importance of program continuity: the transition from a technology program to engineering technology should not occur overnight, and proven practices of program evaluation in the past that are in accordance with ATMAE guidelines should be retained.

The process of developing educational objectives started soon after the program decided to adopt the "engineering technology" name, and began to take shape after faculty representatives participated in the assessment workshops organized by University and external entities on program evaluation that helped clarify several key components of the procedure. The program faculty then developed a set of objectives in conjunction with key constituencies. These objectives were submitted to faculty for discussion and revision. In Fall 2009, the latest objectives were presented to the industrial advisory board for consultation and advice. With further modifications the faculty approved the final version of objectives.

6.3.12 Program Validation: Validation of program of study outcomes/student competencies shall be an on-going process and shall be accomplished through a combination of external experts, industrial advisory committee(s), and follow-up studies of program graduates. Documentation of this validation shall be provided in the Self-Study.

The process to evaluate and revise educational objectives and outcomes is illustrated in detail in Figure 1.1. The Figure shows the feedback loops that lead to continuous refinement of educational objectives and curriculum improvement. Data sources and the respective individuals or units in charge of each link are highlighted. The loop that involves educational objectives review and update is executed every six years, it assures periodic evaluation and redefinition (if necessary) of the current educational objectives and outcomes. The program outcomes and curriculum review loop is executed annually and focuses primarily on outcomes assessment and curricular improvements. The two cycles are linked together through program outcomes report.

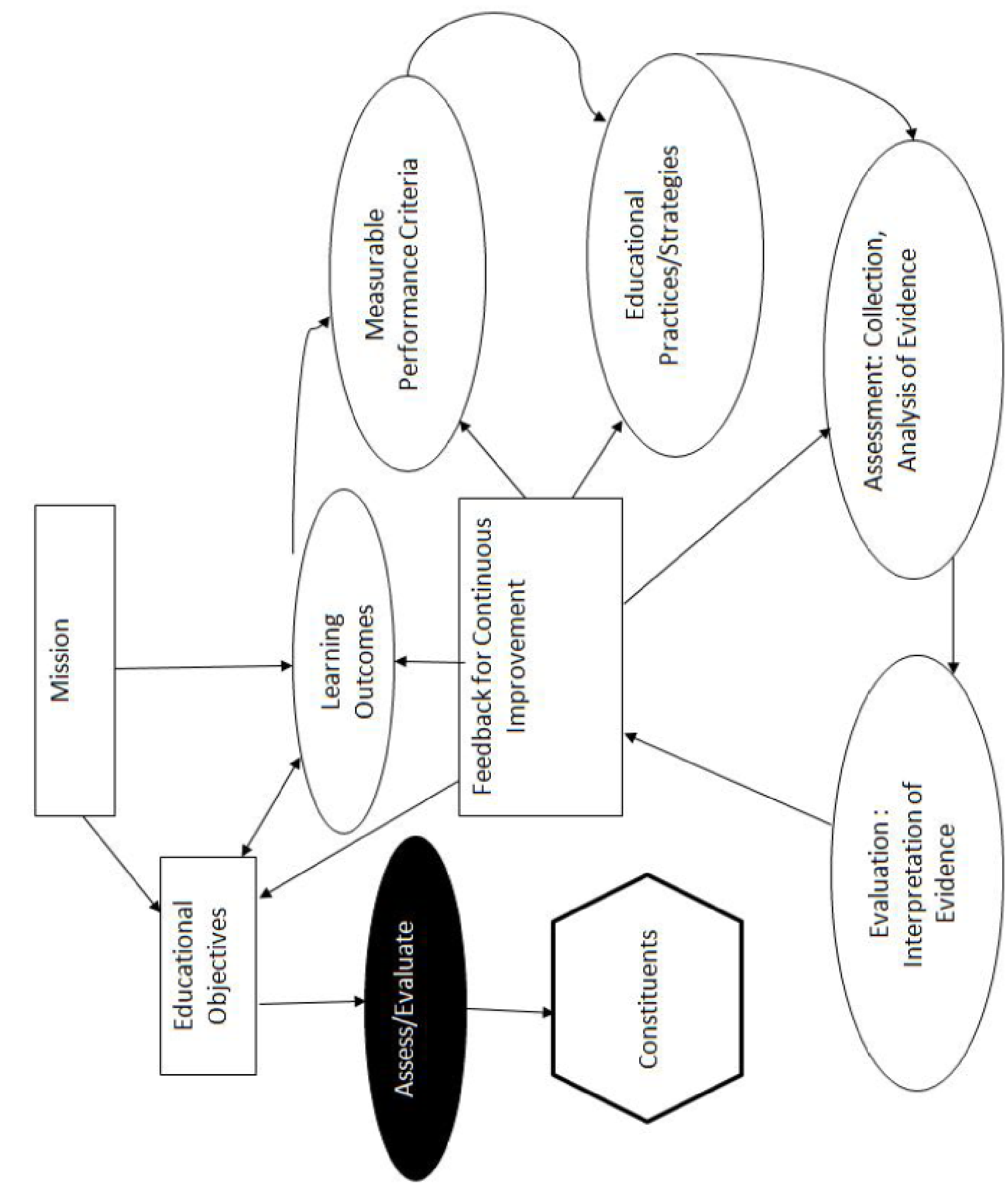

Figure 1: Program Evaluation Flowchart

6.3.13 Program Development, Revision, and Evaluation: Program of study development, revision, and evaluation shall involve currently enrolled students, faculty, program graduates, and representative employers.

The CET program identifies the following stakeholders to be the constituencies with respect to educational objectives and learning outcomes. Each group has special interests in these stated goals:

- Students of CET program. The students expect themselves to become a technically competent, professionally and socially responsible individual after earning a bachelor degree from the program.

- Alumni. The alumni expect a continued high quality educational program as their career and reputation is associated with the quality of their alma mater.
- Faculty. The faculty are expected to fulfill their educational responsibility in leading the students in the learning process, and by periodically evaluating, and adjusting if necessary, the educational pedagogy relative to the educational objectives.
- Industrial Advisory Board (IAB). This selective and highly involved group of individuals expects to see the program yield quality graduates that meet industry needs.
- Student employers. This group expects to hire fresh employees who are technically competent, productive, self-motivated learners, team members, and have excellent communication skills.

Assessing Educational Objectives The data to assess how effectively graduates have met these objectives come from a variety of sources. The program has in place the following instruments to continuously collect direct, measurable, and objective data on graduates' performance within the first few years after graduation: *a*) Survey of advisory board; *b*) Survey of alumni; *c*) Survey of Employers. Though differences exist in the content of the surveys to target different groups, all surveys have similar formats and share some common questions that are intended to poll the respondents to evaluate the educational objectives with respect to the industry demands for CET professionals. For returnees who raise concerns about certain aspects of educational objectives through survey results, we request them to provide elaborate textual comments on proper ways of improvements. To improve the response rate and expedite the turn-around time, all the surveys are also available online through ISU web site.

Two performance criteria, i.e., "Appropriateness", and "Degree of Preparedness", have been established to evaluate survey responses. Both criteria are assessed through a five-level rubric as shown in Table 2:

Performance Criteria	Rubric				
	1	2	3	4	5
Appropriateness	Very Inappropriate	Inappropriate	Neutral	Appropriate	Very Appropriate
Preparedness	Significantly under-prepared	Under-prepared	Neutral	Well-prepared	Very well-prepared

Table 2: Educational Objectives Performance Rubric

The three types of surveys carry equal weight in the overall index of appropriateness and fulfill ment, which is calculated by averaging the survey returns from the three categories. The index for Criterion "Appropriateness" takes inputs from all surveys, while Criterion "Degree of Preparedness" index replies only the feedback from alumni and employers. The program adopts three levels of overall index benchmarks. Table 3 lists these benchmarks, interpretations, and corresponding program actions pertinent to the educational objectives evaluating process.

6.3.14 Transfer Course Work: Institution and/or department policies shall be used to evaluate course work transferred from other institutions. All programs/options, including those with a significant amount of transfer course work, must meet the minimum credit hour foundation course requirements (Table 6.1) in each curriculum category.

Transfer students constitute a significant portion of our undergraduate population. Most of our transfers come from neighboring community colleges. The main factor contributing to this scenario is because the expansion of the two year junior college system in Indiana to offer more affordable higher education that has been a priority for State Legislatures and Higher Education Commission. This agenda has posed serious competition for enrollment at lower levels for our program. In the mean time the State is pressing for an increase in the rate that two year graduates continue to pursue four year bachelor degree. Therefore we consider this to be a great opportunity for future program growth, and with a strategically crafted transfer plan in place we expect transfers to remain strong in the coming years.

The Electronics Technology program in ECMET Department has established articulation agreement with sister programs at several colleges and regional universities that allow students to complete an associate degree and credit towards a bachelor degree at ISU. Each articulation agreement stipulates the ISU courses needed to complete the bachelor degree, and requirements or guidelines that govern the agreement. An associate degree holder from these institutions takes the so called “block transfer”, meaning courses with acceptable grade would directly substitute ISU equivalents without repeated scrutiny. These agreements help pre-establish course equivalency and ease the transition to ISU. They are also reviewed and revised if necessary every two years to assure the courses are well aligned on both ends.

Benchmark Level	Criterion	Interpretation	Actions
Level A	Overall performance index ≥ 4 AND no individual survey category returns average ≤ 3	The specific objective meets constituents' and industrial need	The program continues to implement the elements in the curriculum that correlate with this objective
Level B	Overall performance index ≥ 3.5 AND no individual survey category returns average ≤ 3	The constituents generally approve the significance, and/or are satisfied with graduates' readiness of the specific objective	Adjustments in curriculum or teaching pedagogy are needed.
Level C	Overall performance index ≤ 3.5 OR individual survey category returns average ≤ 3	Constituents have serious concerns about the appropriateness, and/or readiness of our graduates in meeting the objective	The objective needs to be re-developed, or curriculum needs a significant overhaul to address the issue

Table 3: Educational Objectives Assessment Benchmarks, Interpretations, and Program Actions

Currently CET program has no articulation in place mainly due to the fact no associate degree programs is available for computer engineering technology or Computer Engineering Technology at neighboring institutions. However after seriously contemplating the status quo, the faculty have reached consensus that it is the direction that program needs to pursue to secure quality transfer students and seamless transferability. We believe the successful operation of ET articulation has created a congenial working relationship with partner programs, and such relation will certainly help in the creation and execution of CET transfer agreements. In the mean time CET can learn from the practice of two other programs in the department, MET and ACET, who have reminiscent situations for not having counterpart programs with articulated partners but manage to balance transfer requirements and degree programs.

Currently all CET transfer evaluations utilize course--by-course approach.

- Transfer students first apply to and are admitted to the University through the regular admissions process. Their record will be evaluated first by Transfer Central, the on-campus office that provides a centralized process primarily for nontechnical credits. If there are any questions regarding the suitability of a substitution or transfer course, the program will be consulted to provide input.

- The program will be responsible for reviewing the CET subjects to determine whether they have rigor and coverage equivalent to ones in our curriculum. The decisions are made based on the syllabus, course description, and other supplemental material presented by students. If a course is not found to be suitable for substitution, a transfer equivalency may not be granted. A course that is qualified to be university level work in the technical subjects but cannot be substituted into the curriculum can be counted towards the general semester hour requirement or electives.

A maximum of 94 hours of transfer credit may be assigned toward a bachelor's degree, however in all cases, the final 45 credits of the degree program must be earned while in residence. In August 2005 the department unanimously passed a motion to require all transfer students to complete a minimum 15 credits of major courses while enrolled at ISU.

We recognize transfer credits may originate from different sources. To maintain the curriculum integrity, the program does not "grandfather" credits accepted by other institutions and reserves the right to evaluate according to CET requirements.

6.3.15 Upper Division Course Work: Students shall successfully complete a minimum of 15 semester hours of junior or senior level major courses at the institution seeking program accreditation.

The admissions policy of Indiana State University allows a student to transfer a maximum of 94 semester-hours towards a Baccalaureate degree. Of this, no more than 64 semester-hours may have been earned at a two-year institution. Departmental policy requires that a transfer student must complete at least 15 hours of major courses at ISU.

Computer Engineering Technology majors must complete 27 hours of technical coursework at the 300-400 levels. These students must also complete 9 hours of 300-400 level coursework for general education requirements (see Table 6.1). See Undergraduate Catalog 2009-2010 for University policy on residency and upper-division level course work requirements.

6.3.16 Program Publicity - Adequate and Accurate Public Disclosure: Institutions shall broadly and accurately publicize, particularly to prospective students: (a) Industrial Technology program goals and objectives, (b) preadmission testing, evaluation requirements, and standards, (c) assessment measures used to advance students through the program(s), and (d) fees and other charges.

Potential students who are seeking information about the Bachelor of Science Degree in Computer Engineering Technology receive information from the Admissions Office at Indiana State University. The 2009-2010 *Undergraduate Catalog* and other descriptive materials that the Admissions Office provide to potential applicants, include information about: 1) the program goals and objectives; 2) pre-admission testing or evaluation requirements and standards; 3) assessment measures used to advance students through the program; 4) fees and other charges.

Further, a support unit on campus, the Publications Office, provides brochures for the Computer Engineering Technology program. The current edition of these brochures (Figure 2 and Figure 3) reflects the recent changes in curriculum.

Departmental contact, degrees offered, descriptive information, and references to other links are available at our university website www.indstate.edu/ecmet.
A support unit in the College of Technology, the Office of Technology Student Services, also provides information and disclosure to prospective students via recruitment activities such as College Tech Prep Days, Hands-on High Tech, and Tech T.R.E.K.

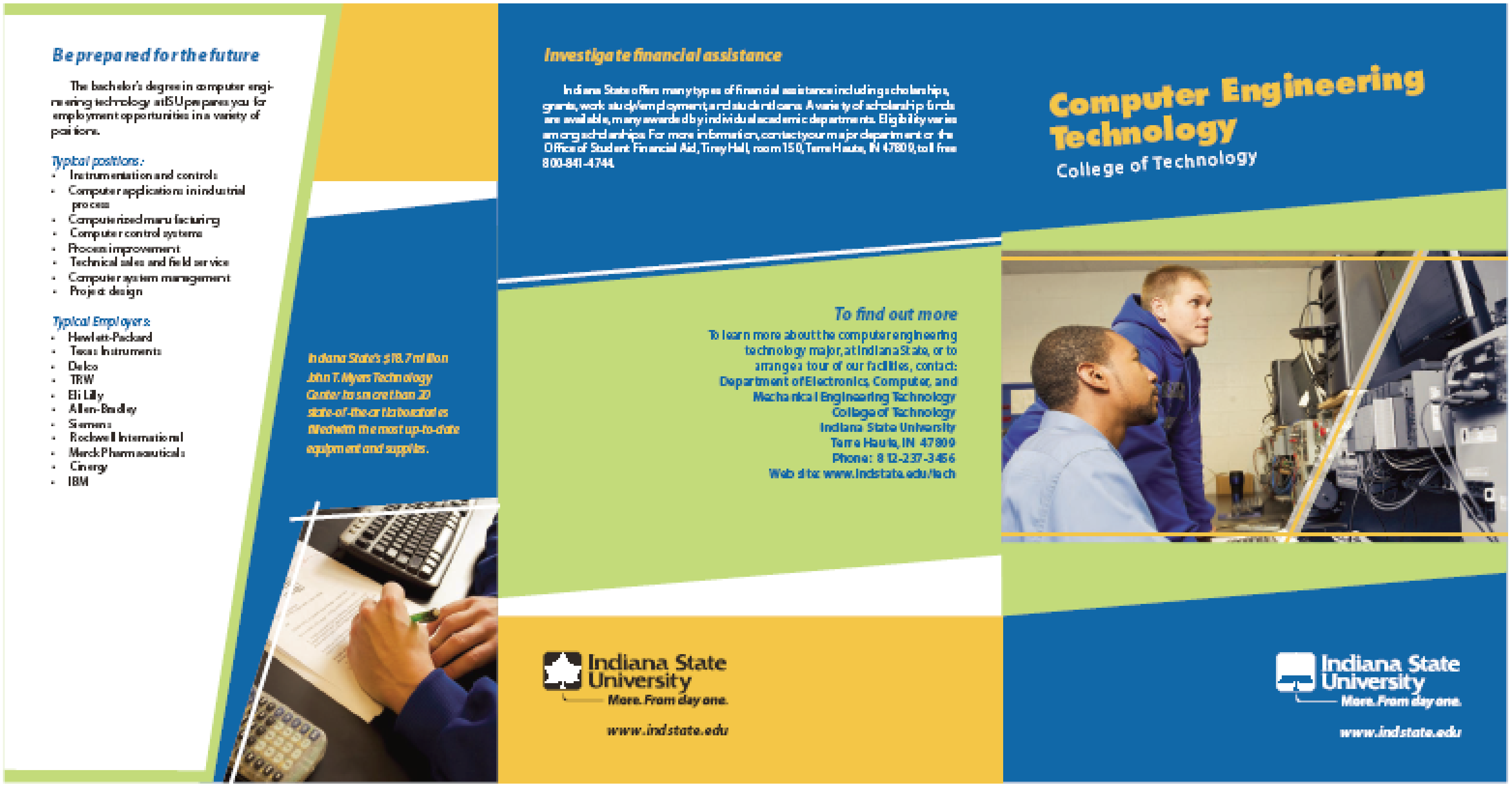

Figure 2: CET Brochure Page 1

Computers have revolutionized society over the past 50 years and all indications are that their importance and influence on society will continue into the future. As a result of this trend, it is clear the future lies with those who can invent, develop, and operate computers. Indiana State University's Computer Engineering Technology Program prepares you with the knowledge, skills, and experiences to be a leader in this ever expanding career field. Course work in the program is presented in a logical sequence of study beginning with the basics of computers and progressing to highly technical principles and includes development of managerial skills.

The program is part of Indiana State's College of Technology, a national leader in providing a quality education in a broad range of technologies. The college offers specialized and well-equipped laboratories for study, and its faculty are current on trends in the various technology areas, making these programs some of the most advanced and informative in the country.

Programs in computer engineering technology

Combining classroom, laboratory, and hands-on learning experiences, the 71 credit hour major on computer engineering technology prepares you as a competent specialist who also has the social and leadership skills needed for professional careers in a variety of fields. The major emphasizes study in computer interfacing circuits, microprocessor architecture, data communications, and computer networking. Among your specific course work are a selected 51 credits of study in the major area including:

- Digital logic and digital circuits
- Microprocessor architecture and organization
- Peripheral control structures
- Data communications technology
- Robotics controls
- Production planning
- Industrial organization
- Industrial supervision

Degrees

- Bachelor of science in computer engineering technology
- Computer engineering technology minor

What makes us different?

Your classroom and laboratory study is enhanced by your opportunities to gain hands-on experiences through internships with businesses and industries outside the University. Approximately 85 percent of students who complete internships find full-time jobs with these companies after graduation.

ISU's computer engineering technology major is taught by full-time faculty with practical knowledge of the field and a strong interest in continued research. Students frequently have opportunities to work with faculty on research projects conducted on the program's modern equipment.

Enrich your experience through student involvement

Professional organizations such as the Association of Technology, Management, and Applied Engineering; the International Society of Automation; and the Society of Manufacturing Engineers sponsor active student chapters on campus. You are encouraged to also explore other associations and societies such as the Institute of Electronics and Electrical Engineers and the Association for Computing Machinery for career advice pertinent to your major and career objectives. Epsilon Pi Tau, a national honorary organization, recognizes scholarship and leadership among students in the computer engineering technology field.

The College of Technology's involvement with industry, government, and business, together with faculty and student participation in "real world" projects, provides students with educational experiences designed to expand their career opportunities.

Figure 3: CET Brochure Page 2

6.3.17 Legal Authorization: Only institutions legally authorized under applicable state law to provide degree program beyond the secondary level, and that are recognized by the appropriate national or regional accrediting agency, are considered for ATMAE accreditation.

Indiana State University and the Indiana Commission have approved the Bachelor of Science Degree in Computer Engineering Technology for Higher Education. Accordingly, it receives endorsement from both the University and the State.

Specific reference to legal authorization is addressed on the 2009-2010 Undergraduate Catalog.

6.4 Instruction

6.4.1 Course Syllabi: Course syllabi must be presented which clearly describe course objectives, content, references utilized, student activities, and evaluation criteria. Representative examples of student's graded work shall be available for coursework.

For each course, professors are required to provide study guides or syllabi that clearly describe appropriate course objectives, content, references utilized, student activities, and evaluation criteria. For accreditation review, these study guides or syllabi are included within the appropriate Computer Engineering Technology Course Notebooks in the centrally located files for this department. These Course Notebooks that are a part of the require program include ECT 168, 231, 232, 281, 301, 301, 303, 306, 308, 401, 401, and 406. For accreditation review, examples of student work and other examples related to each class have been included in the Course Notebooks.

The University also provides a guideline for Faculty that helps prepare adequate course documentation. The University offers new faculty orientation and course preparation seminars.

6.4.2 Reference Materials: Appropriate reference materials such as periodicals, audio-visual materials, websites, and computer application software (when appropriate) shall be utilized for each course or series of courses to supplement textbooks or course packs.

Appropriate reference books, library periodicals, and computer application software are available for each course. Listed reference books, and computer search services are in the University's main library. A technical library is also housed in the Department's Conference Room. Various technical periodicals are received by faculty and later placed in a distribution area for student use.

The University Library houses technical-related books, periodicals, etc. This material is available to the student. Faculty are encouraged to utilize this material in their classes to supplement required course texts.

The World Wide Web has become a major source for acquiring technical publications and data references for materials used in CET courses. CET instructors (see course syllabi) make appropriate use of these materials in their respective courses.

The ECMET Department currently utilizes MultiSim – a software package that allows students to develop and simulate circuits. The Department provides this software free to its students. The Department uses Cross Assemblers, Cross Compilers, and C for courses that include ECT 168, 303, and 308. The Department uses Xilinx for FPGA work in ECT 403. The Department uses Visual Studio, specifically Visual C and Visual Basic in ECT 168, 303, 306, 308, and 406. The Department has placed various reference material and software on the computers used in each classroom based on the needs of the courses typically assigned to those classrooms. Also, room such as TC 306 and TC 307 include physical manuals necessary for those courses. Included in the COT Technologist office are technical manuals related to various ECT classes.

6.4.3 Program Balance: Appropriate laboratory activity shall be included in the program(s) and a reasonable balance must be maintained in course work between the practical application of how and the theoretical/conceptual emphasis of why.

The courses are lecture/laboratory in nature; for these, approximately 50% of the class time is devoted to laboratory experience. For the Computer Engineering Technology program ECT 168, ECT 231, ECT 232, ECT 281, ECT 301, ECT 303, ECT 306, ECT 308, ECT 401, ECT 403, and ECT 406 are primarily laboratory based computer engineering technology courses. Each of these courses has a lecture/theory component and then follows this material with laboratory-based exercises to complement the lecture/theory. Examples of lecture and laboratory material have been included in the Course Notebooks. The courses at 300-400 are higher-level applications courses involving architecture, language, data communications, Internet technology, information technology, and computer systems applications.

The University Undergraduate Catalog references each program offered by the various departments. The ECMET department notes in this Catalog all courses and which courses include a laboratory component.

6.4.4 Problem-solving Activities: Emphasis in instruction shall be focused on problem-solving activities which reflect contemporary industrial situations.

The baccalaureate of Computer Engineering Technology curriculum begins with cognitive assimilation activity. At the 100-200 levels the CET courses emphasize fundamental concepts related to both electronics and computer engineering technology. Students receive lecture on theory followed by application in the laboratory. As students acquire more knowledge, they are introduced to problem-solving processes that relate to fundamental digital logic and digital circuit design (ECT 231 & ECT 232), programming (ECT 168 & CS 256), microcomputer/microcontroller applications (ECT 303 & ECT 308), database concepts (ECT 306), data communications and Internet technologies (ECT 301 and ECT 401), synthesis of previous material and analysis of new occurs in ECT 403 and ECT 406. ECT 401 also requires the student to be involved in a dedicated semester based project. As stated, 400-level courses require students to synthesize and evaluate component, circuit, or system applications as they relate to business or industry computer-based applications (see Course Notebooks).

Each course has assigned homework, in-class problem solving activities (both individual and group-based), and laboratory exercises that require students to apply fundamental, theory, and applied concepts. Examples of this type of work have been placed in the Course Notebooks.

As part of the ECT Industrial Advisory Board (IAB) meetings, there is a regular session on curricula. During this session faculty and IAB members discuss the content of the curricula in regards to what IAB members perceive as a necessary part of the curricula in order to meet the demands of industry. The minutes of the IAB meeting are available in the Department.

As a cited example, in ECT 303 students learn the concepts related to creating programs that control the functions of a dedicated microcontroller; this is followed by assigned laboratory exercises that have the student write programs on a PC then download the appropriate files to the memory of the targeted microcontroller, run the program, and demonstrate to the instructor that the program and hardware function properly and perform the required tasks.

6.4.5 Supervision of Instruction: Appropriate supervision of instruction shall be evident throughout the program.

The College of Technology's <u>Promotion, Tenure, & Evaluation Policy</u> (See COT Appendix) provides the teaching standards expected for all ranks of faculty. The policy also includes the procedures in the evaluation methods and documentation of teaching effectiveness required for promotion and tenure. Faculty are evaluated by their peers, and by the department chairperson to these established teaching standards.

Each faculty member's class is evaluated by students using the Student Instructional Report (SIR), see Appendix C, standardized instrument at the end of each semester. The SIR is the most widely used course/instructor evaluation instrument in the University. Faculty SIR results are distributed to the Faculty and placed in the Department Personnel File.

Each faculty member that is progressing through the tenure process is evaluated by his/her peers and the Chairperson for the Department during each academic year. This is accomplished by utilizing the Peer Evaluation Instrument (PEI), Appendix D, and Chairperson Evaluation Instrument (CEI), Appendix E. Faculty utilize the Chairperson and Peer Evaluation Instruments as they advance in the tenure and promotion stages.

6.4.6 Scheduling of Instruction: The organization and scheduling of instruction shall allow adequate time for completion of appropriate homework assignments and laboratory problem-solving activities.

The College of Technology's <u>Promotion, Tenure, & Evaluation Policy</u> provides a listing of the basic expectations of all faculty members. Item 2.1 of this listing requires that faculty members shall "exercise care in the planning and supervision of academic work so that an honest effort by students will be encouraged." Also see Course Notebooks with syllabi for a further description of how faculty distributes time for lecture, homework and laboratory assignments.

ECT courses are scheduled based on a Typical 4 Year Plan (Appendix A) adopted by the Faculty. This plan established the pattern of Spring or Fall offerings based on allowing a student to complete the program in four years.

ECT lecture-only courses are scheduled for 3 class hours per week during the semester. A laboratory course includes additional hours. A laboratory course is often scheduled for 6 hours per week during the semester. The number of hours per week per class is accepted policy by the University and the Department.

The Chairperson of the Department is responsible (by University Handbook) for the scheduling of classes. The Chairperson typically schedules classes based on consultation with Faculty and according to the Typical 4 Year Plan (Appendix A) of each program of study in the Department.

At the course level, instructor syllabi typically include topic or content outlines. These outlines help the instructor plan his/her semester and how he/she will manage instruction over the semester. Because laboratory class assignments/projects may vary in length due to the nature of the course and students, these types of classes often require that the instructor be able to modify his/her outline in order to complete the requirements for the course. The Department has discussed these issues and decided that it is incumbent on the instructor to maintain the course in which he/she deems an appropriate manner.

6.5 Faculty

CET faculty shares diversity in background, race, and ethnicity. The regular fulltime workload includes teaching, scholarly activities, and services. Faculty members have terminal degree in computer engineering or closely related areas. The teaching of the faculty as a whole is well received by our students as evidenced by the students' evaluations each semester.

6.5.1 Full time faculty: Each major program and program option shall have an adequate number of appropriately qualified full-time faculty. Program faculty qualifications shall include emphasis upon extent, recency, and pertinence of: (a) academic preparation, (b) industrial professional experience (such as technical supervision or management), (c) applied industrial experience (such as technical applications), (d) membership and participation in appropriate Industrial Technology professional organizations, and (e) scholarly activities.

There are three (3) fulltime faculty members (tenured or tenure-track) directly associated with CET program, and five (5) fulltime ECMET faculty teaching technical core or elective courses. The three CET faculty members include one full professor and two assistant professors. The department has a tradition of hiring adjunct faculty members but due to the budget constraints has decided to cut back on these appointments. Dr. Yuetong Lin is the coordinator who takes charge of representing the program to external entities. All faculty members share the responsibility of teaching, advising and service pertinent to the program. The faculty is also the main body to define, revise, implement and achieve program objectives.

6.5.2 Minimum Faculty Qualifications: The minimum academic qualifications for a tenure track faculty member (except in unusual circumstances which must be individually justified) shall be a bachelor's and master's degree in a discipline closely related to the faculty member's instructional assignments.

The current number of fulltime faculty is sufficient to accommodate teaching, student-faculty interaction, service activities, professional development, and communications with industrial partners. Table 5 shows the rank and educational background of CET program faculty, where full C. V's are included.

Name	Rank	Type of Academic Appointment TT[b], T[c], NTT[d]	FT[a] or PT[b]	Degrees	Institution from which Degrees Earned & Year	Years of Experience			Professional Registration/ Certification	Level of Activity (high, med, low, none) in:		
						Govt./ Industry Practice	Teaching	This Institution		Professional Society	Professional Development	Work in Industry
Bill Croft	Professor	T	FT	Ph.D	Indiana University, 1997	6	27	27		med	med	low
Yuetong Lin	Assistant Professor	TT	FT	Ph.D	University of Arizona, 2005	1	6	4		high	med	low
Xiaolong Li	Assistant Professor	TT	FT	Ph.D	University of Cincinnati, 2006		3	2		med	med	low

[a] FT=Full-Time
[b] TT=Tenure-Track
[c] T=Tenured
[d] NTT=Non Tenure-Track
[e] PT=Part-Time

Table 5: Faculty Analysis

6.5.3 Academic preparation of Faculty: A minimum of fifty percent of the regular full-time faculty members assigned to teach in the major program(s) shall have an earned doctorate (exceptions to this standard will be granted only for unique programs such as Marine Transportation). If more than one major program exists at an institution, this standard will apply to all regular full-time faculty assigned to teach major programs in Industrial Technology at the institution. The Board may grant exceptions to this standard if the institution has a program in place that will bring the institution into compliance within a reasonable time.

All CET Faculty have doctoral degrees. The supporting members from the Electronics Technology Faculty also hold doctoral degrees.

6.5.4. Selection and Appointment Policies: Policies and procedures utilized in the selection and appointment of regular faculty shall be clearly specified and shall be conducive to the maintenance of high quality instruction.

College of Technology's Promotion, Tenure, & Evaluation Policy provides a listing of the minimal levels of academic preparation and field experience required to receive appointment at each level of the professorate.

6.5.5 Tenure and Reappointment Policies: Faculty tenure and reappointment policies and procedures shall be comparable to other professional program areas in the institution. Requirements in the areas of teaching, service, and scholarly activity shall be clearly specified for faculty in Industrial Technology.

College of Technology's Promotion, Tenure, & Evaluation Policy provides a listing of the minimal requirements in the areas of teaching, scholarship, and service necessary to receive tenure and promotion at each level of the professorate.

6.5.6 Faculty Loads: Faculty teaching, advising, and service loads shall be comparable to the faculty in other professional program areas at the institution. Consideration shall be given in faculty teaching load assignments to high contact hours resulting from laboratory teaching assignments.

The teaching assignments are designed to accommodate individual interests and skills, while maintaining accountability and a reasonable level of balance. This flexibility in the teaching load distribution is possible because our faculty can teach comfortably several of the courses in our curriculum. Besides teaching major courses, some CET faculty are also assigned to teach basic electronics and graduate level courses. Table 6 shows workload summary for CET faculty.

Faculty Member (name)	FT or PT	Classes Taught (Course No./Credit Hrs.) Term and Year	Total Activity Distribution		
			Teaching	Consulting	Other
Dr. Bill Croft	FT	ECT 351 Fall 08 3 hrs ECT 435 Fall 08 3hrs ECT 490 Fall 08 3hrs ECT 603 A& B Fall 08 2hrs ECT 324 SP 09 3hrs ECT 351 Spring 09 3hrs ECT 490 Spring 09 3hrs ECT 603 Spring 09 3hrs ECT 631(web) Spring 09 3hrs	60	20	20
Dr. Yuetong Lin	FT	ECT 130 Fall 08 2hrs ECT 165 Fall 08 3hrs ECT 542 Fall 08 3hrs ECT 167 Spring 09 3hrs ECT 421(web) Spring 09 3hrs ECT 642 Spring 09 3hrs	60	20	20
Dr. Xiaolong Li	FT	ECT 231 Fall 08 3hrs ECT 325 Fall 08 3hrs ECT 160 Fall 08 3hrs ECT 160(001 & 002) Spring 09 6hrs ECT 168 Spring 08 3hrs ECT 490 Spring 09 3hrs	60	30	10

Table 6: Faculty Workload Summary

Four courses per semester are considered as the full load. Table 7 demonstrates the average load for program faculty. However the load can be reduced if insufficient enrollment numbers are presented. In addition, faculty with research agenda can also have teaching load reduced with the consensus from department faculty and administration.

	Range	Average
Semester Hours	9 - 15	12
Contact Hours Per Week	4 - 6	5
Laboratory Size	10 - 24	10
Class Size	8 - 25	10
Advisees	15 - 40	10

Table 7: Faculty Workload Average

6.6 Students

The ECMET Department has been offering undergraduate degrees since 1978. Though having experienced several cycles of growing and merging, the faculty have always championed the core value of excellence in producing high quality graduates.

There were thirty-two students in the CET program by the end of Fall 2009 semester, with ethnic minorities constituting about 1/4 of the student population. From Fall 2008 to Summer 2009, twenty-six new students, transfers or freshmen, have been admitted. Ten students, have enrolled in Fall 2009. Our students comprise primarily of residents of Indiana, Illinois, and Kentucky. Many other states and several foreign countries are also represented. Most of students are full time students of a traditional age (18 to 23).

6.6.1 Admission and Retention Standards: Admission and retention standards shall be used to ensure that students enrolled are of high quality. These standards shall compare favorably with the institutional standards. Sources of information may include admission test scores, secondary school rankings, grade point averages, course syllabi, course examinations, written assignments, and oral presentations.

The Admissions Office handles admittance to ISU at the undergraduate level. The program has no involvement with this process. A CET freshman has the same eligibility requirements as freshmen in other majors. Table 8 shows the admission statistics for the first group of CET freshmen.

Academic	Composite ACT		Composite SAT		Percentile Rank in High School		Number of New Students Enrolled
Year	MIN.	AVG.	MIN.	AVG.	MIN.	AVG.	
2008	N/A	N/A	940	1037	51	59.3	4

Table 8: History of Admissions Standards for Past Five Years (BS in CET)

6.6.2 Scholastic Success of Students: Students in Industrial Technology shall have scholastic success comparable to those in other curricula in the institution. Grading practices in Industrial Technology courses shall be comparable to other departments and/or programs in the institution. Evidence shall be presented to indicate the scholastic achievement level of Industrial Technology students in both basic studies and major course work.

N/A.

6.6.3 Placement of Graduates: The initial placement, job titles, job descriptions, and salaries of graduates shall be consistent with the program(s) goals and objectives. The advancement of graduates within organizations shall be tracked to ensure advancement to positions of increasing responsibility. Industry's reaction to graduates as employees must be favorable. Follow-up studies of graduates shall be conducted every two to five years. Summary statistics relating to follow-up studies of graduates shall be made available to prospective students. These statistics shall include placement rates as well as salary levels of program graduates.

Table 9 shows the information of the first group of CET graduates.

Numerical Identifier	Year Matriculated	Year Graduated	Certification/ Licensure (If Applicable)	Initial or Current Employment/ Job Title/ Other Placement
1	Fall 2005	05/01/2009		
2	Fall 2005	05/01/2009		
3	Fall 2004	05/01/2009		
4	Fall 2004	05/01/2009		
5[a]	Fall 2006	05/01/2009		

[a] transfer student
(For Past Five Years or last 25 graduates, whichever is smaller)

Table 9: Program Graduates

6.6.4 Graduate Studies: If an objective of the program(s) is to prepare students for graduate studies, then the success of Industrial Technology graduates in graduate programs shall be tracked and confirmed.

N/A.

6.6.5 Student Evaluation of Program(s): Evaluations of the Industrial Technology program(s) shall be made by its graduates on a regular basis (two to five years). Their reactions and recommendations shall be considered in program revisions.

The COT carries out evaluation of the CET program. The COT conducts a mail survey of alumni. This survey includes a form mailed to alumni. Pertinent statements prepared by CET Faculty are asked of each alumnus. Surveys are returned to the COT and results are tabulated by the University, then distributed to the Department. The following page illustrates our alumni survey for the CET program.

Computer Engineering Technology

Directions: The following items have been identified as competencies needed for successful functioning by professionals in Computer Engineering Technology. Please read each statement carefully and numerically rate its importance using the validity or confidence scale shown below.

When marking your response, identify the corresponding question by filling in the appropriate circles in the computer scanner column. Please use only soft lead (No. 1 or 2) pencil.

Validity / Confidence Scale

A	**Great Importance – Essential that competency be acquired during the college program**
B	**Considerable Importance – Not essential but of greater value to acquire during a college program**
C	**Moderate Importance – Desirable to acquire if time permits**
D	**Little Importance – Nice to know but of little value**
E	**No Importance – Competency not needed**

1 Demonstrate the ability to apply methods of circuit analysis to analyze electrical circuits

2 Demonstrate the ability to apply principles of design/analysis using circuit simulation software

3 Demonstrate the ability to develop structured programs to solve technical problems

4 Demonstrate the ability to design and analyze digital logic circuits

5 Demonstrate the ability to utilize the principles of automation in industrial applications

6 Demonstrate the ability to configure and troubleshoot computer networks

7 Demonstrate the understanding of fundamental data communication architectures and protocols

8 Demonstrate the understanding of microprocessor / microcontroller architecture, organization and peripheral control structures

9 Demonstrate the ability to design and develop a microprocessor/microcontroller-based system

10 Demonstrate the understanding of programmable logic devices circuit

11 Demonstrate the ability to design and develop digital logic circuit using hardware description language (HDL)

12 Demonstrate the understanding of database applications related to technical data management

13 Demonstrate the understanding of computer-based systems integration

14 Demonstrate knowledge of organizational principles of industry

15 Demonstrate the ability to identify and apply principles of industrial supervision

16 Demonstrate the ability to function on multi-disciplinary teams

17 Demonstrate the understanding of professional and ethical responsibility

18 Demonstrate the ability to communicate effectively in both written and oral form

19 Demonstrate the recognition of the need for, and an ability to engage in life-long learning

6.6.6 Student Enrollment: Enrollment shall be adequate in each program area to operate the program(s) efficiently and effectively. The level of available resources shall be considered as a constraint on the maximum number of qualified students to be admitted to the program(s). Enrollment shall be tracked, and factors affecting enrollment patterns shall be identified and analyzed. Enrollment projections shall be made which relate closely to short and long-range goals and resource needs.

Enrollments in the computer engineering technology program (previously Computer Hardware Technology) have been relatively stable. We hope to grow the program to a level of 50 students within the next few years, and are working towards that goal through recruiting and advertisement. Table 10 lists the enrollment data. Since the CET program was officially launched in 2008, one year of data is available.

	Year 2007-08 (Current2)	Year 2008-09 (Current1)
Fulltime Students		27
Part-time Students		0
Student FTE[ab]		27
Graduates		5

[a] FTE=Full-Time Equivalent
[b] We don't have exact information of how many courses the part-time students were enrolled in. We have assumed on average to be 2 courses, i.e. 0.5 FTE. This is how we have computed student FTE.

Table 10: Enrollment Trends for Past Five Academic Years (BS in CET)

6.6.7 Advisory and Counseling Services: Adequate and timely advising and counseling services shall be available for students.

Advising Academic advising is an integral part of the educational process. The primary purpose of advising is to assist students in the development of meaningful educational plans compatible with the attainment of their life goals.

Advisor and Student Role CET faculty foster a good working relationship with students, and adapt to their experiences and changing needs to assure the effectiveness of advising. By having faculty members serving in university and college level academic affairs committees, the program is able to enhance understanding, affirming, and respecting the individual differences within the University community to assure quality advising. The department and program expect advisors to develop the knowledge, experience, and interest for successfully communicating with students in a genuine, sincere, accurate, and confidential manner. Students are expected to understand University and program requirements and accept the responsibility for fulfilling them. Together advisors and students are expected to maintain a professional and mutually respectful relationship as they review students' progress toward the attainment of educational objectives.

Academic advising is an interactive process in which both students and advisors share the responsibility. The advisor serves as a facilitator of communication, as a source of accurate information, as a coordinator of academic planning, as an assistant in helping students to solve academically related problems, and as an agent of referral to other professionals and campus resources.

Advising Units Advising in CET program starts from the freshman year and will continue through the senior year. Students have a variety of advising resources provided by units at the college and department level. As a student progresses through the academic program, each advising unit will play a different role, depending on the status and concern of the student. Key advisement personnel include:

1. Associate Dean's office. The Associate Dean is the chief administrator in the College for undergraduate academics. This office oversees all advising and curriculum issues. There are several support staff in this office that help students on advising, scheduling and registration:

• The central academic advisor is currently the academic advisor for CET majors. This position was created after the college reorganization in Fall 2006 with the goal of having a centralized advising contact. They handle the advising requests on a daily basis.

• The central records coordinator. This role is to assist the Associate Dean in organizing and coordinating New Students Orientation program assist students' registration, process transfer request, provide information on General Education requirements, and review degree requirements at the time of graduation.

These staff members establish student contact during the orientation process (See below, 6.6.6). In the hierarchy of advising team they are thefirst lin e of response. Meetings with dean's staff are generally on an "as needed" basis, usually upon student's request. Having a single point of contact provides a convenient and consistent base for students to seek help on issues such as transfer credits, general education, course substitutions, etc.

As the student progresses through his/her program of study, individual advisement is increasingly provided by CET faculty advisor.

2. Academic advisor. When a student enrolls as a CET major, he/she is assigned an academic advisor who is a fulltime member of the faculty. The student will retain this advisor as long as he/she feels advising has been productive, thereby enabling the development of a closer, more interactive relationship between the two parties. Students may request a change in their assigned advisor at any time by contacting the department chair or program coordinator. The role of the faculty advisor is to provide general guidance regarding CET curriculum and career paths. Each faculty advisor has a crucial role in monitoring and advising students and in catching academic problems before they become serious.

General Advising Policy It is mandatory for students to arrange advisement meeting with their advisor at least once per semester to review progress and discuss plans and courses for subsequent semesters. The advisor will evaluate up-to-date DARS and grades from the previous semester to see if there exists a need to adjust the schedule. The meeting is to take place prior to registering for each semester. All students are required to obtain advisor approval on the signed scheduling form before they can register online for courses. The approval is also indispensable when students decide to add or drop courses from their schedule.

Besides advisement meetings, advisors routinely monitor each student's progress towards the degree and work carefully to identify any deficiencies, and communicate the concerns to student through emails and, meetings if necessary. In the mean time, the student may also request more frequent meetings depending on his/her needs.

In addition to academic advising, advisors also offer counsel with the help from appropriate authority on campus to students who are experiencing emotional, personal or family troubles. For students with documented physical and learning disabilities, advisors will help accommodate their special needs following university guidelines.

New Students Orientation Program Fall and spring semester freshman are required to attend the Sycamore Advantage registration program held in June and early January of each year. Any freshman that fails to attend this program will not be allowed to register for classes before attending the "Knowing Sycamores" Orientation program and completing a consultation with Student Financial Aid.

During this orientation program the freshmen will have the first experience of academic advising. Not only will they meet with the entire College level advising team including the Associate Dean and support staff, participating CET faculty member will have one-on-one session with the students to introduce important advising tools such as the university catalog, program guide sheet, and online DARS report. Advisors also review student's first semester schedule: these courses are preregistered based on their ACT/SAT score and placement results. Additionally students learn to search, add or drop courses online.

Advising Tools The main advising tools are CET the curriculum guide sheet and exemplary four-year plan.

- The guide sheet is a one page curriculum form that itemizes all the courses required to obtain a degree in CET. For the student's program of study, this is a one page form that many students find to be the most useful means for tracking progress toward degree completion, CET Program Curriculum (Figure 4)). Student can carry a copy of the guide sheet as a checklist to monitor academic progress.

- The CET Four Year Plan (Figure 5) arranges the curriculum in a suggested semester-by-semester track. This document also shows students when classes are offered (fall, spring, or both).

- Degree Audit Report System (DARS) is the most complete curriculum tracker available to students through their ISU "isuportal" access. It is especially convenient for transfers and students who switch majors. Students will have repeated exposure to DARS and are expected to understand the contents and all legends.

Advisor Personal Identification Number (PIN) - For students who have not completed a minimum 63 credits, an advisement PIN is to be assigned after the student's advisor has signed a complete scheduling form. The department secretary and associate dean's staff has access to this PIN for student inquiry. Students must have the PIN to be able to register.

Student Record - The department maintains student's record in separate folder. The content includes the courses in which the student is currently enrolled, which courses have been taken, along with student's grades and notes regarding advice to the student. Figure 6, Graduation Checklist, is the checklist for graduation kept by associate dean's office.

D 731 1/08

COMPUTER ENGINEERING TECHNOLOGY MAJOR

(BACHELOR OF SCIENCE DEGREE)

INDIANA STATE UNIVERSITY
COLLEGE OF TECHNOLOGY
TERRE HAUTE, IN 47809

Student's Name

Advisor's Name

CONTACT: Department of Electronics, Computer, and Mechanical Engineering Technology - (812) 237-3456
Interim Chair: Dr. Ming Zhou http://www.indstate.edu/ect/

TECHNOLOGY REQUIRED COURSES Sem. Grade

Required: 39 Semester Hours

ECT 165 (3) D. C. Circuits and Design
ECT 167 (3) A. C. Circuits and Design
ECT 168 (3) Comp. Design Technology
ECT 231 (3) Digital Computer Logic
ECT 232 (3) Digital Computer Circuits
ECT 281 (3) Robotics Controls
ECT 301 (3) Comp. Network Mgt. Tech.
ECT 303 (3) Microcontroller Hdw. & Soft.
ECT 306 (3) Tech. Data Mgt. and App.
ECT 308 (3) Micro. App. & Interfacing
ECT 401 (3) Data Comm. & Internet Tech.
ECT 403 (3) Prac. Digtal Logic Design
ECT 406 (3) Comp. Systems Integration

Required: 12 Semester Hours

ECT 130 (2) Intro. To Elec. & Comp. Tech.
ECT 430 (1) Senior Seminar
ECT 437 (3) Indust Comp Systs Management

Select 6 sem. Hrs. of Management from courses such as:
TMGT 471 (3) Prod Plan & Control I
TMGT 478 (3) Industrial Organization. & Func.
TMGT 492 (3) Industrial Supervision
MET 404 (3) Engineering Design & Mgt.
MET 405 (3) Economic Analysis for Tech.

Math and Physical Science Requirements: 14 Semester Hours

CS 256 (3) C++ (or higher level structured language course)
MATH 301 (3) Fund & Appl of Calculus **or** Calculus Proficiency
Physical Science course (8 hrs)

Technical Electives: Minimum 6 Semester Hours

A minimum of 6 semester hours fulfilled by taking any College of Technology course.

GENERAL EDUCATION COURSES

Basic Studies: 11-26 Semester Hours Sem. Grade

ENG 101/5 (6) Fund. of Writing*
OR
ENG 107 (3) Freshman Writing*
*See Gen. Ed. Requirements. International Students should contact the English Department.

ENG 305T (3) Technical Writing
COM 101 (3) Intro to Speech
PE 101 & 101L(2) Fitness for Life
MATH 115 (3) College Algebra and Trigonometry

Foreign Language 101 & 102 (6)*
*See Gen. Ed. Requirements

Liberal Studies: 31 Semester Hours

Scientific & Mathematical Studies (SMS): (7 hours)
1 Foundation
1 Elective
Social and Behavioral Studies (SBS): (6 hours)
1 Foundation
1 Elective
Literary, Artistic & Philosophical Studies (LAPS): (6 hours)
1 Foundation
1 Elective
Historical Studies (HS): (3 hours)
Multi-Cultural Studies (MCS): (6 hours)
1 Diversity
1 International
Capstone Requirement (CAP) (3 hours)

Semester Hours Required in Major (Tech, Math, Elect) 71
Semester Hours Required to Meet Gen. Ed Requirements 42-57
Note: Some required major hours meet Gen. Ed. Requirements
Minimum Number of Semester Hours Required to Graduate 124-130

Figure 4: CET Program Curriculum

Feb-08

Computer Engineering Technology Bachelor of Science Degree
Typical Four Year Plan
Spring 2008

Fall Year 1		Spring Year 1	
ECT 130	2 Credit Hour	ECT 167	3 Credit Hours
ECT 165	3 Credit Hours	ECT 168	3 Credit Hours
English 101**	3 Credit Hours	ENG 105**	3 Credit Hours
**OR ENG 107	(3 Credit Hours)	**OR ENG 107	(3 Credit Hours)
SBS: F,E	3 Credit Hours	Math 115	3 Credit Hours
COMM 101	3 Credit Hours	†Foreign Language	(3 Credit Hours)
†Foreign Language	(3 Credit Hours)	SBS:E	3 Credit Hours
	14-17 Credit Hours		**12-18 Credit Hours**
Fall Year 2		**Spring Year 2**	
ECT 231	3 Credit Hours	ECT 232	3 Credit Hours
ECT 281	3 Credit Hours	MCS: IC	3 Credit Hours
HS: R	3 Credit Hours	Phy. Sci. (Lab) SMS: F	4 Credit Hours
CS 256	3 Credit Hours	Management	3 Credit Hours
MCS: USD	3 Credit Hours	PE 101 & 101L	2 Credit Hours
	15 Credit Hours		**15 Credit Hours**
Fall Year 3		**Spring Year 3**	
ECT 301	3 Credit Hours	ECT 306	3 Credit Hours
ECT 303	3 Credit Hours	ECT 308	3 Credit Hours
Tech. Elective	3 Credit Hours	Math 301	3 Credit Hours
Management	3 Credit Hours	Tech. Elective	3 Credit Hours
LAPS: LL	3 Credit Hours	Phy.Sci (Lab) SMS: E	4 Credit Hours
†† Elective	(3 Credit Hours)		
	15-18 Credit Hours		**16 Credit Hours**
Fall Year 4		**Spring Year 4**	
ECT 401	3 Credit Hours	ECT 406	3 Credit Hours
ECT 403	3 Credit Hours	ECT 430	1 Credit Hour
ECT 437	3 Credit Hours	Elective	3 Credit Hours
Elective	3 Credit Hours	Elective	3 Credit Hours
ENG 305T	3 Credit Hours	LAPS: E	3 Credit Hours
†† Elective	(3 Credit Hours)	CAP	3 Credit Hours
	15-18 Credit Hours		**16 Credit Hours**

† See University Undergraduate Catalog requirements.
†† May be required to meet min. 124 sem. Hrs. for graduation.

Figure 5: CET Program Four Year Plan

Graduation Checklist

____ Maintain a **minimum** GPA of 2.0 (2.5 in an Education program)

____ Satisfy all requirements of your major – listed on the Curriculum Guidesheet for your major and also in the ISU Undergraduate Catalog for the year you entered ISU.

____ Satisfy all General Education (Basic Studies and Liberal Studies) requirements. An outline of these requirements begins on approximately page 32 in the ISU Undergraduate Catalog.

____ Complete a minimum of 124 hours (excluding Math 010 or 011). If you meet all General Education and Major requirements but still have not completed 124 hours, your must take additional coursework.

____ At least 50 hours must come from 300-400 level courses.

____ As you approach completion, apply for graduation on MyISU. Click on the 'Student' tab, select 'Apply for Graduation' under My ISU Quicklinks, and follow the prompts. If you are receiving more than one degree (AS and BS), contact the Registrar's Office at 812-237-2489 in order to apply. If possible, apply for graduation at least one semester prior to graduating. You cannot graduate without applying.

ISU students can graduate in May, August, or December. Commencement ceremonies are held in May and December. August graduates participate in the May ceremony.

Additional For Transfer Students:

____ A maximum of 94 transfer hours can be used toward a Bachelor degree. A maximum of 64 transfer hours can be used toward an Associate degree. Courses taken at other institutions must have a grade of C or higher in order to transfer.

____ Of the last 15 hours preceding graduation, no more than 5 can be transfer hours.

____ To receive a Bachelor degree, you must complete at least 30 hours of Residence Credit. Residence Credit is earned from courses taken at the ISU campus, ISU Distance courses, or ICN courses. Hours granted through Credit By Exam, Credit for Prior Learning, or credit for Professional Occupational Experience do **not** count toward the Residence Credit requirement.

Figure 6: Graduation Checklist

6.6.8 Ethical Practices: Ethical practices shall be fostered, including equitable student tuition refunds and nondiscriminatory practices in admissions and employment.

An active Affirmative Action Office is located at Indiana State University. Mandatory attendance of all administrators, down through the Chair level, for annual workshops on harassment, racism. and other unfair practices are a part of University policy.

Students receive refunds for dropping their courses according to an established time percentage schedule.

6.7 Administration

6.7.1 Program Administration: Programs in Industrial Technology are expected to have an identifiable, qualified individual with direct responsibility for program coordination and curriculum development. This individual should be a full-time employee of the institution.

The CET program has three-full-time faculty. Dr. Yuetong Lin serves as the program coordinator. Dr. Bill Croft, the senior member of the group, brings unique experience in program administration and curriculum development. Dr. Xiaolong Li represents the program in College Academic Affairs committee.

6.7.2 Administrative Leadership: Individuals assigned to administer Industrial Technology programs must demonstrate effective leadership and satisfactory support for Industrial Technology.

The administration, from ISU president, to the College of Technology and the department, has been very supportive of the direction the CET program is headed. President Bradley has frequently inquired about the preparation of accreditation process. The Dean allocated fund to support CET and MET faculty representative to attend workshops on program assessment. Associate dean, who is the coordinator for all accreditation efforts, directed his office to help furnish data on faculty, enrollment, and transfer students etc. The department also provided both personnel (office assistant and part-time worker during summer), and consulting (An expert in accreditation was invited to campus for consultation) support. Department chair, an MET faculty, is also personally involved.

6.7.3 Administrative Support: There must be appropriate support for Industrial Technology from the personnel holding leadership positions in the departments and colleges where Industrial Technology is administratively located.

The College of Technology provides support to the program as follows:

Selection, Supervision, and Support of Faculty The Dean of the College recommends to the Provost the hiring of tenure track faculty, and authorizes hiring of adjunct instructor based on demonstrated needs for maintaining adequate size of faculty and excellence of the program. Department Chair makes the request, and recommends to the dean the candidate, on personnel issues. Both the dean and chair responded swiftly in approving the request for a national search to fill a CET tenure track position when a faculty member left for another institution.

The Dean has met with junior CET faculty, among tenure track faculty from other programs, individually after annual review to offer his own suggestions on how to prepare tenure & promotion dossier. The Dean also supported program faculty to apply for both internal and external funding. Evidence included are the letters the Dean provided for CET's proposal for NSF CCLI (Figure 7) and STEM (Figure 8) program.

The department chair works closely with CET faculty to balance workload, and to provide administrative support for program development in issues such as recruiting and articulation.

Indiana State University

More. From day one.

College of Technology
Dean's Office

Terre Haute, Indiana 47809
812-237-3166
Fax 812-237-3733
http://web.indstate.edu/tech

May 20, 2008

National Science Foundation
Directorate for Education & Human Resources
Division of Undergraduate Education
Washington, DC

Subject: CCLI 08-546

Dear Reviewers:

I am writing this letter in support of the proposal prepared by a team of faculty in the College of Technology at Indiana State University for a grant to innovate a set of courses in the Automotive Technology Management, Computer Engineering Technology, and Mechanical Engineering Technology programs. I am very supportive of this initiative and will commit my time and resources to facilitate its success.

The College's faculty are dedicated to the following values: (a) the study of technology as an essential part of our cultural heritage and an essential part of a university education; (b) high quality, state-of-the-art programs and the embracing of future technologies; (c) experiential instruction using modern laboratories to develop knowledge and skill; (d) functioning as a student-centered academic unit (i.e., high quality teaching and advising as well as meeting individual needs of students is central for all); and (e) to identifying, enhancing, and rewarding faculty and student excellence in scholarship (all forms) and service, and is committed to excellence, in general. As a result, we are committed to the mission of providing exemplary undergraduate and graduate programs, generating solutions and knowledge through research, and serving the technology needs of the State, the nation, and the international community.

I have been fully apprised of the goals and outcomes of this project and agree with my colleagues that this work is highly valued and will make a major contribution not only to the programs it will impact in our College, but will serve as a model that can be replicated by others. I have full confidence in the team assembled to manage this project. They have many years of experience and a reputation for "getting the job done."

Regarding the requested funding, please note that I will work with our School of Graduate Studies to ensure that internal funds will be made available for the graduate assistant assigned to this project.

Again, I am in full support of this project and look forward to the opportunity to join with the National Science Foundation in this important endeavor. Please let me know if I can be of further service.

Sincerely,

W. Tad Foster

W. Tad Foster, Professor and Dean

Figure 7: Dean's Support Letter for CET NSF CCLI Proposal

Indiana State University
More. From day one.

College of Technology
Dean's Office

Terre Haute, Indiana 47809
812-237-3166
Fax 812-237-3733
http://web.indstate.edu/tech

November 5, 2007

National Science Foundation
Directorate for Education & Human Resources
Division of Undergraduate Education
Washington, DC

Subject: NSF Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM); Program Solicitation NSF 07-524

Dear Reviewers:

I am writing this letter in support of the proposal prepared by a team of faculty in the College of Technology at Indiana State University for a grant to provide a set of scholarships for enrollment in our Mechanical Engineering Technology and Computer Engineering Technology programs. I am very supportive of this initiative and will commit my time and resources to facilitate its success.

Like the National Science Foundation, we in the College of Technology are keenly aware of the need to increase enrollments in STEM disciplines. The shortages are reaching a critical stage. Each year, we find it increasingly more difficult to recruit students to these majors.

We have worked hard to ensure that the Mechanical Engineering Technology and Computer Engineering Technology programs are of the highest quality that will prepare students for robust employment and for advanced education. Based on our follow-up studies, we also know that our graduates are highly sought after by employers. In fact, it is almost always the case that the demand far exceeds the supply. We also believe that it is extremely important that we dedicate 50% of the scholarships to enhance our efforts to increase the number of minorities in engineering and technology fields. This will be in addition and in support of our current efforts (Females-in-Technology) to increase females in these fields.

The College's faculty are dedicated to the following values: (a) The study of technology is an essential part of our cultural heritage and an essential part of a university education; (b) high quality, state-of-the-art programs and the embracing of future technologies are highly valued; (c) experiential instruction using modern laboratories to develop knowledge and skill; (d) a student-centered academic unit (i.e., high quality teaching and advising as well as meeting individual needs of students is central for all); and (e) to identifying, enhancing, and rewarding faculty and student excellence in scholarship (all forms) and service, and is committed to excellence, in general. As a result, we are committed to the mission of providing exemplary undergraduate and graduate programs, generating solutions and knowledge through research, and serving the technology needs of the State, the nation, and the international community.

Again, I am in full support of this project and look forward to the opportunity to join with the National Science Foundation in this important endeavor. Please let me know if I can be of further service.

Sincerely,

W. Tad Foster

W. Tad Foster, Professor and Dean

Figure 8: Dean's Support Letter for CET NSF STEM Proposal

Selection and Supervision of Students The Associate Dean's office takes the charge of undergraduate academics. The Associate Dean and the staff track student's academic progress, advise students, and work with program faculty to identity and help students with academic liability. Other critical duties of Associate Dean's office include working with admission office to coordinate new students' orientation; outreach to high school and two-year institutions to recruit high school and transfer students; coordinating articulations. For example, CET faculty joined the associate dean's team to visit Ivy Tech Community College for renewal of program articulation agreement in April 2008; and Vincennes University for preliminary articulation negotiation in March 2009.

6.8 Facilities and Equipment

6.8.1 Adequacy of Facilities and Equipment: Physical facilities and equipment, which are suitable to serve the goals and objectives of the program(s), shall be available for each program option. Where facilities and equipment appear to be minimal to support a quality program(s), comparisons with support levels for other relevant programs at the institution will be made by the visiting team.

Building The CET program together with ECMET Department is housed in the John T. Myers Technology Center, which is also the home for the Collage of Technology. The building was erected in 1997 and has received regular hardware upgrades to incorporate state-of-the-art instructional facilities as well as student work and lounge areas.

CET Office Space The ECEMET Department office complex in located on the third floor of Myers Center. Most of the classrooms on this floor are used by the department and CET program. Research lab and graduate assistants office also take some space on the same floor. The central location of these facilities offers students the convenience to further enhance encounters with faculty, fellow students and graduate assistants.

All CET faculty have their own offices in Suite 301, close to the classrooms, labs, and meeting rooms. It is standard for faculty to have Dell PC desktop computers and/or IBM - Lenovo T60 laptop computers. The Suite also has office space for undergraduate/graduate student worker and adjunct faculty.

Auditorium and Meeting Rooms The College of Technology has an auditorium or theatre-like classroom that seats 100 students. There is also an atrium to hold large social gatherings. The ECMET Department has one meeting/conference room. In addition, the College of Technology has three meeting rooms and two breakout rooms.

Research Centers The Myers Facility houses three Centers: the Indiana Packaging Research and Development Center (4000 sq ft), Center for Systems Modeling and Simulation (1000 sq ft, with MATLAB, IGrip, Rockwell Arena, etc.), and the Center for Automation and System Integration.

Classrooms ECMET classrooms also function as laboratories, which allow students to continue on lab experiments in the same room when the lecture session of the class is complete. All classrooms are equipped with PC's with network access and educational software required for courses taught in the room, and the latest teaching apparatus: the audio/visual cabinet with master control, VCR/DVD player and audio amplifier. Most of the rooms have installed overheard projector, and pull-down projector screen. Each room also has multiple equipment/documentation cabinets to store lab tools and manuals, e.g., motherboards, oscilloscopes, multimeters, function generator etc.

Room physical dimension is usually large enough to accommodate up to 24 seats, which is the normal cap for class size. The layout is designed to facilitate student's interaction and collaboration on labs.

Room 306 is the primary teaching room for core CET courses. The room has two types of Motorola microcontroller development boards, and Xilinx Spartan3 development boards. On computers integrated development software are installed.

Room 304 is one of the 17 new sympodium classrooms across ISU campus. The Smart Sympodium in this room operates identically to a Smart Board. The system allows each input switch from desktop, laptop, and other visual sources. Writing on the touch screen can also be saved through special software.

Table 11 shows the room number and main functions: Room	Lab Specialization	CET Major Courses Taught
TC 304	ECT Classroom & Lab	ECT 130, ECT 231, ECT 306, ECT 430, ECT 437
TC 306	Microcontroller Lab	ECT 303, ECT 308, ECT 403, ECT 490
TC 307	Transistor Lab	ECT 165, ECT 232, ECT 490
TC 308	Solid State Lab	ECT 165, ECT 167, ECT 168
TC 315	Robotics Lab	ECT 160
TC 316	Pilot Projects Lab	ECT 281

Table 11: ECMET Department Classrooms

Laboratories, Equipments and Tools The Computer Integrated Manufacturing (CIM) laboratory (3600 sq ft) has been developed to represent modern automation. The CIM lab has seven Adept robots, some with vision systems, a Fanuc robot, an automated guided vehicle (AGV), an automated storage and retrieval system (ASRS), and an automated conveyor system. All of these systems have been integrated so they function as an automated factory.

In addition, the College has a lab dedicated to the study of programmable logic controllers (PLC) (2400 sq ft), a wet process control lab (2400 sq ft) that helps students learn about automation used in the chemical and plastics industries, and a Mitsubishi robot lab (2000 sq ft). The Mitsubishi lab has eight robots and I/O systems. All of these systems are computer operated and can be migrated for web delivery.

Besides commonly used software such as Microsoft Office Suite, most of the classroom PC's have field specific software including MultiSim, LabView, and Microsoft Visual Studio, installed.

6.8.2 Support for Facilities and Equipment: Facility and equipment needs shall be reflected in the long range goals and objectives for the program(s), and sources of potential funding shall be identified.

The department has been very accommodating equipment acquisition and update requests. Over the years the department has appropriated funds to purchase, or upgrade microcontroller and FPGA boards. To oversee the allocation of department equipment money for proposals exceeding $ 2500, an Equipment Committee, on which each program of the department has its representative, was created. In the latest meeting in April 2009, the committee approved all purchasing requests from CET program including Xilinx Spartan 3E, an FPGA development board with LabView module support, and Xilinx VirtexII Pro FPGA Development System (Figure 9). The department also supported the purchase of new microcontroller boards in Spring 2009. The manager of electronics and computer technical services in the College of Technology, with assistance of OIT student workers, is in charge of maintaining and repair of failed or malfunctioning equipments.

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(509) 334 6306 Voice and Fax

Invoice

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Date	Invoice #
6/12/2009	2009-3599

Bill To	Ship To
Indiana State University Accounts Payable Electronics & Comp Tech 650 Cherry, New Technology Rm 301 Terre Haute, IN 47809	Indiana State University Ernie Kramer Electronics & Comp Tech 650 Cherry, New Technology Rm 301 Terre Haute, IN 47809

P.O. Number	Terms	Rep	Ship	Via	Project
P0065329	Net 30	SNR	6/12/2009	UPS Ground	

Quantity	Part No.	Description	Price Each	Amount
	Spartan 3E Starter...			
5	Spartan 3E Starter	Spartan 3E Starter Boards	149.00	745.00T
5	USB-AB-RET	Retractable USB Cable (A to B)	0.00	0.00T
5	5V 2.5A Switchin...	5V, 2.5A switching wall-plug power supply	0.00	0.00T
				745.00
	XUP V2 Pro BOA...			
2	XUP board	Virtex - 2 Pro Circuit Board	299.00	598.00T
2	4 Amp, 5V - USA	4 Amp, 5 Volt switching power supply - USA AC cord	0.00	0.00T
2	USB Cable	USB Programming Cable	0.00	0.00T
2	XUP CD	XUP V2 Pro Companion CD	0.00	0.00T
8	V2PRO Stand-offs	V2PRO Stand-offs	0.00	0.00T
				598.00
	XUPV5 Kit			
1	XUPV5	XUPV5-110T board	750.00	750.00T
1	1GB Compact Fla...	1GB Compact Flash card	0.00	0.00T
1	256 MB SODIM...	256 MB SODIMM module	0.00	0.00T
1	SATA cable	SATA cable	0.00	0.00T
1	Platform USB pro...	Platform USB programming cable	0.00	0.00T
1	DVI to VGA adap...	DVI to VGA adapter	0.00	0.00T
1	6A power supply	6A power supply	0.00	0.00T
				750.00
	Shipping & Handl...	Product Shipping	25.88	25.88
		1ZEA82080356832745		
		Out-of-state sale, exempt from sales tax	0.00%	0.00

Thank you for your business.

Total $2,118.88

Figure 9: Equipment Order: FPGA Development Board

6.8.3 Appropriateness of Equipment: Equipment shall be appropriate to reflect contemporary industry.

The equipment invested by the program represents a cross section of the types and brands graduates will encounter on the job. The present equipment and an ongoing equipment modernization have insured that the students' laboratory experiences are relevant and up-to-date, reflecting contemporary industrial needs. Department faculty have been actively involved in acquiring new industrial equipment donations, contributions, and deep educational discounts. Examples of donations or contributions include robots, computer equipment, PLC software, variable frequency ac drive control software, Device Net equipment and software, additional process control equipment, power equipment, and digital training equipment. Examples of companies from which contributions or donations have been received are: Rockwell International, Allen Bradley, Siemens, Eli Lilly, National Instruments, Microbot, TRW, Adept Robot, and Intel.

6.9 Computer Systems

ISU contains 85 technology enhanced classrooms, 15 public labs and 45 discipline specific computer labs, and 5 distance learning classrooms. Campus infrastructure currently supports over 100 servers and high performance computing facilities. The campus has become a notebook institution beginning with freshmen in Fall 2007. The campus is served by an extensive fiber optic cable system, and uses a gigabit backbone to deliver data and interactive video connections to every building. Wireless network access is available in all academic areas. High speed connection to both the commercial Internet and Internet2 is provided for faculty and student use. Student computing needs are served by 450 microcomputers in general use computer clusters, and 600 microcomputers in special use clusters.

Students have multiple venues for computer access. Besides PC's in every classroom, staffed public computer labs are available to students, faculty and staff, one of which is located in Myers Center (Room 212) that is equipped with 52 stations (IBM PC's), one laser printer, one Smartboard, two additional projector screens, and one scanner. The list of software packages accessible on these stations can be seen online at http://www.indstate.edu/oitlabs/software.html.

The computers in each classroom receive regular upgrades. The hardware configuration is sufficient to meet the requirements to run various educational software.

6.10 Financial Resources

6.10.1 Financial Support: The budget for the Industrial Technology program(s) shall be adequate to support program objectives. When judging sufficiency, the visiting team may wish to make comparisons with the support levels given to other professional programs at the institution.

ISU is a public university and its main resources are state funds and tuition revenues. The university allocates its funds to each college following a formula that considers the number of faculty, staff, graduate assistants, and student workers with their salaries and benefits, number of students, student semester hours generated, equipment and supplies including labs, travel funds for professional development, etc. College of Technology Dean allocates funds to each department. From the department it is used for different programs and associated faculty and equipment for the programs based on the need. Categories of budgeted items and corresponding amounts have been shown in Table 12 for the ECMET department, which houses CET program. ECMET Faculty salary data are shown in a separate table, Table 13.

Department of Electronics, Computer and Mechanical Engineering Technology

Fiscal Year	previous year[a]	current year[b]	year of visit[c]
Expenditure Category	200708	200809	200910
Operations (not including staff)[d]			
Travel[e]		$7,625	
Equipment[f]			
(a) Institutional Funds			
(b) Grants and Gifts[g]			
Graduate Teaching Assistants			
Part-time Assistance[h] (other than teaching)		$27,031.4	
Faculty Salaries	$963,280.8		

[a] Provide the statistics from the audited account for the fiscal year completed year prior to the current fiscal year
[b] This is your current fiscal year (when you will be preparing these statistics). Provide your preliminary estimate of annual expenditures, since your current fiscal
[c] Provide the budgeted amounts for next fiscal year to cover the spring term when the AEMAE team will arrive on campus
[d] Categories of general operating expenses to be included here
[e] Institutionally sponsored, excluding special program grants
[f] Major equipment, excluding equipment primarily used for research. Note that the expenditures (a) and (b) under “Equipment” should total the expenditures for Equipment. If they don’t, please explain
[g] Including special (not part of institution’s annual appropriation) nonrecurring equipment purchase programs
[h] Do not include graduate teaching and research assistant or permanent part-time personnel

Table 12: Support Expenditures

Department of Electronics, Computer and Mechanical Engineering Technology[a] Academic Year 200809 (as of Nov 1, 2008)

	Professor	Associate Professor	Assistant Professor	Instructor
Number	4	3	6	1
High	$80,356	$70,483	$64,139	
Mean	$78,664	$66,833	$59,974	$46,575
Low	$77,594	$62,064	$58,167	

[a] If the program considers that this information to be confidential, it can be provided only to the Team Chair

Table 13: Faculty Salary Data

2009-2010 Regular Tenured and Tenure Track Faculty Report

Aviation Technology (AVT)						
			FY09	FY10	FY10	FY10
Rank	Dept	Name	FY09 Budget 7.1.08	Promo Adj.	Total Adj.	FY10 Budget 7.1.09
Ch Ast Prof	AVT	#Minniear, Harry	$75,808		0	$75,808
Asc Prof	AVT	Allen, Ronald	$58,939	$2,100	$2,100	$61,039
Ast Prof	AVT	Baker, Richard	$65,000		0	$65,000
Ast Prof	AVT	Burger, Donald	$53,866		0	$53,866
Ast Prof	AVT	Shure, Stephen	$57,853		0	$57,853
Ast Prof	AVT	Welsh, Bruce	$59,123		0	$59,123
Subtotal	Aviation Technology		$370,589	$2,100	$2,100	$372,689
Electronics, Computer, and Mechanical Engineering Technology (ECMET)						
Ch Prof	ECMET	#Zhou, Ming	$77,594		0	$77,594
Ast Prof	ECMET	Ashby, Joe	$58,633		0	$58,633
Asc Prof	ECMET	Badar, M. Affan	$62,064		0	$62,064
Prof	ECMET	Beach, David	$78,829		0	$78,829
Asc Prof	ECMET	Clyburn, William	$67,953		0	$67,953
Ast Prof	ECMET	Cochrane, Phillip	$58,167		0	$58,167
Prof	ECMET	Cockrell, Gerald	$80,356		0	$80,356
Prof	ECMET	Croft, William	$77,875		0	$77,875
Ast Prof	ECMET	Li, Xiaolong	$60,000		0	$60,000
Ast Prof	ECMET	Lin, Yuetong	$59,699		0	$59,699
Asc Prof	ECMET	Malooley, David	$70,483		0	$70,483
Ast Prof	ECMET	Peters, Randell	$59,207		0	$59,207
Ast Prof	ECMET	Shahhosseini, Mehran	---	0	0	$65,000
Subtotal	Electronics, Computer, and Mechanical Eng. Technology		$810,860	0	0	$875,860
Technology Management Department (TM)						
Ch Prof	TM	#Smallwood, Jim	$94,412		0	$94,412
Ast Prof	TM	Crowder, Cynthia	$54,503		0	$54,503
Asc Prof	TM	Ellingson, Lee	$66,228		0	$66,228
Asc Prof	TM	El Mansour, Bassou	$54,912	$2,100	$2,100	$57,012
Ast Prof	TM	Eversole, Barbara	$60,000		0	$60,000
Prof	TM	Hayden, Michael	$81,101		0	$81,101
Asc Prof	TM	Fauber, Beth	$63,336		0	$63,336
Ast Prof	TM	Graham, Carroll	$62,500		0	$62,500
Ast Prof	TM	Harris, Kara Sue	$62,500		0	$62,500
Asc Prof	TM	Kim, Chul	$69,345		0	$69,345
Prof	TM	Maughan, George	$73,275		0	$73,275
Prof	TM	Minty, Gordon	$84,292		0	$84,292
Asc Prof	TM	Reposa, John	$75,555		0	$75,555
Asc Prof	TM	Schafer, Marion	$66,829		0	$66,829
Asc Prof	TM	Yaw, D. Carole	$58,473		0	$58,473
Subtotal	Technology Management Department		$1,027,261	$2,100	$2,100	$1,029,361
Subtotal	**College of Technology**		**$2,208,710**	**$4,200**	**$4,200**	**$2,277,910**

6.10.2 External Financial Support: There shall be evidence of external support for the program(s) in Industrial Technology. However, this external support shall be treated as supplementary support and be used to achieve and maintain a high level of excellence. This external support shall not be used to displace funding support normally provided by the institution.

The ECMET Department has a foundation fund, supported by the alumni, faculty, and other contributors. This allows the Department to sponsor the annual advisory board meeting, and provides limited support for faculty development.

6.11 Library Services

6.11.1 Library and Internet Resources: The administrative unit containing the Industrial Technology program(s) and/or the institutional library shall have access to technology resources, literature, and reference materials adequate to meet the curriculum and research needs of students and faculty.

The Indiana State University Cunningham Memorial Library (CML) serves as the main library and is supplemented by the Career Center and the Women's Resource Center. The total ISU library collection numbers in excess of 2 million items and includes: books, journals, government documents, microforms, video recordings that include DvDs and CDs, filmstrips and computer software. The library collection is accessible through the Library User Information System (LUIS) on-line computerized data search, which also lists holdings in the Rose Hulman Institute of Technology as well as Saint Mary-of-the Woods College.

Additional library holdings are accessible from Vincennes University, University of Southern Indiana, Purdue University, and the Vigo County Public Library system. The CML offers services for free database searches, Internet searches, instruction for classes and compact disk (CD-ROM) searches. The CML is also a subscriber to electronic media materials such as E-journals and E-books.

The College of Technology Library Committee, which consists of three members representing each technology department, recommends the purchase of books, journals, recordings and computer software to be housed in the CML. A search of the CML catalog using LUIS shows over 30,000 items related to the areas of technology, computer engineering technology and computer technology/science. As the Internet has become a primary source of electronics and computer technology information, access to the Internet is available through a number of computer sites in the College of Technology building, the CML, and across campus.

6.11.2 Utilization of Library and Internet Resources: Evidence shall be available which indicates that students and faculty are making adequate and appropriate use of library and reference resources.

Each faculty is encouraged to utilize available Library and Internet resources. CET Faculty assign readings available in the Library and utilize online technical documentation to support or supplement texts required in their classes. Student research for classroom presentations or laboratory exercises requires regular use of library and/or Internet based resources. Students are required to document for their presentation or laboratory reports utilization of library or web-based resources.

Course Notebooks include syllabi. The syllabi describe instances of Library/Internet resource utilization. For example ECT 303 references using microprocessor/microcontroller online documentation.

Syllabi are available in the Visiting Team's Resource Room, TC 314.

6.12 Support Personnel

The ECMET Department has one secretary. The secretary's time is informally assigned to approximately 0.75 for undergraduate related work and 0.25 for graduate related work. The manager of electronics and computer technical services in the College of Technology, with assistance of OIT student workers, is in charge of maintaining and repair of failed or malfunctioning equipments.

Annually, the program supports 3 graduate assistantships and 1 doctoral fellowship per academic year.

6.13 Placement Services

6.13.1 Placement Services: Appropriate services shall be available to assist with the placement of program graduates. Placement of graduates shall be tracked and the effectiveness of the services shall be evaluated by the administrative unit containing the Industrial Technology program(s).

ISU Career Center offers services to prepare, educate and assist ISU students throughout their career development, to prepare them for a competitive work environment, and to proactively develop and maintain effective relationships among students, employers and other relevant constituencies. Career Center is responsible for hosting two career fairs on campus. Other services benefitting students employment include a) MyPlan: a Career Center online service to help students plan their career; b) CAREERLINK: a national recruiting network and suite of web based recruiting and career services automation tools serving the needs of colleges, employers and job candidates; c) Networking etiquette workshop: workshop that lets students learn about and practice important networking and dining skills including conversations; interviewing tips; proper dress etc; d) Speed interview review workshop: workshop that lets students practice interviewing skills in group setting alongside their peers.

6.13.2 Cooperative Education: If cooperative education is either a required or an elective part of the program, then appropriate services shall be provided to assist with the placement and supervision of cooperative education students.

ECT 351 is the designated cooperative course for all electronic technology and CET majors. Though not a required course in the current CET curriculum, all faculty have been informed to advise their advisees to complete this elective. The ECMET Department has established long working relations with numerous industry partners who are willing to offer part-time or intern positions that require students to apply classroom experience to solve field problems.

6.14 Industrial Advisory Committee(s)

6.14.1 Program Advisory Committee(s): An industrial advisory committee shall assist in the validation of program content. If more than one program of study or program option is available, then appropriately qualified industrial representatives shall be added to the committee or more than one committee shall be maintained. Policies shall be presented to indicate the: (a) procedures used in selecting members, (b) length of appointment, (c) organization of the committee, (d) committee responsibilities, (e) frequency of meetings, and (f) methods of conducting business.

Currently the CET program does not have a separate individual advisory committee. We intend to continue to work with ECT Industrial Advisory Board. This advisory board has existed since the formation of the Electronics and Computer Technology Department. Many members of the board are department alumni, and the department continues to invite graduates who are willing to help the programs improve their education objectives and program outcomes to join the board. CET faculty has established good working relations with the board members. Over the years the board annual meeting has proven to be a valuable venue to review program curricula and provide advisement on current and future needs of the technical fields in which graduates are employed. The current member list for the ECT Industrial Advisory Board appears below.

2009 Industrial Advisory Board - Electronics and Computer Technology

David Adler
59 Lakeshore Circle
Brownsburg, IN 46112-1733
317-852-4636
davidadler@comcast.net

John Brasker
Lilly Corporate Company DC4515
Indianapolis, IN 46285
317-276-7905
JDB@lilly.com

Brian Bridgewater
Lilly Corporate Center DC3511
Indianapolis, IN 46285
317-276-7145
bbridgeh2o@lilly.com

J. R. Musselman
Software Engineering Manager
Wright Industries
1520 Elm Hill Pike
Nashville, TN 37210
615-361-4111, ext.
3127jr.musselman@wrightind.com

Dana Nakanishi
Rockwell Automation
3750 Priority Way South Drive, Suite 100
Indianapolis, IN 46240
317-571-6612
ddnakanishi@ra.rockwell.com

Richard Roop
Donaldson Capital Management, LLC
20 Northwest First Street
Fifth Floor
Evansville, IN 47708
812-421-3211 or 800-321-7442
rroop@dcmol.com

John Watler
Process Development & Fabrication, Inc.
P.O. Box 493
Brazil, IN 47834
812-443-6000
jwatler@pdfcontrols.com

6.14.2 Advisory Committee Meetings: The industrial advisory committee(s) shall meet at least once each year, and appropriate minutes shall be kept of these meetings showing agenda items, actions taken, and recommendations made.

Members of the advisory committee contribute time, telephone information, and assistance as necessary throughout the year. The Department meets with its committee at least once each year. Appropriate minutes and records pertaining to the advisory board meetings are included in Appendix B.

6.15 Educational Innovation

6.15.1 Educational Innovation: There shall be evidence that innovation furthering program objectives is being carried out in the administrative unit housing the Industrial Technology program. This includes developing and testing new learning approaches and technologies and disseminating the results.

Presentations and participation of faculty at national and international conferences in education or technology provide partial evidence that innovation furthering program objectives is being carried out. This information is included as portions of the faculty resumes.

Educational innovations of the Department include emerging areas of distance delivery or evaluation; and cooperative/multidisciplinary research or development activities. As of 2009, the ECMET faculty participate in a degree completion program that allows students to start their education at other institutions and to complete it at Indiana State University. There are also many signed articulation agreements between programs in the ECMET Department with two-year institutions from Indiana and Illinois.

Faculty and students in ECMET have developed a robotics laboratory that is viewable across the Internet.

Two course description examples are included to demonstrate innovation in diverse areas such as management and robotics.

- *Course development work for ECT437 and ECT537 Industrial Computer Systems Management*

This course offers students in the Computer Engineering Technology and other engineering technology programs exposure to classic project management practices and tools. The course was developed in 1981. Extensive changes were made incrementally to the course during the 2005 and 2006 schools years. These changes included: (a) the addition of a team project component where the teams are tasked to develop a complete project plan including staffing, scheduling, costing, risk analysis and closure plans; (b) the team members share common technical skills or a mix of backgrounds to accommodate cross-discipline project experience; (c) the graduate students are assigned team leadership roles; (d) the distance and face-to-face sections of the course were combined using Blackboard as the common course delivery tool with classroom lectures being recorded and archived for the distance students; (d) the project teams were organized such that each had both on-campus and distance members, requiring the use of web meeting tools to accomplish the project assignment; and (e) the need for professionalism and timeliness is stressed in all written and oral communications in the course.

A description of these course improvements and the results were outlined in a peer-reviewed paper published and presented at the 2008 Annual ASEE IL/IN Section

Conference held on April 5, 2008. The paper was titled *Facilitating Team Activities in a Project Management Course*.

- *Lab tools developed for ECT381 Robotic Control Systems*

This course which Computer Engineering Technology and students of other engineering technology programs may elect, offers lab experiences using robot and Programmable Logic Controller (PLC) based control systems. In conjunction with a MSECT degree student's project, two faculty members designed and built a PLC based Radio Frequency Identification (RFID) trainer which students can integrate into robot material handling lab exercises. The trainer uses current industrial PLC and RFID hardware and software. Data can be written to and read from tags which are attached to simulated products or pallets which the robots handle. The RFID data can be communicated to other PLCs and robots in the lab via either DeviceNet, DH-485 or discrete I/O interfaces.

A description of the system and its application in the lab course was presented as a peer-reviewed paper at the 2008 NAIT conference on November 17, 2008. The paper was titled *Development of a Training System Integrating RFID Technology with a PLC*.

Faculty in the ECMET Department are currently involved in Project Lead the Way. This project involves developing curriculum in Indiana High Schools that lead to college credit.

At present, the Electronics Technology baccalaureate program offers 100% of the department's upper division courses via WEB based delivery.

Recently (2009) several ECMET faculty have participated in traveling to local high schools and delivering discussions and presentations regarding degree programs at Indiana State University.

Several ECMET faculty are currently involved in a large National Science Foundation grant secured by members of the Department. This grant calls for participation between ECMET faculty at ISU with faculty at a local two-year institution to develop educational modules to be delivered via distance-based modality.

The NSF grant is in the last year of a three-year effort. The grant team is developing a series of automation technician training modules in collaboration with Ivy Tech Community College Wabash Valley. The program, called AutomationTek will include 60 online training modules. A student will be able to complete the modules and receive a certificate of completion validating the learning experience. Indiana State University will offer the online laboratory exercises for the program.

Members of the department participated in a number of automation related activities including:

1. Member of a team in partnership with the International Society of Automation (ISA) and the US Department of Labor to develop an Automation Competency Model.
2. Member of a team to develop an Automation Engineering sample curriculum through ISA.
3. Met with White house and Congressional officials to support development of an Industrial Cyber Security curriculum.

6.16 Assessment

6.16.1 Performance Criteria

Each program outcome needs to be assessed by performance criteria. The criteria have to be specific, measurable, and confirmable through evidence. Based on this principle, the following criteria have been created.

1. Outcome 1: Problem solving skills

    1. 1 apply algebra, discrete math, and basic law of physics to build, test, and operate electric circuits, computer systems and networks

    1. 2 program in low/high-level computer languages to build microcontroller based applications and digital logic circuits.

    1. 3 understand database principle and working mechanism for technical data management.

2. Outcome 2: Commanding contemporary tools

    2. 1 apply simulation tools to verify theoretical design or trouble-shoot potential system problems.

    2. 2 analyze lab data using statistical tools.

3. Outcome 3: Design skills

    3. 1 design microcontroller based control circuitry.

    3. 2 develop digital logic circuitry using FPGA and HDL.

    3. 3 design and implement LAN for small business environment.

4. Outcome 4: Lab skills

    4. 1 plan experiments to collect desired data or observations.

    4. 2 conduct experiments to truthfully record results following manual or proposed steps.

    4. 3 follow safety procedure and lab protocols, handle equipments with care.

    4. 4 examine and interprete lab results to draw conclusions.

5. Outcome 5: Managerial skills

    5. 1 develop work plan with clearly defined phased goals and timeline.

    5. 2 follow work plan by observing time line and reporting progress.

    5. 3 modify schedule based on progress.

6. Outcome 6: Ethics awareness

    6. 1 analyze ethics issues based on professional ethics codes.

    6. 2 understand technology impact on society.

7. Outcome 7: Lifelong learning

    7. 1 involve in professional societies.

    7. 2 research the latest technological trend in a specific area.

8. Outcome 8: Teamwork skills

    8. 1 understand individual role and share duties.

8. 2 listen to others; cooperate with teammates; respect different opinions.

9. Outcome 9: Communication skills

9. 1 produce technical document that is factually correct, and with good logical structure, proper format, citation, and references.

9. 2 produce technical document with a minimum of errors in spelling, punctuation, grammar and usage.

9. 3 communicate in professional manner, and respond to questions in language that is both concise and commensurate with audience's background.

6.16.2 Performance Criteria Rubric

A rubric is a scoring guide that is used to measure the work of a student. For each of the performance criteria above, we use a rubric with range of one(1) to four(4) to rate performance. Each rubric contains specific performance characteristics arranged in levels indicating the degree to which a standard has been met.

6.16.3 Assessment Plan

The program Faculty has agreed to use both direct and indirect measures to collect data. The detailed assessment plan is shown in Table 23.

Performance Criteria	Rubric			
	Unsatisfactory 1	Developing 2	Competent 3	Exemplary 4
apply algebra, discrete math, and basic law of physics to test, trouble-shoot and operate electric circuits, computer systems and networks	lacks fundamental math skills and science concepts, cannot independently conduct diagnosis and testing.	has basic understanding of math and science concepts, can operate systems with supervision	has solid math and science knowledge, can operate systems but may need minor directions on trouble-shooting	has solid math skills and understanding of physics laws, can independently operate systems, identity and solve problem
program in low/high-level computer languages to build microcontroller based applications and digital logic circuits	lacks understanding of syntax and semantics of the languages; cannot develop algorithm; cannot use development tools	has basic understanding of the languages and development tools; needs direct guidance to develop algorithms to implement the applications or circuits	fluently with the languages and development tools; can develop algorithms to accomplish the tasks with minor guidance	commands the languages and development tools; can develop algorithms to accomplish the tasks independently
understand database principle and working mechanism for technical data management.	lacks understanding of database architectures and data structures	has basic understanding of database concepts and architecture	understands database architecture; can filter information using database tools; can generate summary report	can filter data for useful information using database tools; can use data for quality analysis

Table 14: Performance Criteria for Outcome 1: Problem Solving Skills

Performance Criteria	Rubric			
	Unsatisfactory 1	Developing 2	Competent 3	Exemplary 4
apply simulation tools to verify theoretical design, or trouble-shoot potential system problems.	lacks fundamentals of simulation concepts; cannot use simulation tools	has basic understanding of simulation concepts; can use tools for basic circuit simulations	has moderate understanding of simulation concepts; can apply simulation tools with minor supervision to verify design or trouble-shoot	has solid understanding of simulation concepts; can skillfully apply simulation tools to verify design or trouble-shoot independently.
analyze lab data using statistical tools.	lacks fundamentals of statistics concepts; cannot use analytical tools	has basic understanding of statistics concepts; can use tools for basic data processing	has moderate understanding of statistics concepts; can apply statistical tools with minor supervision	has solid understanding of statistics concepts; can skillfully apply statistical tools to analyze data independently.

Table 15: Performance Criteria for Outcome 2: Commanding Contemporary Tools

Performance Criteria	Rubric			
	Unsatisfactory 1	Developing 2	Competent 3	Exemplary 4
design microcontroller based control circuitry.	lacks understanding of microcontroller architecture and interfacing mechanism	has basic understanding of microcontroller architecture and interfacing mechanism; needs direct guidance on design procedures and implementation details	understands microcontroller architecture and peripheral device interfacing mechanism; needs minor guidance on design and implementation	understands microcontroller architecture and interfacing mechanism; can design hardware/software component based on microcontroller hardware resources and peripheral circuitry requirements
develop digital logic circuitry using FPGA and HDL.	lacks fundamental knowledges of digital logic and circuits	has basic understanding of FPGA architecture; needs major guidance on design and implementation	understands FPGA architecture; needs minor guidance on design and implementation	can independently design and implement digital logic circuits using FPGA and HDL based on technical specifications and requirements
design and implement LAN's for small business environment.	lacks understanding of LAN architecture and protocols	has basic understanding of LAN architecture and protocols; can conduct network configuration under supervision	can implement and troubleshoot LAN with minor supervision	can design, implement, and configure LAN's based on technical specifications and requirements

Table 16: Performance Criteria for Outcome 3: Design Skills

Performance Criteria	Rubric			
	Unsatisfactory 1	Developing 2	Competent 3	Exemplary 4
plan and conduct experiments to observe or truthfully record results following manual or proposed steps.	does not plan ahead for experiments; does not study pre-lab assignments; incompetent in lab environment	understands the objectives of the experiment; need supervision using lab equipment	understands the objectives and studies the pre-lab assignments; can complete the lab with minor supervision	understands the objectives; plan ahead; can independently complete lab procedures; records or observes lab truthfully
follow safety procedures and lab protocols, handle equipments with care.	totally unaware of proper procedures and safety protocols; handles equipment rough	is aware of the safety procedures but constantly ignores following them; handles equipment rough	is aware of the safety procedures, occasionally requires reminder to follow the protocols; handles equipment with care	studies and strictly follows protocols and safety procedures; handles equipment with care
examine and interprete lab results to draw conclusions.	lacks understanding of the collected data; unable to reach any conclusion of experiment results	can examine and interpret lab results under guidance	can examine and interpret lab results but sometimes unable to reach a definitive conclusion	can determine experiment errors; distinguish statistical significance of difference in experiment and calculated values; draws conclusions

Table 17: Performance Criteria for Outcome 4: Lab Skills

Performance Criteria	Rubric			
	Unsatisfactory 1	Developing 2	Competent 3	Exemplary 4
develop work plan with clearly-defined phased goals and timeline.	unable to develop clear defined-goals and timeline	is able to develop a plan but details are not clearly spelled out	has defined clear goals but schedule is not detailed	has presented a clear plan with achievable goals and a feasible timeline
follow work plan by observing time-line and reporting progress, make timely adjustment to cope with unforseen circumstances.	does not follow time-line; no record or log of project progress; does not adjust schedule.	loosely follows time-line; constantly falls behind schedule with no adjustment	follows time-line; does not maintain a detail project report; can adjust work schedule.	executes the plan; keeps clear and detail record of work done or in progress; can acutely adjust plan to meet the deadline and deliver the project

Table 18: Performance Criteria for Outcome 5: Managerial Skills

Performance Criteria	Rubric: Unsatisfactory 1	Developing 2	Competent 3	Exemplary 4
analyze ethics issues following professional ethics codes	has no knowledge of the professional ethics codes	has limited knowledge of professional ethics codes	can research ethics codes from multiple professional societies	understands the commonality of professional codes, understands both sides of the issue and is able to draw conclusions based on ethics codes and professional precedents
understand technology impact on society and environment	has no awareness of technology impact on society or environment	has awareness of generic impact of technology on society or environment	can independently research the impact of an existing technology on society and environment.	considers technology impact on society or environment in project development

Table 19: Performance Criteria for Outcome 6: Ethics Awareness

Performance Criteria	Rubric: Unsatisfactory 1	Developing 2	Competent 3	Exemplary 4
participate professional societies.	cannot name major professional societies in the field	can name societies but has no interest in becoming a member	is a member of professional societies but is not actively involved.	understand professional societies' role in technology development; has joined and actively involved in student activities; will continue to be a member after graduation
research the latest technological trend in a specific area.	cannot independently research resources	is comfortable with only one type of resource to research the latest technology.	can independently research the latest technology using multiple ex-curriculum resources such as library, journals, and Web	can independently research the latest technology using multiple ex-curriculum resources; can distinguish generic and scholarly sources, and is able to sort through the collected information to form comprehensive review

Table 20: Performance Criteria for Outcome 7: Life-Long Learning

Performance Criteria	Rubric			
	Unsatisfactory 1	Developing 2	Competent 3	Exemplary 4
understand individual role and share duties.	no recognition of contributions of others; does not perform any duties; always relies on others to do the work	performs little individual duties; rarely recognize others' work;	performs nearly all individual duties; fairly recognize others' work; rarely needs prompting to contribute to the team	willingly accepts and fulfills individual role within the group; consistently and actively contributes to group goals
listen to others; cooperate with teammates; and respect different opinions.	always talking; never allows others to speak; argues with teammates; usually wants to have things their way	rarely allows others to speak; sometimes argues with teammates;	listens; sometimes talks too much; rarely argues; usually considers all views.	listens intensively; speaks a fair amount; never argues with teammates; is sensitive to the feelings and learning needs of all group members; always helps team to reach a fair decision.

Table 21: Performance Criteria for Outcome 8: Teamwork Skills

Performance Criteria	Rubric			
	Unsatisfactory 1	Developing 2	Competent 3	Exemplary 4
produce technical document that is factually correct, and with good logical structure, proper format, citation, and references.	document is poorly organized; does not follow format requirements; no citation is included; no reference listed	limited logic structure; limited knowledge of subject matters; complying with format requirements sporadically; incomplete references and sources inadequately cited	clear logic structure; demonstrate satisfactory level of subject matters; generally consistent format; complete references and citations	with clear logical structure; demonstrate full knowledge of subjects; consistent with format requirements; has complete references and citations
produce technical document with a minimum of errors in spelling, punctuation, grammar and usage.	significant amount of spelling and grammatical errors	minor spelling and grammatical errors.	negligible spellings and/or grammatical errors.	no misspellings or grammatical mistakes
communicate in professional manner, and respond to questions in language that is both concise and commensurate with audience's background.	mumbles, no eye contact, monotonous tone; presentation is poorly organized and prepared; no grasp of information, cannot answer any questions	clear voice; speaks too fast; presentation has logic flow but may lack focus or too brief; does not have full command of knowledge to answer questions with confidence.	clear voice, steady speed; well-organized presentation with occasionally missing support material; may occasionally experience difficulty understanding questions; demonstrate knowledge but may not answer the questions to the full extent.	confident and enthusiastic delivery; well-organized presentation material with complete figures, texts, and tables etc; demonstrates full knowledge and understands clearly the questions and answers with concise and accurate language

Table 22: Performance Criteria for Outcome 9: Communication Skills

Performance Criteria	Assessment Method	Source of Collection	Time of Data Collection	Assessment Coordinator	Evaluations of Results
apply algebra, discrete math, and basic law of physics to build, test, and operate electric circuits, computer systems and networks	Capstone project; senior exit survey	ECT 408	Yearly	CET faculty	CET faculty
program in low/high-level computer languages to build microcontroller based applications and digital logic circuits.	Course project; senior exit survey	ECT 308 ECT 401 ECT 403	Yearly	Instructors	CET faculty
understand database principle and working mechanism for technical data management.	Course project; senior exit survey	ECT 437	Yearly	Instructor	CET faculty
apply simulation tools to verify theoretical design or trouble-shoot potential system problems.	Course project; senior exit survey	ECT 401 ECT 403	Yearly	Instructor	CET faculty
analyze lab data using statistical tools.	Course project; senior exit survey	ECT 308 ECT 403	Yearly	Instructor	CET faculty
design microcontroller based control circuitry.	Course project; senior exit survey	ECT 308	Yearly	Instructor	CET faculty
develop digital logic circuitry using FPGA and HDL.	Course project; senior exit survey	ECT 403	Yearly	Instructor	CET faculty
design and implement LAN for small business environment.	Course project; senior exit survey	ECT 401	Yearly	Instructor	CET faculty
plan and conduct experiments to observe or truthfully record results following manual or proposed steps.	Course project; senior exit survey	ECT 401	Yearly	CET faculty	CET faculty

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Table 23 Assessment plan

Performance Criteria	Assessment Method	Source of Collection	Time of Data Collection	Assessment Coordinator	Evaluations of Results
follow safety procedures and lab protocols, handle equipments with care.	Course project; senior exit survey	ECT 401 ECT 403	Yearly	CET faculty	CET faculty
examine and interprete lab results to draw conclusions.	Course project; senior exit survey	ECT 401	Yearly	CET faculty	CET faculty
develop work plan with clearly-defined phased goals and timeline.	Capstone project; senior exit survey	Capstone	Yearly	CET faculty	CET faculty
follow work plan by observing time-line and reporting progress, make timely adjustment to cope with unforseen circumstances.	Capstone project; senior exit survey	Capstone	Yearly	CET faculty	CET faculty
analyze ethics issues following professional ethics codes	Course presentation; senior exit survey	ECT 130	Yearly	Instructor	CET faculty
understand technology impact on society and environment	Capstone project; senior exit survey	Capstone	Yearly	CET faculty	CET faculty
participate professional societies.	Course presentation; senior exit survey	ECT 130	Yearly	Instructor	CET faculty
research the latest technological trend in a specific area.	Capstone project; senior exit survey	Capstone	Yearly	CET faculty	CET faculty
understand individual role and share duties.	course project; capstone project; senior exit survey	Capstone ECT 437	Yearly	CET faculty	CET faculty

Performance Criteria	Assessment Method	Source of Collection	Time of Data Collection	Assessment Coordinator	Evaluations of Results
listen to others; cooperate with teammates; and respect different opinions.	course project; capstone project; senior exit survey	Capstone ECT 437	Yearly	CET faculty	CET faculty
produce technical document that is factually correct, and with good logical structure, proper format, citation, and references.	capstone project	Capstone	Yearly	CET faculty	CET faculty
produce technical document with a minimum of errors in spelling, punctuation, grammar and usage.	capstone project	Capstone	Yearly	CET faculty	CET faculty
communicate in professional manner, and respond to questions in language that is both concise and commensurate with audience's background.	capstone project	Capstone	Yearly	CET faculty	CET faculty

APPENDIX A. Curriculum

D 731 1/08

COMPUTER ENGINEERING TECHNOLOGY MAJOR

(BACHELOR OF SCIENCE DEGREE)

INDIANA STATE UNIVERSITY
COLLEGE OF TECHNOLOGY
TERRE HAUTE, IN 47809

Student's Name ____________________

Advisor's Name ____________________

CONTACT: Department of Electronics, Computer, and Mechanical Engineering Technology - (812) 237-3456
Interim Chair: Dr. Ming Zhou http://www.indstate.edu/ect/

TECHNOLOGY REQUIRED COURSES

Required: 39 Semester Hours

Course	Sem.	Grade
ECT 165 (3) D. C. Circuits and Design	____	____
ECT 167 (3) A. C. Circuits and Design	____	____
ECT 168 (3) Comp. Design Technology	____	____
ECT 231 (3) Digital Computer Logic	____	____
ECT 232 (3) Digital Computer Circuits	____	____
ECT 281 (3) Robotics Controls	____	____
ECT 301 (3) Comp. Network Mgt. Tech.	____	____
ECT 303 (3) Microcontroller Hdw. & Soft.	____	____
ECT 306 (3) Tech. Data Mgt. and App.	____	____
ECT 308 (3) Micro. App. & Interfacing	____	____
ECT 401 (3) Data Comm. & Internet Tech.	____	____
ECT 403 (3) Prac. Digtal Logic Design	____	____
ECT 406 (3) Comp. Systems Integration	____	____

Required: 12 Semester Hours

Course	Sem.	Grade
ECT 130 (2) Intro. To Elec. & Comp. Tech.	____	____
ECT 430 (1) Senior Seminar	____	____
ECT 437 (3) Indust Comp Systs Management	____	____

Select 6 sem. Hrs. of Management from courses such as:

Course	Sem.	Grade
TMGT 471 (3) Prod Plan & Control I	____	____
TMGT 478 (3) Industrial Organization. & Func.	____	____
TMGT 492 (3) Industrial Supervision	____	____
MET 404 (3) Engineering Design & Mgt.	____	____
MET 405 (3) Economic Analysis for Tech.	____	____

Math and Physical Science Requirements: 14 Semester Hours

Course	Sem.	Grade
CS 256 (3) C++ (or higher level structured language course)	____	____
MATH 301 (3) Fund & Appl of Calculus or Calculus Proficiency	____	____
Physical Science course (8 hrs)	____	____

Technical Electives: Minimum 6 Semester Hours

A minimum of 6 semester hours fulfilled by taking any College of Technology course.

GENERAL EDUCATION COURSES

Basic Studies: 11-26 Semester Hours

Course	Sem.	Grade
ENG 101/5 (6) Fund. of Writing*	____	____
OR		
ENG 107 (3) Freshman Writing*	____	____

*See Gen. Ed. Requirements. International Students should contact the English Department.

Course	Sem.	Grade
ENG 305T (3) Technical Writing	____	____
COM 101 (3) Intro to Speech	____	____
PE 101 & 101L (2) Fitness for Life	____	____
MATH 115 (3) College Algebra and Trigonometry	____	____

Course	Sem.	Grade
Foreign Language 101 & 102 (6)*	____	____
	____	____

*See Gen. Ed. Requirements

Liberal Studies: 31 Semester Hours

Course	Sem.	Grade
Scientific & Mathematical Studies (SMS): (7 hours)		
1 Foundation	____	____
1 Elective	____	____
Social and Behavioral Studies (SBS): (6 hours)		
1 Foundation	____	____
1 Elective	____	____
Literary, Artistic & Philosophical Studies (LAPS): (6 hours)		
1 Foundation	____	____
1 Elective	____	____
Historical Studies (HS): (3 hours)	____	____
Multi-Cultural Studies (MCS): (6 hours)		
1 Diversity	____	____
1 International	____	____
Capstone Requirement (CAP) (3 hours)	____	____

Semester Hours Required in Major (Tech, Math, Elect)	71
Semester Hours Required to Meet Gen. Ed Requirements	42-57
Note: Some required major hours meet Gen. Ed. Requirements	
Minimum Number of Semester Hours Required to Graduate	**124-130**

Feb-08

Computer Engineering Technology Bachelor of Science Degree
Typical Four Year Plan
Spring 2008

Fall Year 1

ECT 130	2 Credit Hour
ECT 165	3 Credit Hours
English 101**	3 Credit Hours
**OR ENG 107	(3 Credit Hours)
SBS: F,E	3 Credit Hours
COMM 101	3 Credit Hours
†Foreign Language	(3 Credit Hours)
	14-17 Credit Hours

Spring Year 1

ECT 167	3 Credit Hours
ECT 168	3 Credit Hours
ENG 105**	3 Credit Hours
**OR ENG 107	(3 Credit Hours)
Math 115	3 Credit Hours
†Foreign Language	(3 Credit Hours)
SBS:E	3 Credit Hours
	12-18 Credit Hours

Fall Year 2

ECT 231	3 Credit Hours
ECT 281	3 Credit Hours
HS: R	3 Credit Hours
CS 256	3 Credit Hours
MCS: USD	3 Credit Hours
	15 Credit Hours

Spring Year 2

ECT 232	3 Credit Hours
MCS: IC	3 Credit Hours
Phy. Sci. (Lab) SMS: F	4 Credit Hours
Management	3 Credit Hours
PE 101 & 101L	2 Credit Hours
	15 Credit Hours

Fall Year 3

ECT 301	3 Credit Hours
ECT 303	3 Credit Hours
Tech. Elective	3 Credit Hours
Management	3 Credit Hours
LAPS: LL	3 Credit Hours
†† Elective	(3 Credit Hours)
	15-18 Credit Hours

Spring Year 3

ECT 306	3 Credit Hours
ECT 308	3 Credit Hours
Math 301	3 Credit Hours
Tech. Elective	3 Credit Hours
Phy.Sci (Lab) SMS: E	4 Credit Hours
	16 Credit Hours

Fall Year 4

ECT 401	3 Credit Hours
ECT 403	3 Credit Hours
ECT 437	3 Credit Hours
Elective	3 Credit Hours
ENG 305T	3 Credit Hours
†† Elective	(3 Credit Hours)
	15-18 Credit Hours

Spring Year 4

ECT 406	3 Credit Hours
ECT 430	1 Credit Hour
Elective	3 Credit Hours
Elective	3 Credit Hours
LAPS: E	3 Credit Hours
CAP	3 Credit Hours
	16 Credit Hours

† See University Undergraduate Catalog requirements.
†† May be required to meet min. 124 sem. Hrs. for graduation.

Appendix B

IAB minutes

Indiana State University
Department of Electronics and Computer Technology
College of Technology

Advisory Board Meeting
November 24, 2009
Minutes

Present:
Advisory Board Members: Mr. David Adler, Mr. John Brasker, Mr. Brian Bridgewater (by teleconference from Ireland), Mr. J. R. Musselman (by teleconference from Nashville, TN), Ms. Dana Nakanishi, and Mr. John Watler.
ECT Department Faculty: Dr. Joe Ashby, Dr. David Beach, Dr. William Clyburn, Dr. Gerald Cockrell, Dr. William Croft, Dr. Xiaolong Li, Dr. Yuetong Lin, Mr. David Malooley, and Dr. Ming Zhou
Guest: Dr. Brad Sims

The annual Industrial Advisory Board Meeting for the Electronics and Computer Technology Department was held November 24, 2009 on the campus of Indiana State University, TC 314. The meeting came to order at 9:00 a.m. Opening remarks were made by Dr. Ming Zhou. He outlined some of the challenges facing our programs, such as enrollment concerns, financial constraints, and competition from other institutions. He asked the board for their help with efforts to continue improvements to our programs and with issues and requirements regarding accreditation.

Dean's Remarks. Dean Sims welcomed members of the advisory board and thanked them for their participation and efforts to improve programs in the College of Technology. He said that priorities within the COT are boosting enrollment and increasing outside funding.

Prof. Malooley thanked the advisory board for their participation in this meeting on such short notice. He said that we are currently in the midst of three accreditations: North Central Association (University), ATMAE, and TAC-ABET. He gave an overview of the current curriculum, and asked whether board members think that courses currently being offered are appropriate, or if there are others that should be added. What direction do we need to go to ensure that our students are successful?

Electronics Technology.
Cockrell: Do we still need to be doing device level courses?
Musselman: No.
Adler: Students need to know the basics even if they don't actually use it.
Watler: Agreed that you need to have an understanding.
Musselman: Suggested combining ECT 231 and ECT 232 into one course.
Watler: Agreed that courses could be compressed or combined.
Ashby: What are emerging technologies that should be included in the curriculum?
Musselman: Anything about I.P.
Clyburn: How about communications?
Watler: Students should know how to interface software & hardware.
Malooley: What about Visual Basic?
Watler: Said that he deals with that every day.

Adler: Students need to know about embedded microcontrollers
Sims: Suggested adding more soft skills in addition to technical skills—negotiating, Selling, and writing. Hopefully our students want to be managers.
Dana: Students are doing Power Point presentations in elementary schools now.
Cockrell: We try to produce problem solvers.
Bridgewater: Asked if surveys to recent graduates are being done?
Adler: How do we keep current with hardware that is obsolete in three years?
Clyburn: If you understand basic fundamental concepts, you have an education and have the ability to learn new things.
Adler: There is a perception in industry that academia is teaching technologies that are dated. He said he doesn't have the answer, but just stating the problem.
Musselman: What type of people are we trying to develop?

Prof. Malooley asked the advisory board members to create a graduate profile for each of the three programs and get them back to us within the next 3 weeks. The ECT faculty will then see how we can mesh this into our curriculum. The hope is with this information in hand to be better equipped to have three well designed programs.

Computer Engineering Technology.
Dr. Lin thanked the advisory board members for their response to his recent survey. He also outlined deficiencies found in the CET program by the TAC-ABET team.

The team did not see enough involvement by the advisory board.
Periodic surveys are needed.
More meetings – at least one meeting per semester
Board members assist with co-ops.
Developing program educational objectives.
Must define educational objectives in consultation with advisory board.
Continuous improvement must be shown.
Capstone course or integrating experience needs to be implemented into curriculum.

Prof. Malooley said that we are going to need to know more from the board members, and have at least two sit down meetings per year. Also, we will be more frequently bouncing ideas off them throughout the year. He asked the board if they are willing to increase their participation, and respond to frequent communications. We are being required by our accrediting agencies, as well as increasing our commitment to them, as employers, by raising our level of students we provide to industry.

Bridgewater: Can we sit in on senior projects as a way to help critique the program?
Musselman: Invited us to bring our students to his company for co-ops. He also Challenged all advisory board members to become more involved and more productive.

Watler: He said he is willing to commit more time.
Cockrell: He said he would like to see the board create the agenda for our meetings.
Adler: Culminating experience is important not only for accreditation, but also to Show employers what the student has or can accomplish. This type of capstone course can make this school even better.

Musselman: Described his experience as a member of the advisory board for Vanderbilt Engineering School (Nashville, TN) and being involved with students and guiding them in a two-semester group co-op course.

Lin: Do we need to add a capstone in the curriculum, or take one 3-hour block out and Convert it to a capstone experience? How do we approach this?

Bridgewater: Due to the rising cost of education, he does not agree with adding more hours. He suggested re-arranging the curriculum to add the capstone.

Watler: We all agree that a capstone course needs to be added, however it may be implemented.

VOTE: 6-0-0 to add a Capstone or culminating experience to the curriculum.

Malooley: Should the program name be changed from Electronics Technology to Electronics Engineering Technology and move to TAC-ABET accreditation?

There was discussion regarding the marketing aspect and employer recognition. Motion (Musselman/Watler), **VOTE: 6-0-0.**

There was general agreement by Mr. Brasker, Ms. Nakanishi, and Mr. Watler that the main reason for favoring the name change is program marketability and employer marketability/name recognition. Mr. Bridgewater said that the Engineering title is also more recognized internationally.

VOTE: 6-0-0 to seek TAC-ABET accreditation.

Electronics Technology Questionnaire. Prof. Malooley said that the questionnaire identifies 21 areas that make up the program and asks graduates to rate them. He asked advisory board members to take a look at the questionnaire and let us know if any changes should be made to the form.

Brasker: #10 and #11 are duplicates

Croft: Instead of C++ , he would prefer "high level structured language"

Malooley: Asked if the board has heard of a program called "Python," and should we discontinue the requirement of Visual Basic? The general consensus was no, Visual Basic should stay.

Croft: Change #18 to theories of amplification circuits.

Dana (and Musselman agreed): change PLC to automation controllers and instrumentation.

Employee Information Form.

Musselman, Brasker, and Watler: That subject is an "untouchable" one for them as employers. They are not allowed to talk about their employees to anyone.

NSF Grant.

Dr. Cockrell mentioned that he and Dr. Ashby are working on a NSF and gave disks to advisory board members containing examples of the work that is being done, presentations, etc.

The meeting adjourned at 12:00 Noon and was followed by a luncheon at Generations Restaurant.

Indiana State University
Department of Electronics and Computer Technology
College of Technology

Advisory Board Meeting
April 11, 2008
Minutes

Present:

Advisory Board Members: Mr. John Brasker, Mr. Richard Roop, and Mr. John Watler
ECT Department Faculty: Mr. Joe Ashby, Dr. David Beach, Dr. William Clyburn, Dr. William Croft, Dr. Nicholas Farha, Mr. Richard Jinbo, Dr. Yuetong Lin, Mr. David Malooley, and Dr. Ming Zhou
Guest: Dr. Todd Jochem (by teleconference)

The annual Industrial Advisory Board Meeting for the Electronics and Computer Technology Department was held April 11, 2008 on the campus of Indiana State University, TC 314. The meeting came to order at 9:45 a.m. Opening remarks were made by Dr. William Clyburn. He explained the reorganization that has taken place within the College of Technology and what programs are now included in the new ECMET Department. He talked about the challenges facing us as well as opportunities.

Dean's Remarks. Dean Foster told the advisory board how important their input is to our department. He reported that graduate enrollment is growing, undergraduate enrollment is declining. He mentioned that a new faculty member has been recommended by the department for hire (Dr. Xiaolong Li). He also reported that a TAC-ABET consultant will be visiting on April 23, 2008 to explore the possibility of accreditation. Dean Foster also talked about the Automation and Control Engineering Technology (formerly CIM) major that was recently moved to this Department.

Comments, Concerns, Etc. from the Advisory Board members:

Brasker: How are we dealing with increased pressure because of legislature changing the status of Vincennes University and IVY Tech.

Roop: His son recently graduated from Wabash College. He was amazed at their marketing success. He asked if money has been allocated for recruitment with high school counselors, etc. Dean Foster answered that Prof. Ashby is certified with the Project Lead the Way Program. Participating schools get $450/student. Those students come to us with 15 college credit hours and technology experience. ISU is reaching out to these students.

Dean Foster: IVY Tech has the same course content as the first two years of our programs, same accreditation, but it 40% cheaper for students.

Roop: Suggested that a market positioning statement is needed. Also suggested that we should use our alumni database for recruitment. R.O.I. (Return on Investment) should be stressed.

Jochem: Campus activities are much richer at ISU than IVY Tech or Vincennes University. He suggested that we find out what salaries their graduates are getting as compared to ours.

Jochem: Left ISU in 1990 (graduated 1996 with a Ph.D. in Robotics from Carnegie Mellon). He helped develop lane departure (drowsy driver) warning system for large trucks.

Brasker: 1981 ISU graduate, and is a team leader at Eli Lilly in insulin manufacturing facility.

Roop: 1980 Murray State EET graduate, received MBA at ISU. He began working in portfolio investments in 2001.

Watler: 1994 ISU graduate (M.S.)

Updates by Faculty on Curriculum.

Electronics Technology	Prof. Malooley
Computer Engineering Technology	Dr. Lin
Information Technology	Dr. Farha
Automation & Control Engineering Technology	Prof. Ashby
MSECT	Dr. Clyburn
Ph.D. Program	Dr. Beach

Farha: Asked Ashby how do you attract high school students to the Automation program?
Ashby: Project Lead the Way
Clyburn: Suggested that names of large well known industries that hire our students be used in our recruiting.
Brasker: Suggested that we get information about the Automation & Control Engineering Technology Program into publications such as Control Magazine, etc.
Ashby: We are getting really good publicity from ISA. Scholarships will also help attract students.
Brasker: Don't forget IEEE.

Student Co-ops and Placement. Dr. Croft reported that we have several students doing co-ops in local corporations. The last data we have regarding placement of our graduates was gathered for our last NAIT accreditation. Placement information is no longer being kept by the university. We do have graduates working all over the nation and in major and minor corporations all over the state. Our graduates also work in insurance and other unexpected fields.

Grants. Prof. Ashby reported that we recently received a NSF grant in the amount of $800,000. Dr. Cockrell and Don Arney (Ivy Tech) are P.I.s. Prof. Ashby is a secondary investigator. He talked about the remote lab advantage over simulation and outlined the 60 learning modules being developed.

Recruitment & Retention Activities. Dr. Farha talked about activities on the College of Technology level: Tech Trek, Tech Prep, Hands On High Tech, Articulation Agreements, and new brochures are being developed. Also University level: new web site (indstate.edu), Foundational Studies Program, First Year Students Program, Sycamore Advantage, Knowing Sycamores. Dr. Croft also mentioned that the ECT Department sent out materials to local and area high schools for the past few years and has begun to see some benefits from that effort.

Scholarships. Dr. Croft said that he had attended an Honors Day ceremony a few years ago where the ECT Department only awarded one scholarship. So we initiated a campaign to start new scholarships for our students (Alumni Endowed Scholarships). This year we were able to award four scholarships from this fund. Mr. Roop asked if it would be appropriate for the Advisory Board members to support a student scholarship?

Program Accreditation. Current accreditation is from NAIT. A consultant from TAC-ABET is coming later this month to consider accreditation.

Faculty Search Update. Prof. Malooley reported that we recently conducted a nationwide search. We had 40+ candidates and brought in 3 for interviews. The Search Committee has made their recommendation to the Dean. The Dean is currently contacting the candidate who was the number one selection.

Chair. A nationwide chair search was not granted. Dr. Ming Zhou is the Interim Chair until June.

Directions for the Future.

Jochem: We value critical thinking skills. One way to do this is to give students projects. He would encourage this. He would also encourage ECT students to take as many Computer Science courses (Linux, C++, etc.) as they can.

Roop: Suggested that we should be selling “a quality of life” instead of selling our product. Most big companies are using this approach to their advertising.

Brasker: What distinguishes us from other programs? He said that the Automation and Control Engineering Technology Program may be just that thing. He sees a real need in industry for graduates of this exact program.

Jochem: Does the department or college have funds for marketing without asking the university? Prof. Malooley replied that we are required to go through our marketing office for permission to use any ISU logo, etc. Dr. Jochem said to tell the university that our advisory board suggests these things (“This is industry talking.”) He asked what can we as outsiders do for you? We suggested that as outsiders we can say & do things that faculty cannot. He said that we need to build constituency and support within the College of Technology.

Roop: Suggested that we approach the Marketing Department to have students to a project advertising our department.

Croft: Asked the board members what we can do to increase enrollment? He suggested the possibility of setting up communication among themselves and providing input to us.

Jochem: He suggested the possibility of offering a Robotics Engineering Technology program.

Roop: Robotics and Automation are the new basic skill sets to take out and market.

Watler: Recruit high school counselors and IVY Tech counselors.
Jochem: Asked if it would be possible for the advisory board members to get a list of new admits to contact by phone. Watler and Jochem both agreed that could be very useful.

The meeting adjourned at 2:45 p.m. Faculty members took the advisory board members on a tour of the ECT labs and facilities.

Indiana State University
Department of Electronics and Computer Technology
College of Technology

Advisory Board Meeting
April 13, 2007
Minutes

Present:

Advisory Board Members: Mr. David Adler, Mr. John Brasker, Mr. Brian Bridgewater, Mr. J. R. Musselman, Ms. Dana Nakanishi, Mr. Richard Roop, and Mr. John Watler
ECT Department Faculty: Mr. Joe Ashby, Dr. David Beach, Dr. William Clyburn, Dr. Gerald Cockrell, Dr. William Croft, Mr. Nicholas Farha, Dr. Yuetong Lin, Mr. David Malooley, and Dr. Reza Raeisi
Guest: Mr. Brian Bonnett (TRW)

The annual Industrial Advisory Board Meeting for the Electronics and Computer Technology Department was held April 13, 2007 on the campus of Indiana State University, TC 101E. The meeting came to order at 9:45 a.m. Members and faculty briefly introduced themselves. Opening remarks were made by Dr. William Croft.

Dean's Remarks. Dean Foster reported on the College of Technology's reorganization from five to three departments effective Fall 2007. He also spoke about the COT's participation in Project Lead the Way, a program whereby high school students can earn up to 15 credit hours for courses taken. The Dean talked about some of the COT graduates and the jobs they are being offered upon graduation. He also mentioned the competition being provided by IVY Tech.

Advisory Board members each gave updates on their recent activities.

Minutes from the last meeting (4/7/06) were approved (Motion, Watler/Cockrell) unanimously.

Undergraduate Electronics Technology Program. Dr. Cockrell reported that the ECT programs have gone about 25 years without modifications. He asked board members what they see as new electronics technology for the future. Dr. Cockrell talked about program considerations such as *standards* being very important in the curriculum. Ms. Nakanishi noted that we should include not only U.S. standards, but also global standards. Is there benefit to putting a lab together? A large percent of our curriculum is lab-based. Is that what we should continue to be doing? Or can we simulate? It was suggested that much of the labs could be done in Project Lead the Way.

Dr. Croft asked how much of these program considerations need to be emphasized?
Mr. Bonnett: Some consolidation could take place.
Mr. Musselman: AC-DC op amps could be condensed, and that fundamentals should be covered at a shallow level while upper level material should be at a deeper level.
Mr. Bridgewater: Ability to communicate in a technical way.
Mr. Brasher: Students can not get enough Physics.
All agreed that Fluid Power should remain.
Math
IMT 103---some yes, some no
Dr. Cockrell: The emphasis in the last two years has been critical thinking and critical analysis.
Ms. Nakanishi: Make first two years better than what IVY Tech students are getting in their first two years.

Internship Report. Jesse Wortman transferred to ECT from Lakeland. He had an internship during Summer 2006 at B&C Machine & Design in Effingham, IL and gave a presentation about his experiences and discussed the types of technology used. Jesse is graduating May 2007 and has been offered a job at Praxair.

Nationwide Electronics Program at Distance. Dr. Croft explained the Nationwide articulation which would open up our 3rd and 4th year degree completion program to distance students nationwide. We would transfer in credits as a block for students who have earned an A.S. degree.

Computer Engineering Technology. Dr. Croft explained the process that has gone into revising the old Computer Hardware Technology program which has become the new Computer Engineering Technology major. The ECT Department has surveyed Advisory Board members, alumni, students, etc. After examining other programs across the country we found that we were already a Computer Engineering Technology program. We just didn't have the name. Former students said that the "name" would have made a difference in the type of job they could get. The accrediting group would change from NAIT to TAC-ABET. Dr. Croft described the new curriculum and the courses. Mr. Roop: "Awesome, this hits exactly what we need in industry." Mr. Musselman: "I don't see anything on computer security." The faculty has worked on this program revision and voted to approve. Dr. Croft asked for a vote (7-0-0) from the Board to proceed.

Information Technology Program. Prof. Farha gave an overview of the IT Program and noted that it does lack a security course. If it did include a security course he would put it up against any IT program in the nation. Mr. Musselman: Needs a security course and system design (configuration, etc.)

Graduate Programs. Dr. Clyburn reported briefly that there are approximately 80 students currently in the on-campus M.S. ECT Program. These students are mainly from India, and come here without any advertising or promoting.

Mr. Musselman: Through his company, he works with Vanderbilt Advisory board. They solicit companies for projects.

Dr. Cockrell talked about the M.S. ECT Distance Program and that it continues to grow. Students are enrolled from all over the United States.

Dr. Cockrell also spoke about the Ph.D. Program. 156 students are currently enrolled in the program among a consortium of five universities. He reported that Mr. Timur Mirzoev is graduating from the program in May and has a faculty position at Georgia Southern University beginning in Fall 2007.

Articulations._ Our articulations with two-year colleges have recently been updated.

Internships/Co-ops. A list of recent internships and co-ops was presented to the Board.

Placement. The ECT Department continues to have very high undergraduate placement numbers (80-85%).

Student Recruitment & Retention. After brainstorming sessions, the ECT Department tried the simplest thing first—we sent letters to all the Guidance Counselors in Indiana and Illinois. Then we sent letters to technical teachers in those high schools. We are now beginning to get calls and inquiries from these people.

NAIT Accreditation. Dr. Croft announced that we have full accreditation until 2010 for all programs in the department.

Faculty Grants.

Prof. Joe Ashby: His Promising Scholar funding is internal ISU money, but came from Lilly. His project is "Remote Labs." Mr. Ashby also has an IRTS grant. He reported that he will be going to Project Lead the Way Training.

Dr. Yuetong Lin: Has a Promising Scholar grant. His project is "Combining Neural Networks & Fuzzy Logic."

Dr. Reza Raeisi: Has a grant for Digital Logic Design.

Dr. Gerald Cockrell: Has been awarded an NSF grant. He mentioned that this opens the doors for ISU College of Technology to get more of these grants in the future. He will write 60 modules to be used in conjunction with IVY Tech. The award is for $800,000 over 3 years.

College of Technology Reorganization. The ECT Department will meld with a portion of the IMT Department. We will take on four of their faculty and some of their programs. Our programs will continue to exist as they are and we will still have need for our Advisory Board.

Assessment Plan. NAIT said that we lacked an Assessment Plan. Dr. Croft presented a two page (draft) questionnaire. The Advisory Board suggested that the wording in the questionnaire be changed from "liked best" or "liked least" to something like "strongest points."

Directions for the Future. Mr. Musselman again mentioned the Vanderbilt Advisory Board and suggested that it might have some benefits for us.

Dr. Croft thanked all for coming, and emphasized that we do listen to their suggestions and advise. He gave each member a College of Technology shirt. The meeting adjourned at 2:50 p.m.

Indiana State University
Department of Electronics and Computer Technology
College of Technology

Advisory Board Meeting
April 7, 2006
Minutes

Present:

Advisory Board Members: Mr. Brian Bridgewater, Ms. Dana Nakanishi, Mr. Richard Roop, and Mr. John Watler
ECT Department Faculty: Mr. Joe Ashby, Dr. David Beach, Dr. William Clyburn, Dr. Gerald Cockrell, Dr. William Croft, Mr. Nicholas Farha, Dr. Yuetong Lin, Mr. David Malooley, and Dr. Reza Raeisi
Guest: Dr. Tad Foster

The annual Industrial Advisory Board Meeting for the Electronics and Computer Technology Department was held April 7, 2006 on the campus of Indiana State University, TC 314. The meeting came to order at 9:45 a.m. Members and faculty introduced themselves briefly. Opening remarks were made by Dr. William Croft.

Dean's Remarks. Dean Foster mentioned that Digital Communications was the largest contingent in the Ph.D. program. Electronics Technology is always changing and is challenged to remain current. He briefly discussed budgetary issues at ISU.

Dr. Croft announced that Dr. Maloba has resigned his faculty position in the ECT Department and remains in the Democratic Republic of Congo as the President of the National Electric Company there.

Undergraduate Electronics Technology Program. Prof. Malooley gave an overview of the curriculum. The Program is scheduled to be revised in the next two years. He asked board members for their input for program revision. ECT 160 will become a non-major course and will be developing a section of 160 for Automotive majors. He announced that we will be offering our program (ECT 321 forward) at a distance on a nationwide basis. Mr. Roop inquired as to what had previously limited it to the state of Indiana. Dr. Cockrell asked the board members what language would be most beneficial for our students to study. They replied: Chinese, Spanish, Japanese. Prof. Malooley also talked about the transfer and articulation process and showed ISU's Transfer Central website and the Computer Assisted System (CAS). ISU is one of 259 institutions participating in CAS, and students may log on and get direct course equivalency information. Also, an interactive DARs is soon to come online.

Computer Hardware Technology Program. Dr. Raeisi explained that the program was very similar to the Electronics Technology program and that was the reason for revision. The Program has undergone a 2 year review. We are presenting the results of that review and we ask for comments from the Advisory Board. New emerging technology courses are to be offered in the revised program. Some courses have been eliminated from the old program and new ones added. Mr. Bridgewater asked if we based our benchmark against Computer Engineering degrees? Dr. Raeisi and Prof. Ashby gave a course by course overview of the courses to be included in the new program. Mr. Bridgewater asked if any course would cover industry standards such as S95? Dr. Croft asked for input—are we on the right track, have we missed anything? Ms. Nakanishi commented that some 200 level courses have been re-numbered as 100 level courses. Mr. Bridgewater asked how we will differentiate ourselves from MIS or IT majors. Dr. Croft replied that the revised program will move us to look like MSI or IT majors, but with much more added. We will keep the IT side but will retain the industrial flavor. Dr. Cockrell explained that in 1981 the program was called Computer Technology and later changed to Computer Hardware Technology. Mr. Bridgewater asked if our vision for the program is plant floor perspective or IT perspective. He sees too much computer design. Mr. Watler agreed. Those things are not needed in industry. Dr. Croft explained that we need to produce a person who is employable in all facets and useful in the marketplace. Mr. Bridgewater added that our graduates need to be able to "program it, understand it, and communicate it." Ms. Nakanishi sees a product design person coming out of this program more than overall systems integration. Mr. Roop: (1) In the power industry, there is a need for the Computer Hardware program and that is the type of person they look for. (2) Small and medium sized businesses are driving the economy and this Computer Hardware Program fulfills their needs. Mr. Watler said that careful advising will be needed to know what direction a student would want to take. Mr. Roop wants to challenge us to be visionary-- what will be needed for the future. Mr. Watler felt like he got from the ECT Department a very good foundation for what he needed in his career. Mr. Bridgewater suggested that plant tours would be very beneficial, and that after tours students should be asked what route they want to take—plant floor or IT? We could ask alumni to give plant tours.

Nationwide Articulation. We are preparing to open up our 3rd and 4th year degree completion program to distance students nationwide. We would transfer in as a block for students who have earned an A.S. degree. Question to the advisory board: Do you have any reservations about the concept or ideas on the subject. Mr. Bridgewater expressed concerns about resourcing or staffing to support the courses. Could graduate students teach? Mr. Watler asked how large we anticipated the population grow, and that we might consider limiting enrollment if needed. Dr. Cockrell sees this as growing to be similar to the University of Phoenix, and added that it will be open to those in the military. Mr. Bridgewater asked who we are aligned with for marketing? Dr. Croft asked if there were any cons to consider and how it might be viewed by employers. Mr. Roop asked if we have a plan in place to prevent other schools from copycatting. Ms. Nakanishi asked if we had the hardware requirements to support the increased student enrollment. The Advisory Board as a whole gave their approval to offering the program on a nationwide basis.

Information Technology Program. Prof. Farha gave a brief overview of the program, explaining that there were four ways to approach the study of computers at ISU: 1. Computer Science (Programming), 2. MIS (Business based), 3. Computer Hardware Technology (Electronics based), and 4. IT (Technology based, broadest content). Currently there are 126 majors in the IT Program. Prof. Farha hopes to add a securities course to the program. Mr. Watler suggested that we open up Computer Technology courses into the IT program.

M.S. Program. Dr. Clyburn gave an overview of the program. He reported the enrollment figures for the on-campus M.S. in ECT program were 51 students in Fall 2005, and 40 students in Spring 2006. He has admitted an additional 40 students for Fall 2006. Enrollment in the on-campus program is primarily made up of students from India. He asked board members to keep in mind that these students have BSEE degrees and could help with projects or problems in industry, and the students could then use that experience as a Major Project. Advisory Board members could then serve as a member of the student's Major Project committee.

M.S. Program (Distance). Dr. Cockrell reported that currently 24 students are enrolled in the distance M.S. program. These students are full time working professionals.

Ph.D. Program. Dr. Beach gave an overview outlining specializations and participating consortium members. There are currently 152 students enrolled, 48 are in Digital Communications.

Faculty Activities, Grants, etc.:

Prof. Joe Ashby: Mini-grant ($5,000) for PLC Trainers for remote lab to allow distance students to perform hands on lab work.

Dr. David Beach: Serving on 37 Ph.D. dissertation committees

Dr. William Clyburn: Mini-grant for Systems Integration

Dr. Gerald Cockrell: He is involved in a long-term project with Russia. 11 students came here last summer for a week as part of an exchange program with ISU. 6 more students are scheduled to visit this Fall. He has been teaching a Distance Project Management course and will be awarding completion certificates at the end of this semester. He also announced the creation of CASI (Center for Automation and Systems Integration).

Dr. Yuetong Lin: Mini-grant for the upgrade of software. He is also collaborating with Dr. Beach on the Neural Network.

Dr. Reza Raeisi: Internal grant to revitalize micro-controllers in labs.

Recruitment. Dr. Croft reported that recently the faculty met for a brainstorming session regarding ideas for recruiting new students to ECT. They came up with 30 ideas and narrowed those down to the top 5. Dr. Cockrell asked student Michael Grounds what he would view as the best way to reach high school students? And what influenced him to come to ISU. Suggestions from the advisory board: Science Fairs, Boy Scout Science Fair, and 4-H.

NAIT. Dr. Clyburn reported that the ECT department is in the process of preparing a 2-year report. During our last review, the accreditation team felt that we were in partial compliance for 10 items. A 2-year review will answer those problems. We were criticized heavily on our Assessment Plan.

Questions from the Advisory Board:

What is our budget for the year? (Mr. Bridgewater)

$11,000 equipment

What about contact with alumni and gifts? (Mr. Roop)

- Scholarship initiative
- ECT Foundation
- New Development Director interviews are currently taking place

What about the possibility of a Mentoring program (alumni)? (Mr. Bridgewater)

What about the possibility of a Career Day—bring in alumni who are professionals for students to talk with? (Mr. Roop)

Dr. Croft asked the board members to complete the written surveys before they left for the day including an Assessment Survey.

Mr. Bridgewater mentioned that Purdue graduates are required to do a 4-year project as an assessment tool.

Mr. Watler suggested an Exit interview with students upon graduation. A one-on-one informal interview. Not necessarily every student, maybe just a sampling.

Mr. Roop suggested a Senior Exam that would pull everything together in their major. Dr. Croft asked, “What do we do with the results?” Compare grade results with those in courses taken by the student. Mr. Roop said the exam does not need to be difficult—just something to see that students have basic competency and help bring together everything they have learned. Bring career application-type questions into the exam. Or—questions to graduates after one year of work to find out if students are adequately prepared.

What competencies are needed? Written and verbal communication skills (Nakanishi and Bridgewater). Mr. Roop suggested that each course require a written report. Senior projects would challenge students’ technical and communication skills. Ms. Nakanishi added that presenting gives students the opportunity to present in a safe environment.

Dr. Croft asked, “What made your employer hire you?” I was able to exhibit fundamental methodology of problem solving (Nakanishi). Common sense and could communicate. They saw that I had a degree and knew that I could problem solve (Watler). Titles are very important buzzwords to employers when they hire (Roop).

Suggested Content Areas for the Future:

- Technical Research skills (Watler)
- Being able to read prints (Roop)
- Understanding Standards (Bridgewater)
- Industry Regulations (Nakanishi)
- Regulatory bodies—teach OSHA, NFPA, etc. (Roop)
- Industrial Safety Network (Nakanishi)

The meeting adjourned at 3:35 p.m.

Indiana State University
Department of Electronics And Computer Technology
College of Technology

Advisory Board Meeting
April 22, 2005
Minutes

Present:

Advisory Board Members: Mr. David Adler, Mr. Brian Bridgewater, Mr. J. R. Musselman, and Mr. Richard Roop
ECT Department Faculty: Mr. Joe Ashby, Dr. David Beach, Dr. William Clyburn, Dr. Gerald Cockrell, Dr. William Croft, Mr. Nicholas Farha, Mr. Richard Jinbo, Mr. David Malooley, and Dr. Reza Raeisi
Guest: Dr. Tad Foster

The annual Industrial Advisory Board Meeting for the Electronics and Computer Technology Department was held April 22, 2005 on the campus of Indiana State University, TC 314. The meeting came to order at 10:00 a.m. Members introduced themselves briefly. Opening remarks were made by Dr. William Croft who gave an overview of the ECT Department curriculum and announced our recent reaccreditation by NAIT.

Prof. Farha reported on the Information Technology major which currently has about 130 majors. ECT, MIS, and CS departments are all involved in this major.

Dr. Clyburn talked about the M.S. in ECT Program on campus. He spoke of his duties as Coordinator and stated that there are currently 54 students in the program. A brief overview of the curriculum was presented.

Dr. Cockrell described the M.S. in ECT at Distance Program. ISU has become a leader in presenting distance courses and simulation via the internet. The only advertising for the program is done through ISA. The content is exactly the same as for the students who study on the ISU campus. There are currently 66 active students in the M.S. at Distance program.

Dr. Cockrell also spoke about the Ph.D. in Technology Management degree. It is made up of a consortium of five universities, and is the largest doctoral program at ISU. Admission to the program is very selective, with about 150 students currently accepted. Eleven students have graduated to date.

Prof. Malooley described the Electronics Technology B.S. degree and the articulation programs with 2-year schools. He gave an overview of our current curriculum and 4-year plan. Dr. Cockrell asked the Advisory Board what foreign language they would view as most beneficial for advisors to recommend to students. All agreed that Spanish is the language they would recommend.

Dr. Croft talked about the distance-based undergraduate program in ECT . IHETS courses have been eliminated and delivery is now internet-based, paving the way for consideration to offer the program nationwide. He told the board members that he will be seeking their input on issues they may anticipate in offering the courses on a nationwide basis.

Prof. Ashby and Dr. Raeisi reported for the Computer Hardware Subcommittee. They discussed the proposal to revise the Computer Hardware Program and asked for help in finding opportunities for our students. The purpose of the program modification is in response to changes in industry. The proposed 4-year plan was presented and discussed course by course. Several new courses are included in this plan. J. R. Musselman noted the addition of several new courses and asked if old courses had been eliminated or combined. Dr. Croft clarified what is being done. He also talked about how the Computer Hardware major and Electronics major curricula currently look almost identical except for only 4 courses. David Adler asked about server technology. What course or courses would include that material? Brian Bridgewater asked about other networks besides ethernet networking such as bus networks. Dr. Cockrell noted that we no longer are working with components. This has become a “systems world.” J.R. Musselman expressed that he saw this program modification as a great move. He said that we must think about the future, and that the U.S. is becoming less of a manufacturing country and is moving more toward Information Technology. He asked about Information Security. He was concerned as to whether we were including courses covering security. Brian Bridgewater mentioned a need for people to understand Data Segregation. Dr. Croft said that sometime between now and the next meeting the department will be asking for input from the Advisory Board members on the proposed curriculum. Brian Bridgewater and J.R. Musselman talked about Wireless Technology and how it can be applied to the plant floor. Mr. Musselman applauds our efforts and thought we are on the right path but also advised us to look to the future.

A Computer Hardware Technology Survey was included in the materials given to the Advisory Board members. Dr. Croft asked the board to answer the questions on the survey and return them to the ECT Department by June. There was also some discussion about the name of the program and if it conveys what the major is about. Mr. Adler mentioned the possibility of using the word “Infrastructure” in the program name.

A motion was made (Cockrell/Malooley) to have Brian Bridgewater and David Adler as permanent members of the ECT Industrial Advisory Board.

Dr. Croft reported to the board about the ECT Department Scholarship Initiative. It is an in-house initiative to promote new scholarships for our students. What can we do to establish and offer new scholarships to our students? He asked for input from the board members as to where we might seek money for this program.

Lunch was served at George’s Café, 12:00-1:00pm.

Dr. Cockrell reported that the Automation Task Force was looking at developing among several departments an interdisciplinary program in Automation. The Dean would like to develop a Center for Automation and Systems Integration which would be a Center for Expertise to be utilized by industry. Dr. Cockrell asked for input as to whether something like this is needed. Mr. Adler mentioned that Imperial College (London) might be a good place to model the Center after. He could provide information about that institution. Mr. Bridgewater said this would allow high school students to know what can be done with this kind of degree. He thinks they would find it fascinating. Dr. Croft asked what kind of issues they could see us having to deal with. Mr. Adler mentioned colloquialisms and ways we communicate with other cultures. Dr. Croft asked how does industry view hiring people who have a distance based education. Mr. Adler related that Lilly is very traditional in the types of people they hire, and are more inclined to hire people from the Midwest.

At the conclusion of the meeting the Industrial Advisory Board members were invited to tour the John Myers Technology Building and the ECT laboratories.

The meeting adjourned at 1:50 p.m.

Appendix C

Student Instructional Report (SIR)

SIR II STUDENT INSTRUCTIONAL REPORT II (SIR II)

SIR II Report Number

This questionnaire gives you the chance to comment anonymously about this course and the way it was taught. Using the rating scale below, mark the one response for each statement that is closest to your view. Fill in the appropriate circle to the right of the statement.

(5) Very Effective
(4) Effective
(3) Moderately Effective
(2) Somewhat Ineffective
(1) Ineffective
(0) Not applicable, not used in the course, or you don't know. In short, the statement does not apply to the course or instructor.

As you respond to each statement, think about each practice as it contributed to your learning in this course.

	Very Effective	Effective	Moderately Effective	Somewhat Ineffective	Ineffective	Not applicable
A. Course Organization and Planning						
1. The instructor's explanation of course requirements	5	4	3	2	1	0
2. The instructor's preparation for each class period	5	4	3	2	1	0
3. The instructor's command of the subject matter	5	4	3	2	1	0
4. The instructor's use of class time	5	4	3	2	1	0
5. The instructor's way of summarizing or emphasizing important points in class	5	4	3	2	1	0
B. Communication						
6. The instuctor's ability to make clear and understandable presentations	5	4	3	2	1	0
7. The instructor's command of spoken English (or the language used in the course)	5	4	3	2	1	0
8. The instructor's use of examples or illustrations to clarify course material	5	4	3	2	1	0
9. The instructor's use of challenging questions or problems	5	4	3	2	1	0
10. The instructor's enthusiasm for the course material	5	4	3	2	1	0
C. Faculty/Student Interaction						
11. The instructor's helpfulness and responsiveness to students	5	4	3	2	1	0
12. The instructor's respect for students	5	4	3	2	1	0
13. The instructor's concern for student progress	5	4	3	2	1	0
14. The availability of extra help for this class (taking into account the size of the class)	5	4	3	2	1	0
15. The instructor's willingness to listen to student questions and opinions	5	4	3	2	1	0
D. Assignments, Exams, and Grading						
16. The information given to students about how they would be graded	5	4	3	2	1	0
17. The clarity of exam questions	5	4	3	2	1	0
18. The exams' coverage of important aspects of the course	5	4	3	2	1	0
19. The instructor's comments on assignments and exams	5	4	3	2	1	0
20. The overall quality of the textbook(s)	5	4	3	2	1	0
21. The helpfulness of assignments in understanding course material	5	4	3	2	1	0

E. Supplementary Instructional Methods

Many different teaching practices can be used during a course. In this section (E), ***rate only those practices that the instructor included*** *as part of this course.*

Rate the effectiveness of each practice used as it contributed to your learning.

	Very Effective	Effective	Moderately Effective	Somewhat Ineffective	Ineffective	Not used
22. Problems or questions presented by the instructor for small group discussions	5	4	3	2	1	0
23. Term paper(s) or project(s)	5	4	3	2	1	0
24. Laboratory exercises for understanding important course concepts	5	4	3	2	1	0
25. Assigned projects in which students worked together	5	4	3	2	1	0
26. Case studies, simulations, or role playing	5	4	3	2	1	0
27. Course journals or logs required of students	5	4	3	2	1	0
28. Instructor's use of computers as aids in instruction	5	4	3	2	1	0

Questionnaire continued on the other side.

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For the next **two** sections (F and G), use the rating scale below. Mark the one response for each statement that is closest to your view. Fill in the appropriate circle to the right of each statement.

(5) **Much More** than most courses
(4) **More Than** most courses
(3) About the **Same** as others
(2) **Less** than most courses
(1) **Much Less** than most courses
(0) **Not Applicable**, not used in the course, or you don't know. In short, the statement does not apply to the course or instructor.

	Much More than most courses	More Than most courses	About the Same as others	Less than most courses	Much Less than most courses	Not Applicable
F. Course Outcomes						
29. My learning increased in this course	5	4	3	2	1	0
30. I made progress toward achieving course objectives	5	4	3	2	1	0
31. My interest in the subject area has increased	5	4	3	2	1	0
32. This course helped me to think independently about the subject matter	5	4	3	2	1	0
33. This course actively involved me in what I was learning	5	4	3	2	1	0
G. Student Effort and Involvement						
34. I studied and put effort into the course	5	4	3	2	1	0
35. I was prepared for each class [writing and reading assignments]	5	4	3	2	1	0
36. I was challenged by this course	5	4	3	2	1	0

H. Course Difficulty, Work Load, and Pace

37. For my preparation and ability, the level of difficulty of this course was:
(5) Very difficult (4) Somewhat difficult (3) About right (2) Somewhat elementary (1) Very elementary

38. The work load for this course in relation to other courses of equal credit was:
(5) Much heavier (4) Heavier (3) About the same (2) Lighter (1) Much lighter

39. For me, the pace at which the instructor covered the material during the term was:
(5) Very fast (4) Somewhat fast (3) Just about right (2) Somewhat slow (1) Very slow

I. Overall Evaluation

40. Rate the quality of instruction in this course as it contributed to your learning (try to set aside your feelings about the course content):
(5) Very effective (4) Effective (3) Moderately effective (2) Somewhat Ineffective (1) Ineffective

J. Student Information

41. Which one of the following best describes this course for you?
(1) A major/minor requirement (2) A college requirement (3) An elective (4) Other

42. What is your class level?
(1) Freshman/1st year (2) Sophomore/2nd year (3) Junior/3rd year (4) Senior/4th year (5) Graduate (6) Other

43. Do you communicate better in English or in another language?
(1) Better in English (2) Better in another language (3) Equally well in English and another language

44. Sex (1) Female (2) Male

45. What grade do you expect to receive in this course?
(1) A (2) A- (3) B+ (4) B (5) B- (6) C (7) Below C

K. Supplementary Questions If the instructor provided supplementary questions and response options, mark your answers in this section. Mark only one response for each question.

46. (5)(4)(3)(2)(1)(NA) 48. (5)(4)(3)(2)(1)(NA) 50. (5)(4)(3)(2)(1)(NA) 52. (5)(4)(3)(2)(1)(NA) 54. (5)(4)(3)(2)(1)(NA)
47. (5)(4)(3)(2)(1)(NA) 49. (5)(4)(3)(2)(1)(NA) 51. (5)(4)(3)(2)(1)(NA) 53. (5)(4)(3)(2)(1)(NA) 55. (5)(4)(3)(2)(1)(NA)

L. Student Comments If you would like to make additional comments about the course or instruction, use a separate sheet of paper. You might elaborate on the particular aspects you liked most as well as those you liked least. Also, how can the course or the way it was taught be improved? An additional form may be provided for your comments. **Please give these comments to the instructor.**

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If you have any comments about this questionnaire, please send them to:
Student Instructional Report II, Educational Testing Service, Princeton, NJ 08541-0001.

Appendix D

Peer Evaluation Instrument (PEI)

PEER EVALUATION INSTRUMENT (Objective Format)	**Date Observed**
The objective of this instrument is to ascertain whether the teaching is categorized according to the teaching excellence section: Outstanding, Above Average, Average, or Poor.	
INSTRUCTIONS: Check (✓) each item as: **S-** Satisfactory or **NI** – Needs Improvement. Items which are not applicable to the lesson presented should be checked as **NA-** Not Applicable.	
NAME OF FACULTY MEMBER (last, first, middle initial)	Time Observation Started: Time Observation Completed:
NAME OF EVALUATOR (last, first, middle initial)	Course Number___________ Regular Class Time: Lecture ( ) Lab ( )

ITEMS	**RATING**			**COMMENTS**
	S	NI	NA	
A. ORGANIZATION/PREPARATION/CLASS MANAGEMENT				
1. Class starts promptly				
2. Teaching materials and equipment prepared for class				
3. Goals for lesson clearly stated; objective and sequence are consistent with approved department outline				
4. Time managed well				
5. Proper control of class				
6. Main points reviewed at conclusion				
B. COMMUNICATION SKILLS				
1. Proper use of the language				
2. Easily understood				
C. SUBJECT MATTER KNOWLEDGE				
1. Excellent grasp of subject matter				
2. Subject matter up-to-date				
3. Material detailed				
4. Material presented was relevant and timely				
D. FLEXIBILITY IN APPROACHES TO TEACHING				
1. Stimulates interchange/exchange of ideas				
2. Develops high and consistent standards that can be achieved				
3. Creates an environment in which maximum learning can take place				
4. Student participation encouraged				
E. EVALUATION TECHNIQUES				
1. Questions phrased clearly and to the point				
2. Questions appropriate for the lesson				
3. Student's questions answered adequately				
4. Expands and discusses student responses				

ADDITIONAL OBSERVATION AND COMMENTS

Signature of Faculty______________________ Signature of Evaluator_________________________

Appendix E

Chair Evaluation Instrument

CHAIR EVALUATION INSTRUMENT (Objective Format)				**Date Observed**
The objective of this instrument is to ascertain whether the teaching is categorized according to the teaching excellence section: Outstanding, Above Average, Average, or Poor.				
INSTRUCTIONS: Check (✓) each item as: **S**- Satisfactory or **NI** – Needs Improvement. Items which are not applicable to the lesson presented should be checked as **NA**- Not Applicable.				
NAME OF FACULTY MEMBER (last, first, middle initial)	Time Observation Started: Time Observation Completed:			
NAME OF EVALUATOR (last, first, middle initial)	Course Number___________ Regular Class Time: Lecture ( ) Lab ( )			
ITEMS	**RATING**			**COMMENTS**
	S	NI	NA	
A. ORGANIZATION/PREPARATION/CLASS MANAGEMENT				
1. Class starts promptly				
2. Teaching materials and equipment prepared for class				
3. Goals for lesson clearly stated; objective and sequence are consistent with approved department outline				
4. Time managed well				
5. Proper control of class				
6. Main points reviewed at conclusion				
B. COMMUNICATION SKILLS				
1. Proper use of the language				
2. Easily understood				
C. SUBJECT MATTER KNOWLEDGE				
1. Excellent grasp of subject matter				
2. Subject matter up-to-date				
3. Material detailed				
4. Material presented was relevant and timely				
D. FLEXIBILITY IN APPROACHES TO TEACHING				
1. Stimulates interchange/exchange of ideas				
2. Develops high and consistent standards that can be achieved				
3. Creates an environment in which maximum learning can take place				
4. Student participation encouraged				
E. EVALUATION TECHNIQUES				
1. Questions phrased clearly and to the point				
2. Questions appropriate for the lesson				
3. Student's questions answered adequately				
4. Expands and discusses student responses				

ADDITIONAL OBSERVATION AND COMMENTS

Signature of Faculty______________________ Signature of Evaluator_________________________

ELECTRONICS TECHNOLOGY

SELF-STUDY REPORT

for the

ASSOCIATION of TECHNOLOGY, MANAGEMENT, and APPLIED ENGINEERING

DEPARTMENT OF ELECTRONICS, COMPUTER, AND MECHANICAL ENGINEERING TECHNOLOGY
COLLEGE OF TECHNOLOGY
INDIANA STATE UNIVERSITY

February 2010

Section III

Compliance with Standards

Electronics & Computer Technology Department

Electronics Technology B.S.

Compliance with Standards

6.1 Preparation of Self-Study Report

Self-Analysis: The Self-Study Report shall follow the guidelines and be completed by a representative portion of the institutions administrative staff, teaching faculty, and students.

During the Fall Semester, 2009, the preparation of the self-study of the Electronics undergraduate degree program offered by the Department of Electronics, Computer, and Mechanical Engineering Technology was completed in concert with the Administration, Faculty, Staff, and students of programs seeking accreditation within the College of Technology. Numerous meetings of key Administrators, Faculty, Support Staff, and Students were held under the guidance of Dr. R. Brad Lawson, a long time member of NAIT Accreditation teams and board. Additionally, Faculty retreats have been held to establish a new evaluation plan for determining the achievement of student success for the degree. A special meeting of the Industrial Advisory Board was held to more clearly define curriculum, outcomes, and student competencies.

6.2 Philosophy and Objectives

6.2.1 Mission: The department, college, and institutional missions shall be compatible with the approved definition of Industrial Technology.

In the rapidly changing "Global" society and Just-In-Time manufacturing that is "Lean" in every respect, students must be prepared as never before. Students must understand the consequences of this new philosophy and realize that they must be better prepared not just in the traditional hard technologies as circuits, components, and devices, but must also be well versed in a "systems" approach. They must more fully comprehend both application based and off-the-shelf utilization of pre-engineered technology to be successful.

In the State of Indiana, the introduction of the Junior College system where students may complete the first two years of a baccalaureate program by completing an AS or AAS degree has forced universities to evolve. The influence of non – traditional students, i.e. those students entering as other than the traditional high school graduate in the same year, has required changes in the offering of the curriculum allowing students to cleanly articulate into the program. These factors along with direct input from the industrial advisory board, industry, faculty, recent graduates, and business has resulted in the program being continually scrutinized for objectives, content, sequencing, and structure. As a culmination of this process for the undergraduate program in Electronics, the Department has carefully developed curriculum procedures, contents and strategies resulting in the following Mission Statement.

"The Department of Electronics, Computer, and Engineering Technology at Indiana State University is to prepare students for careers as technical professionals in an environment that involves applications in design, manufacture, control and integration of electro-mechanical products or systems, and requires a practical problem solving approach that emphasizes hands-on skill with modern productivity tools (e.g. design, analysis, control, diagnostic, and project management tools)."

6.2.2 Program Definition: The major program definition and purpose shall be compatible with the approved definition of Industrial Technology.

The Electronics Technology program consists of curricular and hands-on experiences that are application-oriented; with technical content, information, and theory for the design, development, application, control, and utilization of electrical, electronic, power, Programmable Logic Controllers (PLCs) and other control technologies and strategies.

The ET program meets the definition of an Industrial Technology Program because its curriculum prepares students for technical and technical management-oriented professional positions in business, industry, and government. The curriculum provides:

1. Foundational Studies that integrate liberal arts, behavioral science, and communication skills.

2. Mathematics and physical science concepts and theories that are critical to the understanding and applications of electronics technology.

3. Concepts and principles of management, human resource, and production control in manufacturing industry.

4. All-around education in electronics circuits, components, and systems; robotics and automation, digital concepts, power, and circuit analysis.

6.2.3 Program Acceptance: Each major program shall be understood and accepted by appropriate individuals and representative groups within the internal university community and the external business and industrial community.

The Electronics Technology program is accepted throughout the University. Faculty members from the Department of Electronics, Computer, and Mechanical Engineering Technology are represented on virtually every major University Committee and College Committee. Faculty members are involved in university committees such as the Curriculum and Academic Affairs Committee, Graduate Studies, General Education Council, Foundational Studies Task Force, Faculty Senate and various committees throughout the College of Technology.

The support offered to the programs by industrial donations and willingness of industrial individuals to serve on the advisory board demonstrate their acceptance and unqualified belief in the value of the Department of Electronics, Computer, and Mechanical Engineering Technology to provide viable graduates able to perform and meet the needs of the employers.

The College of Technology as a whole is rapidly increasing in stature with the University community with some external degree programs partnering with or even desiring to join the College.

6.2.4 Program Goals: Each major program shall have clearly written short and long range goals and objectives, which are consistent with the mission statements, and plans for achieving them.

Provide knowledge and skill to prepare people to create, understand, apply and evaluate technologies in electronics, computer, automotive and mechanical engineering technology area;

Contribute to regional economic development by partnering with industries to develop or collaborate in applied research and development projects and technology transfer, and engaging in other public or community service activities;

Enhance graduate education and continue to develop academic scholarship through applied research, grants/patents, and other innovations;

Become a leader in degree completion partnership with other schools and colleges and providing high quality yet flexible curricula for non-traditional students via distance education.

Specific areas of competencies have been identified as: (A) Mastery of Knowledge and Tools, (B) Apply Technical Knowledge, (C) Experiment And apply Results, (D) Be Creative In Design And Application, (E) Function Effectively In The Team Environment, (F) Effective Problem Solving, (G) Effective Communication, (H) Embrace Lifelong Learning, (I) Understand Professional And Ethical Responsibilities (J) Respect Diversity and Professional Responsibilities, (K) Embrace Quality. These are more fully developed in Standard 6.3.11 below.

6.3 Major Program(s)

6.3.1 Program Name: Each program of study and/or program option shall have appropriate titles consistent with the approved ATMAE definition of Industrial Technology.

Electronics Technology

A proposal to change the name to Electronics Engineering Technology is in process at the time of preparation of this report. This change is to better reflect the current trend in use of the term Engineering Technology throughout the State of Indiana at Vincennes University and Ivy Tech Community College, two feeder programs of the BS degree program. The Industrial Advisory Board has also recommended this change during the November 2009 meeting.

6.3.2 Program Level: The major program shall lead to the baccalaureate degree, and not less than the junior and senior years of baccalaureate level study shall be offered by the institution seeking accreditation. Appropriate lower division requirements may be offered by the same institution or may be transferred from other institutions including community colleges and technical institutes.

The degree in Electronics Technology is a Bachelor of Science degree requiring 124-129 Credits (Depending on General Education preparation). Students must complete a minimum of 50 credits at the 3-400 level to earn the BS Degree. Students may take all four years at ISU or may transfer in with an approved articulated AS or AAS degree typically entering at the Junior level. Table 6.1 BS Degree Program, clearly shows the requirements for the program.

6.3.3 Program Definition: The major program may have more than one option, specialization, or concentration; but specific course requirements for each option shall be clearly specified, and all program options shall meet or exceed appropriate ATMAE standards

The baccalaureate degree in Electronics Technology prepares individuals by providing information and laboratory experiences. The familiarity with components, devices, and circuits enables students to acquire advanced technical expertise and competence that is necessary for the design, development, utilization, application, and management of electrical and electronic systems. The majority of the courses within the major are laboratory courses with additional class hours. A typical three credit laboratory course will meet for two hours, three days a week, (or equivalent.) The degree program is offered as a typical four year brick and mortar for the traditional student or as a two year completion distance degree for students holding an AS or AAS from an approved accredited regional institution through comprehensive articulation agreements covering the first two years of course materials.

6.3.4 Program Emphasis: Primary emphasis in the major program shall reflect the current technology and management of industry.

The primary focus is to provide students the opportunity to develop an ability to properly handle actual on the job situations, as well as acquire an awareness of the need for continuing professional growth and education. Again, students must realize that they should be prepared not just in the traditional hard technologies as circuits, components, and devices, but must also be well versed in a "systems" approach. They must comprehend both application based and off-the-shelf utilization of pre-engineered technology to be successful. The ECT faculty constantly seeks to maintain a contemporary level of technology in all of its programs. This is accomplished through a variety of methods including meetings with the Department's advisory board; and contacts with alumni and local industry leaders. Visitation to area industrial facilities and contacts with colleagues through participation in professional organizations are also used to provide feedback in maintaining a contemporary level of technology in the program.

6.3.5 Foundation Requirements: Major programs shall be a minimum of 120 semester hours (or equivalent) and must meet the minimum foundation requirements shown in Table 6.1. Programs may exceed the maximum foundation requirements specified in each area, but appropriate justification shall be provided for each program and/or program option that exceeds the maximum limits. A specific list of courses and credit hours that are being counted toward each category shall be included in the Self-Study Report.

The course requirements for the Technical area of the major are 36 credits plus 8 credits of electives. The courses that are included in this area are essential in that sequential presentation of material from the introductory level to the advanced level is critical. Again, the rapidly changing "Global" society and Just-In-Time manufacturing that is "Lean" in every respect, requires students to realize that they must be better prepared not just in the traditional hard technologies as circuits, components, and devices, but also the "systems" approach. Course structure providing both application based and off-the-shelf utilization of pre-engineered technology is paramount. Upon advice from the Industrial Advisory Board, and faculty opinion, these 44 credits of technical content are critical.

TABLE 6.1
Electronics Technology

B.S. Degree Program
Minimum/Maximum Foundation Requirements

	Course Credits	ATMAE Requirements	ISU Requirements
General Education			
Eng. 101 & 105 or Eng 107	3-6		
Communications 101	3		
Physical Education	2		
English 305T	3		
Social & Behavioral Studies	6		
Literary, Artistic, and Phil. Studies	6		
Historical Studies	3		
Multicultural Studies	6		
Gen. Educ. Capstone Course	3		
Foreign Language	0-6		
		18-36	**35-44**
Mathematics			
Math 115 – College Algebra	3		
Math 301 – Applied Calculus	3		
CS 256 – Prin. Of Structured Des.	3		
ECT 221 – Circuit Analysis I	3		
ECT 321 – Circuit Analysis II	3		
ECT 421 – Ckt. Analysis by Calc.	3		
		6-18	**18**
Physical Science (any combination of the following)			
Physics, Chemistry, Life Science, Geology	8	**6-18**	**8**
Management			
ECT 437 – Comp. Systems Mgt.	3		
TMGT471 – Production Planning	3		
TMGT 478 – Ind. Organization	3		
TMGT 492 – Ind. Supervision	3		
ECT 130 – Intro. to Electronics	2		
ECT 430 – Senior Seminar	1		
		12-24	**15**
Technical			
ECT 165 – D.C. Ckts. & Design	3		
ECT 167 – A.C. Ckts. & Design	3		
ECT 231 – Digital Computer Logic	3		
ECT 232 – Digital Computer Ckts.	3		
ECT 324 – Dscr. Trans. Theo.& Ckt. Design	3		
ECT 325 – Analog Integrated Precision Ckts.	3		
ECT 343 – Industrial Electronics Pulse Ckts.	3		
ECT 444 – Programmable Logic Controllers & Control Systems	3		
ECT 448 – Ind. Electronic Current Control Systems	3		
MET 103 – Intro. to Tech. Graphics w/ CAD	3		
MET 329 – Fluid Power Technology	3		
Directed Elective (select 1 from the following)	3		
ECT 280 – Intro. to Automation			
ECT 281 – Robotic Controls			
MFG 370 – Fund. Of Machine Tool Processes			
MFG 371 – Mfg. Processes and Materials			
		24-36	**36**
Electives	8	**6-18**	**8**
Total Required Hours			**124-129**

6.3.6 Course Sequencing: There shall be evidence of appropriate sequencing of course work in each program of study to ensure that advanced level courses build upon concepts covered in beginning level course work.

As advanced-level courses build upon concepts covered in beginning-level course work, the curriculum structure is specific: all 100-level courses are intended for entry-level students; the 200-level courses are for students in the second year of their program; 300-level courses are for third-year students, and 400-level courses are for seniors. Course pre/co-requisites are clearly stated in the *Catalog.* Examples would be ECT 421 Circuit Analysis by Calculus; prerequisites: ECT 321, MATH 301. ECT 321 Circuit Analysis II; prerequisite: ECT 221 Circuit Analysis I. Students are also provided with the 4 Year Plan (below) that clearly lays out the program of study.

Electronics Technology Bachelor of Science Degree
Typical Four Year Plan

Fall Year 1		Spring Year 1	
ECT 130	2 Credit Hour	ECT 167	3 Credit Hours
ECT 165	3 Credit Hours	HS: R	3 Credit Hours
English 101**	3 Credit Hours	ENG 105**	3 Credit Hours
**OR ENG 107	(3 Credit Hours)	**OR ENG 107	(3 Credit Hours)
MET 103	3 Credit Hours	Math 115	3 Credit Hours
SBS: F,E	3 Credit Hours	SBS: E	3 Credit Hours
COMM 101	3 Credit Hours	†Foreign Language	3 Credit Hours
	17 Credit Hours		**15-18 Credit Hours**
Fall Year 2		**Spring Year 2**	
ECT 231	3 Credit Hours	ECT 324	3 Credit Hours
ECT 221	3 Credit Hours	ECT 232	3 Credit Hours
CS 256	3 Credit Hours	ECT 321	3 Credit Hours
		Phy. Sci. (Lab)	
MCS: USD	3 Credit Hours	SMS: F	4 Credit Hours
†Foreign Language	3 Credit Hours	MET 329	3 Credit Hours
		PE 101 & 101L	2 Credit Hours
	12-15 Credit Hours		**18 Credit Hours**
Fall Year 3		**Spring Year 3**	
ECT 325	3 Credit Hours	ECT 343	3 Credit Hours
ECT 281 or MFG 370 or MFG 371	3 Credit Hours	Math 301	3 Credit Hours
		TMGT 478	3 Credit Hours
TMGT 471	3 Credit Hours	Phy.Sci (Lab) SMS: E	4 Credit Hours
LAPS: LL	3 Credit Hours	ECT Elective	3 Credit Hours
MCS: IC	3 Credit Hours		

15 Credit Hours	**16 Credit Hours**
<u>Fall Year 4</u>	**<u>Spring Year 4</u>**
ECT 444 — 3 Credit Hours ECT 437 — 3 Credit Hours TMGT 492 — 3 Credit Hours ECT Elective — 3 Credit Hours ENG 305T — 3 Credit Hours	ECT 448 — 3 Credit Hours ECT 421 — 3 Credit Hours ECT 430 — 1 Credit Hour ECT Elective — 3 Credit Hours LAPS: E — 3 Credit Hours CAP — 3 Credit Hours
15 Credit Hours	**16 Credit Hours**

† See University Undergraduate Catalog requirements.

6.3.7 Application of Mathematics and Science: Appropriate applications of the principles of mathematics and science shall be evident in technical and management course work.

The very nature of the discipline necessitates that students comprehend and utilize theoretical concepts from mathematics and science. From the concepts of voltage, current, and resistance at the atomic level through complex circuit design, analysis, calculation of power consumption, or systems application, the appropriate understanding of mathematics and science are essential. There are two required math courses in ET foundational studies: MATH 115 is the entry level math course that teaches college algebra and trigonometry; MATH 301 fundamentals and application of calculus covers integral and differential calculus. These two courses provide the level and focus of mathematics content to meet ATMAE requirement, and offer students the foundation of math skills in solving technical problems. Additionally, the major requires ECT 221, Circuit Analysis I; ECT 321, Circuit Analysis II; and ECT 421 Circuit Analysis by Calculus. These three courses are pure math analysis application courses. Math is also an integral component of all required ET courses through the design and analysis of the components and applications of circuits.

6.3.8 Computer Applications: The program of study shall include instruction on computer application software, and the use of computers for information retrieval and problem solving.

Lab reports are required throughout the laboratory-based classes. These assignment requires the student to use word processing packages.

In addition to utilizing computers for the word processing of laboratory reports and other assignments, the use of software programs as <u>ECAP</u>, <u>Breadboard</u> or <u>Electronics Workbench</u> are integrated into courses throughout the curriculum. Other coursework requires understanding of specific software as Rockwell's <u>RSLogix</u> and <u>RSLinx</u>, as well as robotic specific software.

6.3.9 Communications: Oral presentations and technical report writing shall be evident in both technical and management course requirements.

Technical oral and written presentations and reports are critical components of ECT 130 and ECT 430. Many TMGT courses also require both oral and written presentations. Other required courses within those offered by the Department also entail oral reports; and technical writing. (Reference the representative laboratory reports, experimental design explanations, or project documentation in the Course-Work Section of the course specific files.) Additionally, ET Students' oral and written skills are developed in three Foundational Studies Courses (9 credits): Communications 101 and English 101-105/107 are basic English writing and speech classes where students practice writing and presenting general topics with clarity and style. English 305T is designed specifically for technical writing and presentation.

6.3.10 Industrial Experiences: Each program of study shall include appropriate industrial experiences such as industrial tours, work-study options / cooperative education, and/or senior seminars focusing on problem-solving activities related to industry. Industrial experiences shall be designed to provide an understanding of the industrial environment and what industry expects of students upon employment.

For supervised industrial experiences, ECT 351A - Z, Professional Cooperative Experience, is an elective course available for the students who may earn up to 6 Credits. For additional experiences, periodic tours are scheduled in conjunction with class activities. Also, plant and facility tours may be arranged by the various student/ professional organizations.

6.3.11 Competency Identification: Student competencies shall be identified for each program of study, including all options, which are relevant to current employment opportunities available to graduates.

Electronics is the foundational portion of most technology areas. Accordingly, the Department provides essential learning experiences relating to career preparation in electronics, computer-based quality control, micro-based process control, robotics, data communication, technical sales, service and maintenance, electrical power, telecommunications, or automated manufacturing. Competencies are identified for each course. These are introduced, emphasized, and re-emphasized as students progress through the curriculum. Representative criterion include each of the many tasks that might be necessary or related to the architecture, design, development, fabrication, and evaluation of electrical and electronic circuits, as well as laboratory documentation, dissemination, and acquisition of effective work skills that are necessary for successful employment. These experiences and objectives are developed based on several considerations including ATMAE requirements and mission statements of the Department, College and University. In the process we consulted intensively with our constituencies, with primary external source of input being the industrial advisory board and other external constituencies, such as alumni and employers.

Beginning in 2010, Eleven outcome competency areas and associated performance criteria have been identified and a review process developed to determine if these areas are being met. These areas are: (A) Mastery of Knowledge and Tools, (B) Apply Technical Knowledge, (C) Experiment And apply Results, (D) Be Creative In Design And Application, (E) Function Effectively In The Team Environment, (F) Effective Problem Solving, (G) Effective Communication, (H) Embrace Lifelong Learning, (I) Understand Professional And Ethical Responsibilities (J) Respect Diversity and Professional Responsibilities, (K) Embrace Quality.

The Evaluation plan is shown in Figure 6.3.11.

Figure 6.3.11:
Program Outcome measurement plan for ET

Summary of courses where evaluation will take place:
ECT 232 (1), 281 (1), 321 (1), 325 (1), 343 (2), 430 (1), 437 (6), 444 (4), 448 (3), 488 (12); MET 203 (1); TMGT 471 (1), 478 (3)

Outcome A - Mastery of knowledge & tools

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Application of circuit analysis and design.	ECT 221, 321, 421	Evaluation of in-class problem solving per rubric	ECT 321	F2010, F2013, (3 year cycle)	ET Program Champion	ET Program Team
2. Application of circuits, design, and application.	ECT 165, 167, 324, 325, 343, 448	Evaluation of in-class project per rubric	ECT 448			
3. Application of Digital Electronics	ECT 231, 232	Evaluation of performance per semester project rubric	ECT 232	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
4. Application of computer programming and associated software	CS 151, 256; ECT 165, 167, 281, 444	Evaluation of in-class problem solving per rubric	ECT 281			

5. Apply science, math, and engineering tools	Physical science courses (8hrs); MATH 115, 301; MET 103, ECT 381, 437, 448, 488	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
6. Apply PLCs, Robotics, and control system equipment	ECT 281, 280, 444, 488	Evaluation of in-class project per rubric	ECT444	F2010, F2013, (3 year cycle)	ET Program Champion	ET Program Team
7. Use fluid power, engineering materials and manufacturing processes	MET329; MFG225, 370,371; ECT488	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
8. Management techniques of systems and processes	ECT 437, 488; TMGT 478,471,473,492	Evaluation of in-class project per rubric	ECT437	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Outcome B - Apply technical knowledge

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Use mathematics in design	Physical science courses (8hrs); MET103; ECT165,167,231, 221, 324, 448, 488	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
2. Modeling for analysis	MET203	Evaluation of in-class project per rubric	MET203	F2010, F2013, (3 year cycle)	ET Program Champion	ET Program Team

3. System design	MET299; ECT488	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Outcome C - Experiment and apply results

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Conduct Experiments	Physical science lab courses (2hrs); ECT 167, 281, 448, 488; MET 329	Evaluation of lab work in class per rubric	ECT 448	F2010, F2013, (3 year cycle)	ET Program Champion	ET Program Team
2. Analysis and interpretation of laboratory exercises	ECT 167, 324, 325, 343, 448, 488	Evaluation of lab work in class per rubric	ECT 343	F2010, F2013, (3 year cycle)	ET Program Champion	ET Program Team
3. Test plans	ECT488	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Outcome D - Be creative in design and application

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Circuit design	ECT 165, 167, 232, 324, 325, 343, 448	Evaluation of lab work in class per rubric	ECT 325	F2010, F2013, (3 year cycle)	ET Program Champion	ET Program Team

2. Software and program development	CS 151, CS256; ECT 165, 167, 281, 444, 488; MET 329	Evaluation of performance per semester project rubric	ECT444	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
3. System design and control	ECT 324, 448, 488	Evaluation of lab work in class per rubric	ECT 448	F2010, F2013, (3 year cycle)	ET Program Champion	ET Program Team

Outcome E - Function effectively in the team environment

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Effective team member	Physical Science lab courses (2 hrs); MET329; ECT165, 167, 324, 325, 437, 488; TMGT 471, 478, 492	Evaluation of in-class project per rubric	TMGT 478	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
2. Understands the purpose of teams	Physical Science lab courses (2 hrs); MET329; ECT165, 167, 324, 325, 437, 488; TMGT 471, 478, 492	Evaluation of in-class project per rubric	ECT437	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
3. Works and communicates well in the team setting	Physical Science lab courses (2 hrs); MET329; ECT165, 167, 324, 325, 437, 488; TMGT 471, 478, 492	Evaluation of in-class project per rubric	ECT437	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Outcome F - Effective problem solving

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Effectively used problem solving methods	Physical Science lab courses (2 hrs); MET329; ECT165, 167, 324, 325, 437, 488; TMGT 471, 478, 492	Evaluation of lab work in class per rubric	TMGT 471	F2010, F2013, (3 year cycle)	ET Program Champion	ET Program Team
2. Use electrical troubleshooting tools properly	ECT 165, 167, 324, 325, 343, 448, 488	Evaluation of lab work in class per rubric	ECT 343	F2010, F2013, (3 year cycle)	ET Program Champion	ET Program Team
3. Debugs logic and software applications successfully	CS256; ECT 281, 280, 444, 488	Evaluation of lab work in class per rubric	ECT444	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Outcome G - Effective communication

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Exhibits good verbal communications	Foreign Language Studies (6 hrs); COM101; ECT437 ,488; TMGT 478, 471, 492,	Evaluation of in-class project per rubric	TMGT 478	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

2. Possesses good written communication skills	ENG101,105,107, 305T; ECT165,167,437,488; TMGT478	Evaluation of in-class project per rubric	ECT 437	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
3. Understands the need for formality and respect in communication	Foreign Language Studies (6 hrs); ENG101,105,107, 305T; ECT165,167,437,488; TMGT478,492	Evaluation of in-class project per rubric	ECT437	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Outcome H - Embrace lifelong learning

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Demonstrates a desire to learn	Every course	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Outcome I - Understands professional and ethical responsibilities

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Demonstrates professionalism	ECT 165, 167, 324, 325, 343, 448, 488; TMGT 471, 478, 492	Evaluation of in-class project per rubric	ECT437	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

2. Understands and exhibits ethics	Foreign Language Studies (6hrs); Social and Behavioral Studies 6hrs); Literary, Artistic & Phil. Studies (6hrs); Historical Studies (3 hrs); Multi-cultural Studies (6 hrs); Liberal Studies Capstone (3 hrs);TMGT478,492, ECT437,488	Evaluation of in-class project per rubric	TMGT478	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
3. Understands the role of professional societies	ECT 130, 430, 437	Evaluation of in-class project per rubric	ECT430	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Outcome J - Respect diversity and professional responsibilities

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Understands the automated control system marketplace	ECT 430, 444, 437,488	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

2. Understands social responsibility	Foreign Language Studies (6hrs); Social and Behavioral Studies 6hrs); Literary, Artistic & Phil. Studies (6hrs); Historical Studies (3 hrs); Multi-cultural Studies (6 hrs); Liberal Studies Capstone (3 hrs);TMGT478,492, ECT437,488	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
3. Understands the responsibility of safe design practices and operations	TMGT 471, 478, 492; ECT 430, 437, 444, 488; MET329	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Outcome K - Embrace quality

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Understands the breadth of quality concerns	ECT 325, 343, 444, 437, 448, 488; MET 329; TMFG 471, 478, 492	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
2. Understands the importance of quality	ECT 325, 343, 444, 437, 448, 488; MET 329; MFG 370, 371; TMGT 471, 478, 492	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

3. Understands timeliness and continuous improvement	ECT 325, 343, 444, 437, 448, 488; MET 329; MFG 370, 371; TMGT 471, 478, 492	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Figure 6.3.11:
Program Outcome measurement plan for ET

As this is a new procedure beginning in 2010, no data is available at this time.

6.3.12 Program Validation: Validation of program of study outcomes/student competencies shall be an on-going process and shall be accomplished through a combination of external experts, industrial advisory committee(s), and follow-up studies of program graduates. Documentation of this validation shall be provided in the Self-Study.

The process to evaluate and revise educational objectives and outcomes is illustrated in detail in Figure 1. The Figure shows the feedback loops that lead to continuous refinement of educational objectives and curriculum improvement. Data sources and the respective individuals or units in charge of each link are highlighted. The loop that involves educational objectives review and update is executed every six years, it assures periodic evaluation and redefinition (if necessary) of the current educational objectives and outcomes. The program outcomes and curriculum review loop is executed annually and focuses primarily on outcomes assessment and curricular improvements. The two cycles are linked together through program outcomes report.

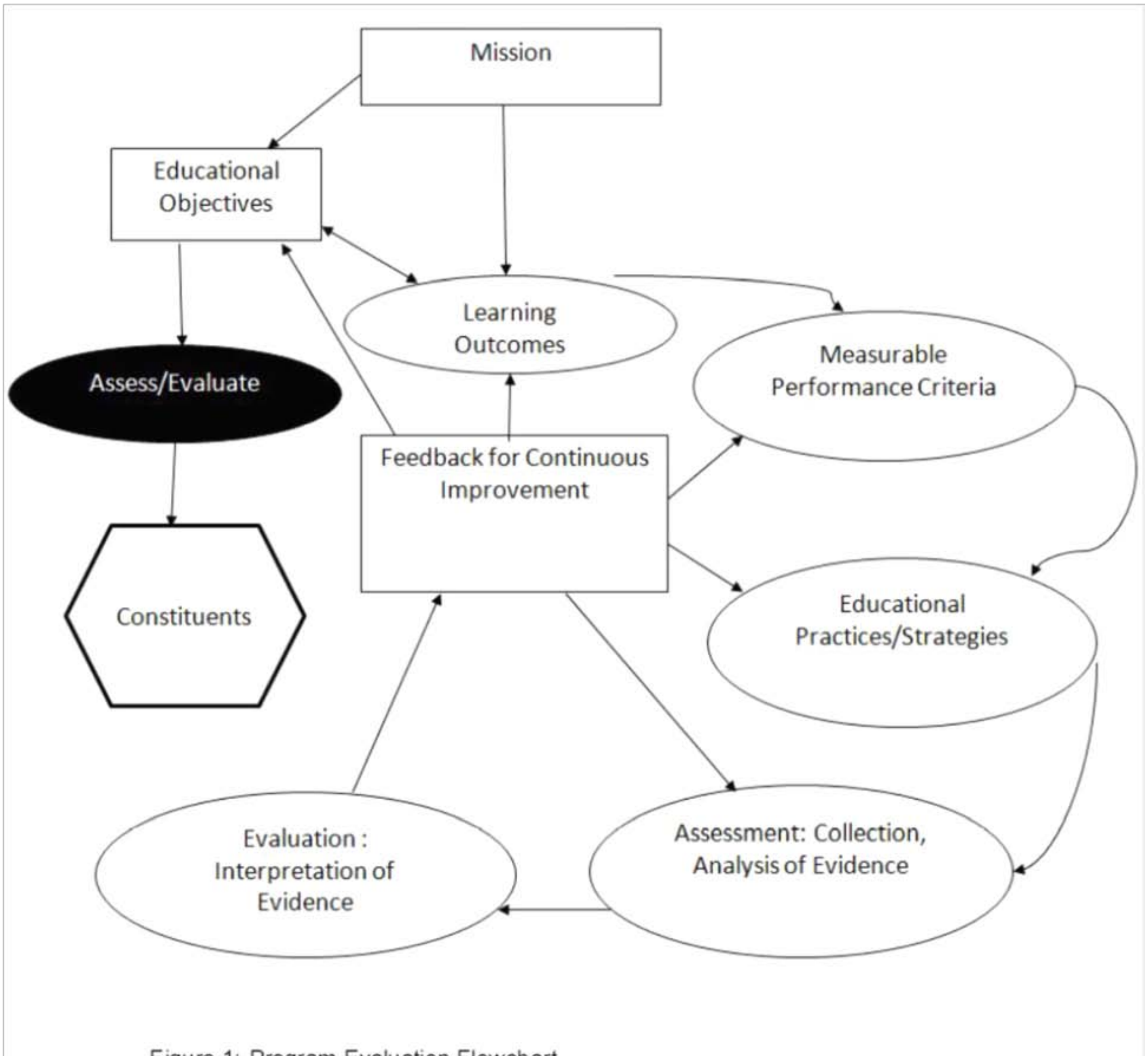

Figure 1: Program Evaluation Flowchart

6.3.13 Program Development, Revision, and Evaluation: Major program development, revision, and evaluation shall involve currently enrolled students, individuals responsible for instruction, program graduates, and representative employers.

The courses, matriculation sequence and objectives for the undergraduate program have been continually involved in a sequence of process and product evaluation. During the Fall Semester, 2009, faculty were involved in a major program revision in evaluation technique and process. The intent of this effort is to assist program development, and have a clearly defined cycle of evaluation of program effectiveness and success. (See *Figure 6.3.11 above).*

6.3.14 Transfer Course Work: Institution and/or department policies shall be used to evaluate course work transferred from other institutions. All programs/options, including those with a significant amount of transfer work, must meet the minimum credit hour foundation course requirements (Table 6.1) in each curricular category.

Policies are in existence to ensure that course work transferred from other institutions is comparable to course work offered at Indiana State University. Transfer applications are reviewed at the Department level and are submitted to the College Dean. Articulation agreements with qualified institutions are then signed. The Electronics Technology program has established articulation agreement with sister programs at several colleges and regional universities that allow students to complete an associate degree and credit towards a bachelor degree at ISU. Each articulation agreement stipulates the ISU courses needed to complete the bachelor degree, and requirements or guidelines that govern the agreement. An associate degree holder from these institutions is credited with a “block transfer”, meaning courses with a “C” or higher would directly substitute for a “Block” of ISU equivalents without additional scrutiny. These agreements help pre-establish course equivalency and ease the transition to ISU. They are also reviewed and revised if necessary every two years to assure the courses are well-aligned at both institutions.

The University is also a participant in the ***U.Select (Formally CAS) System***, an online tool that will allow students to view program requirements, course equivalencies, and see how courses they have taken or plan to take transfer to another college or university. See: https://in.transfer.org/cas/login.htm . The Office of Degree Audit and Transfer maintains current listings of articulated programs and course equivalencies between Indiana State University and other colleges and universities. Interested students should consult the Web site: http://web.indstate.edu/transfer/

6.3.15 Upper Division Course Work: Students shall successfully complete a minimum of 15 semester hours of junior and/or senior level major courses at the institution seeking program accreditation.

The curriculum requirement for earning a Bachelor of Science Degree in Electronics Technology includes the successful completion of 50 semester-hours of credit in 300 or 400-level courses.
The following University guidelines govern transfer of courses:
Only transfer credits earned in college-level courses (typically numbered 100 or higher) from a regionally accredited college or university will be assigned credit.
Only transfer courses in which a grade of C or higher was earned will be assigned credit; courses with a grade of C- or below will not be assigned credit.
A maximum of 94 transfer credits may be assigned toward a bachelor’s degree. Of this, no more than 64 semester-hours may have been earned at a two-year institution.

Departmental policy requires that a transfer student must complete at least 15 hours of major courses at ISU. Transfer credits are assigned only for college-level courses.

6.3.16 Program Publicity - Adequate and Accurate Public Disclosure: Institutions shall broadly and accurately publicize, particularly to prospective students: (a) Industrial Technology program goals and objectives, (b) preadmission testing or evaluation requirements and standards, (c) assessment measures used to advance students through the program(s), (d) fees and other charges.

Indiana State University, in affirming its commitment to excellence, recognizes the value of a student population reflecting academic achievement, cultural diversity, and special talent. The University's admissions policies allow for the individual consideration of each applicant and help service a student population with these characteristics.
The primary criterion for admission is evidence that a candidate is prepared to succeed in a degree program. Admission standards are stated in terms of traditional school and college grading systems. For applicants whose records include either a high proportion of nontraditional grades, or a subject pattern which departs markedly from that normally associated with university study, additional evidence of academic potential in support of their applications, such as entrance examinations, interviews, and letters of recommendation, may be requested. The admission of applicants who are older than the traditional college age will be determined individually, with special attention given to employment experience and motivation. Admission requirements may be found at: http://catalog.indstate.edu/content.php?catoid=7&navoid=127

Potential students who are seeking information about the undergraduate program in Electronics Technology receive information from the Admissions Office at Indiana State University. The Undergraduate Catalog: http://catalog.indstate.edu/index.php?catoid=7 and other descriptive materials that the Admissions Office provides to potential applicants, include information about: 1) the program goals and objectives; 2) pre-admission testing or evaluation requirements and standards; 3) assessment measures used to advance students through the program; 4) fees and other charges.

The University Publications Office provides brochures for the ET program. The current edition of these brochures reflects the current curriculum. Additionally, the Department has a Web page: http://www1.indstate.edu/ecmet/index.htm . Copies of the brochure and other advertising materials are available.

A support unit in the College of Technology, the Office of Technology Student Services, also provides information and disclosure to prospective students via recruitment activities such as College Tech Prep Days, Hands-on High Tech, and Tech T.R.E.K, days where prospective students come to campus for participation in activities, competitions, and informative interaction with Faculty, Staff, and Students.

6.3.17 Legal Authorization: Only institutions and programs legally authorized under applicable state law to provide degree programs beyond the secondary level, and are recognized by the appropriate national or regional accrediting agency, are considered for ATMAE accreditation.

ISU is governed by a Board of Trustees composed of nine persons appointed by the Governor of the State of Indiana. Two of the nine are nominated for consideration by the Governor, by the Alumni Board of the University, and one of the nine, a student member, is appointed by the Governor from nominations submitted by the Student Government Association's Search and Screen Committee.

The University is administered by a president, who reports to the Board of Trustees as the University's chief executive officer. The campus is organized into four broad operations areas: academic affairs; business and finance; enrollment management, marketing, and communications; and student affairs. Each area is headed by a vice president who reports directly to the president.

ISU has six academic divisions, each headed by a dean who reports to the Provost and Vice President for Academic Affairs. The divisions include the Colleges of Arts and Sciences; Business; Education; Nursing, Health, and Human Services; and Technology; and the School of Graduate Studies.

ISU offers associate, baccalaureate, masters, specialist, and doctoral degrees. The University is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools, http://www.ncahigherlearningcommission.org/ 312-263-0456. Academic programs across the colleges are accredited by more than 30 different agencies. In addition, the University holds institutional membership in at least ten major national associations.
The basic Carnegie classification for ISU is Doctoral/Research University. Institutions with this label offer a wide range of baccalaureate programs and are committed to graduate education through both master and doctoral degrees.

The Bachelor of Science Degree in Electronics Technology has been approved by Indiana State University and the Indiana Commission for Higher Education. Accordingly, it receives endorsement from both the University and the State.

6.4 Instruction

6.4.1 Course syllabi: Course syllabi must be presented which clearly describe appropriate course objectives, content, references utilized, student activities, and evaluation criteria. Representative examples of student's graded work shall be available for coursework

For each course, professors are required to provide syllabi which clearly describe appropriate course objectives, content, references utilized, student activities, and evaluation criteria. A prepared notebook containing the syllabus, student handouts, and representative graded work has been prepared. For accreditation review, these are included in Room TC 314.

6.4.2 Reference Materials: Appropriate reference materials such as periodicals, audio-visual materials, websites, and computer application software (when appropriate) shall be utilized for each course or series of courses to supplement textbooks or course packs.

Appropriate reference books, library periodicals, and computer application software is available for each course. Listed reference books, and computer search services are in the main library. A technical library is also housed in the Department's Conference Room. Various technical periodicals are received by faculty and later placed in a distribution area for student use.

The University Library houses technical-related books, periodicals, etc. This material is available to the student. Faculty are encouraged to utilize this material in their classes to supplement required course texts.

The World Wide Web has become a major source for acquiring technical publications and data references for materials used in ET courses. Many courses also provide a Black Board web site that has lectures and additional materials for students to have open access to aiding them in studying course materials.

6.4.3 Program Balance: Appropriate laboratory activity shall be included in the program(s) and a reasonable balance must be maintained in course work between the practical application of "how" and the theoretical/conceptual emphasis of "why."

Of the offered Electronics Technology courses, only four courses (12 semester hours) are primarily lecture-oriented. For the Electronics Technology program ECT 165, ECT 167, ECT 232, ECT 281, ECT 324, ECT 325, ECT 343, ECT 444, and ECT 448 are laboratory based courses that are lecture/laboratory in nature; for these, approximately 50% of the class time is devoted to laboratory experience. The University Undergraduate Catalog references each program offered by the various departments. The ECMET department notes in this Catalog all courses and which courses include a laboratory component with additional contact hours.

6.4.4 Problem-Solving Activities: Emphasis in instruction shall be focused on problem-solving activities which reflect contemporary industrial applications.

The baccalaureate curriculum is saturated with problem solving activity. As students acquire more information, they are introduced to more intensive problem-solving processes that relate to circuit design, troubleshooting, and analysis. Finally, 400-level courses require students to synthesize and evaluate component, circuit, or system applications as they relate to business or industry. Students also have the opportunity to hold one of several "positions" in the Simulated Industrial Manufacturing Company, SIMCO, in the course TMGT 478, that allow them to experience problem solving from a variety of perspectives. Many courses have assigned homework, in-class problem solving activities (both individual and group-based), and laboratory exercises that require students to apply fundamental, theory, and applied concepts. Examples of this type of work have been placed in the Course Notebooks in Room TC 314.

As part of the ECT Industrial Advisory Board (IAB) meetings, there is a regular session on curricula. During this session faculty and IAB members discuss the content of the curricula in regards to what IAB members perceive as a necessary part of the curricula in order to meet the demands of industry. The minutes of the IAB meetings are below in Standard 6.14.2.

6.4.5 Supervision of Instruction: Appropriate supervision of instruction shall be evident throughout the program.

The faculty have recently approved an evaluation document that identifies procedures for evaluating teaching effectiveness. The documented procedures, in the following sections: entitled Handbook on Policies, Guidelines, and Standards for Appointment, Reappointment/Tenure, Promotion, Graduate Faculty, and Sabbaticals (dated July 2001), http://www.indstate.edu/adminaff/policyindex.htm indicate how instruction is to be evaluated by students, colleagues, and administrators. This guidelines document is included in the centrally located files. Additionally the department follows the guidelines in the College Promotion and Tenure Document - Evaluation Methods and Documentation of Teaching Effectiveness, February 18, 2009.

6.4.6 Scheduling of Instruction: The organization and scheduling of instruction shall allow adequate time for completion of appropriate homework assignments and laboratory problem-solving activities.

Each professor is responsible for the organization and content presentation necessary to meet the objectives and goals for the particular courses in the curriculum for which they have been assigned. All of the Department's faculties are experienced, full-time instructors. It is assumed, their organization and scheduling of instruction does allow adequate time for completion of appropriate homework assignments and laboratory problem-solving activities. Course Syllabi are on file in the prepared notebooks in Room TC 314.

6.5 Faculty

6.5.1 Full-time Faculty: Each program of study option shall have an adequate number of full-time faculty.

Although there are three lead faculty members for the electronics curriculum, and two lead faculty members for the computer curriculum, there is no major effort to separate the faculty between the two programs. In total, there are eight (8) full-time faculty within the Department. Their vitae are included in the Appendices.

6.5.2 Minimum Faculty Qualifications: The review of program faculty qualifications shall include current faculty resumes providing clear evidence documenting the extent and currency of: (a) academic preparation, (b) industrial experience at the management/supervisory levels, (c) applied industrial experience related to the program content area(s), (d) current certifications/licensure related to the program content area(s), (e) membership and participation in appropriate professional organizations, and (f) scholarly activities. The minimum academic qualifications for regular tenure track, or full time, faculty members shall be a graduate degree in a discipline closely related to the instructional assignment.

The majority of the Faculty hold earned Doctoral degrees. The remaining faculty have Master's degrees; with extensive course work beyond the minimum M. S. requirements. Five of the professors have from five to twenty five years of industrial experience prior to coming to ISU. They have also worked on numerous industrial projects during their teaching careers. Projects have included major corporations as SONY/DACD, Crane Naval Weapons Depot, and Pfizer. Faculty are actively involved with ATMAE, SME, ISA, EPT, and other professional organizations.

6.5.3 Academic Preparation of Faculty: A minimum of fifty percent of the regular tenure track, or full-time, faculty members assigned to teach in the program of study content area(s) shall have an earned doctorate or appropriately defined terminal degree. Exceptions may be granted to this standard if the institution has a program in place that will bring the faculty demographics into compliance within a reasonable period of time.

All graduate degrees possessed by faculty in the Department of Electronics and Computer Technology are from areas of: Electrical or Electronics

Technology/Engineering; Industrial Education; Industrial Technology; or Mathematics and Computer Science.

Department of Electronics, Computer, and Mechanical Engineering Technology
MING ZHOU; Ph.D., University of Arizona, *Chairperson. Department of Electronics, Computer, and Mechanical Engineering Technology, and Professor of Industrial and Mechanical Technology, 1995.*
TODD E. ALBERTS; M.S., Indiana State University, *Instructor in Electronics, Computer, and Mechanical Engineering Technology, 2007.*
JOE E. ASHBY; Ph.D., NOVA Southeastern University, *Assistant Professor of Electronics and Computer Technology, 2009.*
M. AFFAN BADAR; Ph.D., University of Oklahoma, *Associate Professor of Industrial and Mechanical Technology, 2002.*
DAVID P. BEACH; Ph.D., University of Missouri, *Professor of Electronics and Computer Technology, 1981.*
WILLIAM W. CLYBURN; Ed.D., Mississippi State University, *Associate Professor of Electronics and Computer Technology, 2001.*
PHILLIP COCHRANE; D.B.A. University of Phoenix, *Assistant Professor of Automotive Technology, 2006.*
GERALD W. COCKRELL; Ed.D., Indiana University, *Professor of Electronics and Computer Technology, 1977.*
WILLIAM E. CROFT; Ph.D., Indiana University, *Professor of Electronics and Computer Technology, 1983.*
ROBERT E. ENGLISH; Ed.D., Indiana University, *Associate Vice President, Academic Affairs, and Professor of Electronics and Computer Technology, 1982.*
XAIOLONG LI; Ph.D., University of Cincinnati, *Assistant Professor of Computer Engineering Technology, 2008.*
YUETONG LIN; Ph.D., University of Arizona, *Assistant Professor of Electronics and Computer Technology, 2002.*
DAVID J. MALOOLEY; M.S., Indiana University, *Associate Professor of Electronics and Computer Technology, 1979.*

6.5.4 Selection and Appointment Policies: Policies and/or procedures utilized in the selection and appointment of faculty shall be clearly specified and shall be conducive to the maintenance of high quality instruction.

The Department abides by the University policy on selection and appointment of faculty (Indiana State University Handbook). http://www.indstate.edu/adminaff/policyindex.htm The guidelines document identified previously indicates the policy and procedure to be utilized for the selection, and retention of regular faculty. (The Department guidelines can be found in a centrally located file.)

6.5.5 Tenure and Reappointment Policies: Faculty tenure and/or reappointment policies and procedures shall be comparable to other professional program areas in the institution. Requirements in the areas of teaching, service, and scholarly activity shall be clearly specified for faculty in Industrial Technology.

The guidelines document previously identified also indicates the tenure and reappointment policy for faculty in the Department of Electronics and Computer Technology. . This document totally endorses and substantiates procedures listed in the *University Faculty Handbook.* Requirements in the areas of teaching, service, and scholarly activity are clearly specified. (The COT guidelines for Promotion and Tenure can be found in a centrally located file.) Faculty are evaluated for teaching effectiveness for each course through the use of the Student Instructional Report, SIR, below. Copies of the SIR forms for Faculty are maintained by the Department.

SIR II Report Number

SIR II STUDENT INSTRUCTIONAL REPORT II (SIR II)

This questionnaire gives you the chance to comment anonymously about this course and the way it was taught. Using the rating scale below, mark the one response for each statement that is closest to your view. Fill in the appropriate circle to the right of the statement.

(5) Very Effective
(4) Effective
(3) Moderately Effective
(2) Somewhat Ineffective
(1) Ineffective
(0) Not applicable, not used in the course, or you don't know. In short, the statement does not apply to the course or instructor.

As you respond to each statement, think about each practice as it contributed to your learning in this course.

	Very Effective	Effective	Moderately Effective	Somewhat Ineffective	Ineffective	Not applicable
A. Course Organization and Planning						
1. The instructor's explanation of course requirements	5	4	3	2	1	0
2. The instructor's preparation for each class period	5	4	3	2	1	0
3. The instructor's command of the subject matter	5	4	3	2	1	0
4. The instructor's use of class time	5	4	3	2	1	0
5. The instructor's way of summarizing or emphasizing important points in class	5	4	3	2	1	0
B. Communication						
6. The instuctor's ability to make clear and understandable presentations	5	4	3	2	1	0
7. The instructor's command of spoken English (or the language used in the course)	5	4	3	2	1	0
8. The instructor's use of examples or illustrations to clarify course material	5	4	3	2	1	0
9. The instructor's use of challenging questions or problems	5	4	3	2	1	0
10. The instructor's enthusiasm for the course material	5	4	3	2	1	0
C. Faculty/Student Interaction						
11. The instructor's helpfulness and responsiveness to students	5	4	3	2	1	0
12. The instructor's respect for students	5	4	3	2	1	0
13. The instructor's concern for student progress	5	4	3	2	1	0
14. The availability of extra help for this class (taking into account the size of the class)	5	4	3	2	1	0
15. The instructor's willingness to listen to student questions and opinions	5	4	3	2	1	0
D. Assignments, Exams, and Grading						
16. The information given to students about how they would be graded	5	4	3	2	1	0
17. The clarity of exam questions	5	4	3	2	1	0
18. The exams' coverage of important aspects of the course	5	4	3	2	1	0
19. The instructor's comments on assignments and exams	5	4	3	2	1	0
20. The overall quality of the textbook(s)	5	4	3	2	1	0
21. The helpfulness of assignments in understanding course material	5	4	3	2	1	0

E. Supplementary Instructional Methods

*Many different teaching practices can be used during a course. In this section (E), **rate only those practices that the instructor included** as part of this course.*

Rate the effectiveness of each practice used as it contributed to your learning.

	Very Effective	Effective	Moderately Effective	Somewhat Ineffective	Ineffective	Not used
22. Problems or questions presented by the instructor for small group discussions	5	4	3	2	1	0
23. Term paper(s) or project(s)	5	4	3	2	1	0
24. Laboratory exercises for understanding important course concepts	5	4	3	2	1	0
25. Assigned projects in which students worked together	5	4	3	2	1	0
26. Case studies, simulations, or role playing	5	4	3	2	1	0
27. Course journals or logs required of students	5	4	3	2	1	0
28. Instructor's use of computers as aids in instruction	5	4	3	2	1	0

Questionnaire continued on the other side.

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For the next **two** sections (F and G), use the rating scale below. Mark the one response for each statement that is closest to your view. Fill in the appropriate circle to the right of each statement.

(5) **Much More** than most courses
(4) **More Than** most courses
(3) About the **Same** as others
(2) **Less** than most courses
(1) **Much Less** than most courses
(0) **Not Applicable**, not used in the course, or you don't know. In short, the statement does not apply to the course or instructor.

F. Course Outcomes

	Much More than most courses	More Than most courses	About the Same as others	Less than most courses	Much Less than most courses	Not Applicable
29. My learning increased in this course	5	4	3	2	1	0
30. I made progress toward achieving course objectives	5	4	3	2	1	0
31. My interest in the subject area has increased	5	4	3	2	1	0
32. This course helped me to think independently about the subject matter	5	4	3	2	1	0
33. This course actively involved me in what I was learning	5	4	3	2	1	0

G. Student Effort and Involvement

	Much More than most courses	More Than most courses	About the Same as others	Less than most courses	Much Less than most courses	Not Applicable
34. I studied and put effort into the course	5	4	3	2	1	0
35. I was prepared for each class [writing and reading assignments]	5	4	3	2	1	0
36. I was challenged by this course	5	4	3	2	1	0

H. Course Difficulty, Work Load, and Pace

37. For my preparation and ability, the level of difficulty of this course was:
(5) Very difficult (4) Somewhat difficult (3) About right (2) Somewhat elementary (1) Very elementary

38. The work load for this course in relation to other courses of equal credit was:
(5) Much heavier (4) Heavier (3) About the same (2) Lighter (1) Much lighter

39. For me, the pace at which the instructor covered the material during the term was:
(5) Very fast (4) Somewhat fast (3) Just about right (2) Somewhat slow (1) Very slow

I. Overall Evaluation

40. Rate the quality of instruction in this course as it contributed to your learning (try to set aside your feelings about the course content):
(5) Very effective (4) Effective (3) Moderately effective (2) Somewhat ineffective (1) Ineffective

J. Student Information

41. Which one of the following best describes this course for you?
(1) A major/minor requirement (2) A college requirement (3) An elective (4) Other

42. What is your class level?
(1) Freshman/1st year (2) Sophomore/2nd year (3) Junior/3rd year (4) Senior/4th year (5) Graduate (6) Other

43. Do you communicate better in English or in another language?
(1) Better in English (2) Better in another language (3) Equally well in English and another language

44. Sex (1) Female (2) Male

45. What grade do you expect to receive in this course?
(1) A (2) A- (3) B+ (4) B (5) B- (6) C (7) Below C

K. Supplementary Questions

If the instructor provided supplementary questions and response options, mark your answers in this section. Mark only one response for each question.

46. (5)(4)(3)(2)(1)(NA) 48. (5)(4)(3)(2)(1)(NA) 50. (5)(4)(3)(2)(1)(NA) 52. (5)(4)(3)(2)(1)(NA) 54. (5)(4)(3)(2)(1)(NA)
47. (5)(4)(3)(2)(1)(NA) 49. (5)(4)(3)(2)(1)(NA) 51. (5)(4)(3)(2)(1)(NA) 53. (5)(4)(3)(2)(1)(NA) 55. (5)(4)(3)(2)(1)(NA)

L. Student Comments

If you would like to make additional comments about the course or instruction, use a separate sheet of paper. You might elaborate on the particular aspects you liked most as well as those you liked least. Also, how can the course or the way it was taught be improved? An additional form may be provided for your comments. **Please give these comments to the instructor.**

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If you have any comments about this questionnaire, please send them to:
Student Instructional Report II, Educational Testing Service, Princeton, NJ 08541-0001.

Additionally, Faculty are evaluated by peers and their Chair using the following two instruments, Peer Evaluation and Chair Evaluation.

PEER EVALUATION INSTRUMENT (Objective Format)				**Date Observed**
The objective of this instrument is to ascertain whether the teaching is categorized according to the teaching excellence section: Outstanding, Above Average, Average, or Poor.				
INSTRUCTIONS: Check (✓) each item as: **S**- Satisfactory or **NI** – Needs Improvement. Items which are not applicable to the lesson presented should be checked as **NA**- Not Applicable.				
NAME OF FACULTY MEMBER (last, first, middle initial)	Time Observation Started: Time Observation Completed:			
NAME OF EVALUATOR (last, first, middle initial)	Course Number___________ Regular Class Time: Lecture ( ) Lab ( )			
ITEMS	**RATING**			**COMMENTS**
	S	NI	NA	
A. ORGANIZATION/PREPARATION/CLASS MANAGEMENT				
1. Class starts promptly				
2. Teaching materials and equipment prepared for class				
3. Goals for lesson clearly stated; objective and sequence are consistent with approved department outline				
4. Time managed well				
5. Proper control of class				
6. Main points reviewed at conclusion				
B. COMMUNICATION SKILLS				
1. Proper use of the language				
2. Easily understood				
C. SUBJECT MATTER KNOWLEDGE				
1. Excellent grasp of subject matter				
2. Subject matter up-to-date				
3. Material detailed				
4. Material presented was relevant and timely				
D. FLEXIBILITY IN APPROACHES TO TEACHING				
1. Stimulates interchange/exchange of ideas				
2. Develops high and consistent standards that can be achieved				
3. Creates an environment in which maximum learning can take place				
4. Student participation encouraged				
E. EVALUATION TECHNIQUES				
1. Questions phrased clearly and to the point				
2. Questions appropriate for the lesson				
3. Student's questions answered adequately				
4. Expands and discusses student responses				

CHAIR EVALUATION INSTRUMENT (Objective Format)				**Date Observed**
The objective of this instrument is to ascertain whether the teaching is categorized according to the teaching excellence section: Outstanding, Above Average, Average, or Poor.				
INSTRUCTIONS: Check (✓) each item as: **S**- Satisfactory or **NI** – Needs Improvement. Items which are not applicable to the lesson presented should be checked as **NA**- Not Applicable.				
NAME OF FACULTY MEMBER (last, first, middle initial)	Time Observation Started:			
	Time Observation Completed:			
NAME OF EVALUATOR (last, first, middle initial)	Course Number___________ Regular Class Time: Lecture ( ) Lab ( )			
ITEMS	**RATING**			**COMMENTS**
	S	NI	NA	
A. ORGANIZATION/PREPARATION/CLASS MANAGEMENT				
1. Class starts promptly				
2. Teaching materials and equipment prepared for class				
3. Goals for lesson clearly stated; objective and sequence are consistent with approved department outline				
4. Time managed well				
5. Proper control of class				
6. Main points reviewed at conclusion				
B. COMMUNICATION SKILLS				
1. Proper use of the language				
2. Easily understood				
C. SUBJECT MATTER KNOWLEDGE				
1. Excellent grasp of subject matter				
2. Subject matter up-to-date				
3. Material detailed				
4. Material presented was relevant and timely				
D. FLEXIBILITY IN APPROACHES TO TEACHING				
1. Stimulates interchange/exchange of ideas				
2. Develops high and consistent standards that can be achieved				
3. Creates an environment in which maximum learning can take place				
4. Student participation encouraged				
E. EVALUATION TECHNIQUES				
1. Questions phrased clearly and to the point				
2. Questions appropriate for the lesson				
3. Student's questions answered adequately				
4. Expands and discusses student responses				

6.5.6 Faculty Loads: Faculty teaching, advising, and service loads shall be comparable to the faculty in other professional program areas at the institution. Consideration shall be given in faculty teaching load assignments to high contact hours resulting from laboratory teaching assignments.

The Department Faculty follow the College of Technology and University strategies to establish fair and reasonable faculty-load assignments. Every effort is made to provide teaching, advising, and service loads that are comparable for all professional program areas at the institution.

6.6 Students

6.6.1 Admission and Retention Standards: Admission and retention standards shall be used to ensure that students enrolled are of high quality. These standards shall compare favorably with the institutional standards. Sources of information may include admission test scores, secondary school rankings, grade point averages, course syllabi, course examinations, written assignments, and oral presentations.

For the baccalaureate program in Electronics Technology, admission and retention standards equal, or exceed, the institutional admission standards. Sources of information include admission test scores, high school rankings, grade point averages, course syllabi, course examinations, written assignments, and oral presentations.

Admission requirements for the Department of Electronics and Computer Technology are the same as the University-level requirements. Freshmen applicants and transfers who have completed fewer than 24 transferable semester credit hours must submit scores for the SAT or ACT. Freshmen applicants are normally ranked in the upper 50 percent of their high school class. Students whose academic achievement is below this level are reviewed on an individual basis. Retention standards for the Department of Electronics and Computer Technology are the same as the University-level requirements. A student must maintain a 2.0 GPA.

6.6.2 Scholastic Success of Students: Students in Industrial Technology shall have scholastic success comparable to those in other professional curricula in the institution. Grading practices in Industrial Technology courses shall be comparable to other departments and/or programs in the institution.

Students in Electronics Technology have scholastic success comparable to those in other curricula at Indiana State University. Grading and evaluation practices in ECT courses are also comparable to other departments and/or programs in the institution. Current GPA and earned hours of characteristic ET students are shown below:

	Year	Major	GPA	Earned Hrs
1	GRD	Electronics & Computer Tech	3.333	9
2	GRD	Electronics & Computer Tech	3.667	18
3	GRD	Electronics & Computer Tech	3.9	9
4	GRD	Electronics & Computer Tech	3.643	21
5	GRD	Electronics & Computer Tech	2	6
6	GRD	Electronics & Computer Tech	4	6
7	GRD	Electronics & Computer Tech	4	9
8	GRD	Electronics & Computer Tech	3.1	9
9	GRD	Electronics & Computer Tech	3.5	24
10	GRD	Electronics & Computer Tech	3.1	9
11	GRD	Electronics & Computer Tech	3.875	12
12	JR1	Electronics Technology	2.631	65
13	SO1	Electronics Technology	3.053	41
14	SR2	Electronics Technology	3.147	109
15	SR2	Electronics Technology	3.378	114
16	SR2	Electronics Technology	3.191	115
17	SR2	Electronics Technology	2.294	110
18	SR1	Electronics Technology	3.471	101
19	SR1	Electronics Technology	0.75	100
20	JR1	Electronics Technology	4	65
21	SR2	Electronics Technology	3.786	114.5
22	SO1	Electronics Technology	2.018	45
23	JR2	Electronics Technology	3.45	91.5
24	FR1	Electronics Technology	2.07	10
25	SR1	Electronics Technology	3.238	101
26	JR2	Electronics Technology	3.814	85.4
27	SO1	Electronics Technology	3.93	43
28	SR2	Electronics Technology	3.453	110
29	FR1	Electronics Technology	3.615	13
30	JR1	Electronics Technology	1.99	77
31	FR1	Electronics Technology	1.818	14
32	JR2	Electronics Technology	3.583	93
33	SR1	Electronics Technology	3.608	95
34	FR1	Electronics Technology	2.677	13
35	SO2	Electronics Technology	3.379	49
36	JR1	Electronics Technology	2.606	68
37	SO1	Electronics Technology	2.042	44
38	JR1	Electronics Technology	2.15	65

6.6.3 Placement of Graduates: The initial placement, job titles, job descriptions, and salaries of graduates shall be consistent with the program(s) goals and objectives. Industry's reaction to graduates as employees must be favorable. Follow-up studies of graduates shall be conducted every two to five years. Summary statistics relating to follow-up studies of graduates shall be made available to the visiting team. These statistics shall include placement rates as well as salary levels of program graduates.

The initial placement, job titles, job descriptions, and salaries of graduates reflect program goals and objectives. Consistently the electronics graduates have been in the top tier for average salaries received of all ISU graduates. Supporting evidence can be found from the College of Technology Annual Reports, as well as from data supplied by the University's Placement Services Center.

6.6.4 Graduate Studies: If an objective of the program(s) is to prepare students for graduate studies, then the success of Industrial Technology graduates in graduate programs shall be tracked and confirmed.

Until 1985, there were three primary areas of emphasis that might be most appropriate for graduates with a major in Electronics Technology. Indiana State University's College of Technology offered a Master of Science in Industrial Professional Technology. The other two areas were Industrial Technology Education or Electrical Engineering. Although a number of program graduates pursue advanced degrees in engineering or education, most of those wishing to continue graduate study elected to enroll in the Masters Degree in Electronics and Computer Technology graduate program at ISU. A majority of these students were successful and exemplary at the graduate level.

For those selecting engineering or education, the baccalaureate program in Electronics Technology does not provide sufficient undergraduate preparation (e.g. educational methods, history, pedagogical strategies, etc., for the M. Ed. or advanced calculus, mathematics, design analysis, etc. for an M. S. in engineering). Much remediation or review of fundamentals would be necessary.

In 1985, the Department's proposal to offer a Master of Science in Electronics and Computer Technology was approved. Since then, a number of graduates from the Electronics Technology program have enrolled/completed curriculum requirements for earning the M. S. in ECT. A smaller number of those majoring in Electronics Technology continue their graduate study in other Technology programs.

6.6.5 Student Evaluation of Program(s): Evaluations of the Industrial Technology program(s) shall be made by its graduates on a regular basis (two to five years). Reactions and recommendations shall be considered in program revisions.

Surveys of alumni are conducted for evaluation. The instrument used for the investigation is included below:

Electronics Technology

Directions: The following items have been identified as competencies needed for successful functioning by professionals in Electronics Technology. Please read each statement carefully and numerically rate its importance using the validity or confidence scale shown below.

When marking your response, identify the corresponding question by filling in the appropriate circles in the computer scanner column. Please use only soft lead (No. 1 or 2) pencil.

Validity / Confidence Scale

	Great Importance – Essential that competency be acquired
	Considerable Importance – Not essential but of greater
	Moderate Importance – Desirable to acquire if time permits
	Little Importance – Nice to know but of little value
	No Importance – Competency not needed

1 Demonstrate the ability to develop a structured language (Such as C++) to resolve a technical problem

2 Apply methods of circuit analysis (independent versus dependent sources, mesh analysis, nodal analysis, bridge networks, delta to wye conversions, network theorems, superposition theorem Thevenin's Theorem, Norton's theorem, and maximum power transfer theorem) to analyze electrical circuits

3 Apply theories and principles of calculus to circuit analysis problems

4 Apply principles of design/analysis using circuit simulation software

5 Demonstrate knowledge of manufacturing processes and materials

6 Demonstrate the ability to organize and prepare a technical lab report

7 Demonstrate the ability to design and fabricate proper hydraulic/pneumatic systems

8 Apply principles of computer-aided design drafting

9 Lead a small group discussion or a conference to resolve technical problems

10 Lead a small group discussion or conference to resolve technical problems

11 Identify, Demonstrate, and Apply knowledge of organizational principles of industry

12 Identify, Demonstrate, and Apply knowledge of the principles of industrial supervision

13 Apply project/team development concepts for troubleshooting

14 Demonstrate the ability to apply digital logic techniques

15 Identify and apply theories of amplifier circuits

16 Identify and apply principles of electrical pulse circuits

17 Identify and apply theories of automation and instrumentation

18 Demonstrate the ability to recognize and apply device level automation and instrumentation

19 Identify and apply theories of Programmable Automation Controllers and control systems

20 Identify and apply theories of industrial current control systems

6.6.6 Student Enrollment: Enrollment shall be adequate in each program area to operate the program(s) efficiently and effectively. The level of available financial and facility resources shall be considered as a constraint on the maximum number of qualified students to be admitted to the program(s). Enrollment trends shall be tracked, and factors affecting enrollment patterns shall be identified and analyzed. Enrollment projections shall be made which relate closely to short and long-range goals, as well as financial and physical resource needs.

There are currently 44 majors enrolled in the Electronics BS program. Efforts are underway to increase enrollments through day long recruiting activities at high schools and active participation in the new Project Lead The Way program. The PLTW pre-engineering/engineering technology program is being offered in over 3000 schools this coming year, including school districts in all 50 states. Indiana has the largest number of schools participating in the program with over 300 schools. In Indiana, Project Lead The Way courses are technology education course offerings as designated by the Indiana Department of Education. Project Lead The Way has developed a four-year sequence of technology education courses which, when combined with college preparatory mathematics and science courses in high school, introduces students to the scope, rigor, and discipline of engineering and engineering technology prior to entering college. The Project Lead The Way technology education curriculum addresses the educational needs of students planning to attend a two-year or four-year college leading to a career in engineering or engineering technology. New Admitted Freshman to Electronics as of January 12, 2010 for Fall 2010, number 24, a positive response to efforts.

6.6.7 Advisory and Counseling Services: Adequate and timely advising and counseling services shall be available for students.

Each faculty member is required to post office hours and maintain those hours. In addition, the faculty are to be available by appointment. Each semester, several days of advisement and registration are scheduled for students to be advised about necessary courses. Further efforts have been made by the College of Technology in the establishment of the Academic Student Services Office housing the Associate Dean, the COT Records staff, and two professional Advisors. This office helps assure students receive the highest level of Advisement and Counseling Services. Students are advised to carefully keep records on the Guide Sheet that shows their entire academic requirements.(See Standard 6.3.6 above). Students have continuous on-line access to the Degree Audit Report System (DARS) the most complete curriculum guide available to students through their personal MYISU “isuportal” access. It is especially convenient for transfers and students who switch majors. Students will have repeated exposure to DARS and are expected to understand the contents and all legends. Additionally, a Graduation Checklist is provided as seen below:

Graduation Checklist

____ Maintain a **minimum** GPA of 2.0 (2.5 in an Education program)

____ Satisfy all requirements of your major – listed on the Curriculum Guidesheet for your major and also in the ISU Undergraduate Catalog for the year you entered ISU.

____ Satisfy all General Education (Basic Studies and Liberal Studies) requirements. An outline of these requirements begins on approximately page 32 in the ISU Undergraduate Catalog.

____ Complete a minimum of 124 hours (excluding Math 010 or 011). If you meet all General Education and Major requirements but still have not completed 124 hours, your must take additional coursework.

____ At least 50 hours must come from 300-400 level courses.

____ As you approach completion, apply for graduation on MyISU. Click on the 'Student' tab, select 'Apply for Graduation' under My ISU Quicklinks, and follow the prompts. If you are receiving more than one degree (AS and BS), contact the Registrar's Office at 812-237-2489 in order to apply. If possible, apply for graduation at least one semester prior to graduating. You cannot graduate without applying.

ISU students can graduate in May, August, or December. Commencement ceremonies are held in May and December. August graduates participate in the May ceremony.

Additional For Transfer Students:

____ A maximum of 94 transfer hours can be used toward a Bachelor degree. A maximum of 64 transfer hours can be used toward an Associate degree. Courses taken at other institutions must have a grade of C or higher in order to transfer.

____ Of the last 15 hours preceding graduation, no more than 5 can be transfer hours.

____ To receive a Bachelor degree, you must complete at least 30 hours of Residence Credit. Residence Credit is earned from courses taken at the ISU campus, ISU Distance courses, or ICN courses. Hours granted through Credit By Exam, Credit for Prior Learning, or credit for Professional Occupational Experience do **not** count toward the Residence Credit requirement.

6.6.8 Ethical Practices: Ethical practices shall be fostered, including reasonable student refund policies and nondiscriminatory practices in admissions and student employment.

An active Affirmative Action Office is located at Indiana State University. Mandatory attendance of all administrators, down through the Chair-level, for annual workshops on harassment, racism. and other unfair practices is a part of University policy.

6.7 Administration

6.7.1 Program Administration: Programs in Industrial Technology are expected to have an identifiable, qualified individual with direct responsibility for program coordination and curriculum development. This individual should be a full-time employee of the institution.

The Chair of the Department is a full-time employee of Indiana State University; and is an identifiable, qualified individual with direct responsibility for program coordination and curriculum development.

6.7.2 Administrative Leadership: Individuals assigned to administer Industrial Technology programs must demonstrate effective leadership and a high level of support for Industrial Technology.

The Dean of the COT and the Associate Dean, who is the coordinator for all accreditation efforts, provides his office to help furnish data on faculty, enrollment, and transfer students. Both fully support the activities of the Faculty and encourage innovation and forward thinking. To demonstrate support, the COT and department provided both personnel (office assistants and student workers), and consulting (an expert in accreditation was invited to campus for consultation) support. The department chair, an MET faculty, is personally involved in the curriculum and direction of the major.

Unique competencies of each faculty in the Department have been recognized and effectively utilized by the Chair. Perhaps the greatest demonstration of effective leadership is his effort to encourage and maximize the potential contribution from each professor, and still maintain a camaraderie, morale and esprit-de-corps within the department--an attitude, often difficult to cultivate.

6.7.3 Administrative Support: There must be appropriate support for Industrial Technology from the personnel holding leadership positions in the departments and colleges where Industrial Technology is administratively located.

The Department of Electronics, Computer, and Mechanical Engineering Technology has received approximately $12,000 each year for equipment and supplies. This amount is a "fair share' of what is allocated to the School of Technology by the University. In addition, each faculty has funds available for professional travel.

6.8 Facilities and Equipment

6.8.1 Adequacy of Facilities and Equipment: Physical facilities and equipment, which are suitable to serve the goals and objectives of the program(s), shall be available for each program and option. Where facilities and equipment appear to be minimal

to support a quality program(s), comparisons with support levels for other professional programs at the institution will be made by the visiting team.

Physical facilities and equipment are suitable to serve the goals and objectives of the program.

Building The ET program together with ECMET Department is housed in the John T. Myers Technology Center, which is also the home for the Collage of Technology. The building was erected in 1997 and has received regular hardware upgrades to incorporate state-of-the-art instructional facilities as well as student work and lounge areas.

ET Office Space The ECEMET Department office complex in located on the third floor of Myers Center. Most of the classrooms on this floor are used by the department and ET program. Research lab and graduate assistants office also take some space on the same floor. The central location of these facilities offers students the convenience to further enhance encounters with faculty, fellow students and graduate assistants.

All ET faculty have their own offices in Suite 301, close to the class rooms, labs, and meeting rooms. It is standard for faculty to have Dell PC desktop computers and/or IBM - Lenovo T60 laptop computers. The Suite also has office space for undergraduate/graduate student workers and adjunct faculty.

Auditorium and Meeting Rooms The College of Technology has an auditorium or theatre-like classroom that seats 100 students. There is also an atrium to hold large social gatherings. The ECMET Department has one meeting/conference room. In addition, the College of Technology has three meeting rooms and two breakout rooms.

Research Centers The Myers Facility houses three Centers: the Indiana Packaging Research and Development Center (4000 sq ft), Center for Systems Modeling and Simulation (1000 sq ft, with MATLAB, IGrip, Rockwell Arena, etc.), and the Center for Automation and System Integration.

Classrooms ECMET classrooms also function as laboratories, which allows students to continue on lab experiments in the same room when the lecture session of the class is complete. All classrooms are equipped with PC's with network access and educational software required for courses taught in the room, and the latest teaching apparatus: the audio/visual cabinet with master control, VCR/DVD player and audio amp. Most of the rooms have installed overhead data projector, and an automated projector screen. Each room also has multiple equipment/documentation cabinets to store lab equipment and manuals, e.g., power supplies, oscilloscopes, multi-meters, function generator etc.

Room physical dimension is usually large enough to accommodate up to 24 seats, which is the normal cap for class size. The layout is designed to facilitate student interaction and collaboration during laboratory exercises.

Rooms 307, 308, 311, 312, 315, and 316 are the primary teaching rooms for the ET courses. These rooms are fully equipped with the specialized equipment to fulfill the needs of the courses in complementing and enforcing the materials presented in lecture with appropriate laboratory exercises. Inn class computers have the necessary software for each subject installed.

Room 304 is one of the 17 new sympodium classrooms across ISU campus. The Smart Sympodium in this room operates identically to a Smart Board. The system allows each input switch from desktop, laptop, and other visual sources. Writing on the touch screen can also be saved through special software.

Laboratories, Equipments and Tools TC 108, the Computer Integrated Manufacturing (CIM) laboratory (3600 sq ft) has been developed to represent modern automation. The CIM lab has seven Adept robots, some with vision systems, a Fanuc robot, an automated guided vehicle (AGV), an automated storage and retrieval system (ASRS), and an automated conveyor system. All of these systems have been integrated so they function as an automated factory.

In addition, the College has a lab, TC 311, dedicated to the study of programmable logic controllers (PLC) (2400 sq ft), a wet process control lab, TC 312, (2400 sq ft) that helps students learn about automation used in the chemical and plastics industries, and a Mitsubishi robot lab, TC 316, (2000 sq ft). The Mitsubishi lab has eight robots and I/O systems. All of these systems are computer operated and can be migrated for web delivery.

Besides commonly used software such as Microsoft Office Suite, lab specific PC's have the necessary software including MultiSim, LabView, RSLOGIX, RSLINX, and Microsoft Visual Studio, installed.

These laboratories have the power requirements, grounding, and modern resources necessary to sustain a technical program. Where required each room has a full array of single and three-phase circuits.

Laboratories

The following is a concise list of the available laboratories:

Room Number	Specialty	Approximate Stations
TC 304	Circuit Analysis Learning Lab	12
TC 305	IT Laboratory	12
TC 306	Advanced Computer Lab	12
TC 307	Transistor Laboratory	12
TC 308	Solid State Laboratory	12
TC 311	Power and PLC Laboratory	10
TC 312	Wet Process Laboratory	10
TC 316	Robotics Laboratory	10

Offices

Each faculty is provided an office. The faculty offices are spacious accommodations giving the feeling of freedom and adaptability. Each office has connections for telephone and Internet access. The secretary's office is situated in such a manner to provide maximum access and ease of utilization to all faculty and students. All offices have been situated in a single complex with a Department Conference Room to further make access to faculty and students as efficient as possible.

Location of personnel is as follows:

Name	Title	Room
Ashby, Joe	Assistant Professor	TC 301E
Beach, David	Professor	TC 301K
Clyburn, William	Associate Professor	TC 301L
Cockrell, Gerald	Professor	TC 301F
Croft, William	Associate Professor	TC 301C
Li, Xialong	Assistant Professor	TC 301J
Lin, Yuetong	Assistant Professor	TC 301H
Mitchell, Ann	Administrative Assistant	TC 301A
Malooley, David	Associate Professor	TC 301D
Schwibbe, Tim	College Staff Computer Systems Manager/Technologist	TC 310A

Auxiliary Rooms

In addition to the offices and classroom/laboratories, the Department has a Graduate Research Office--TC 301N, a Neural Network lab--TC 317, and duplication facilities--TC 301A.

Equipment

The Department of Electronics and Computer Technology has had an ongoing equipment modernization program since 1982. Much new equipment has been purchased and is in use. Specialized oscilloscopes, power supplies, computer systems, trainers and instrumentation have been purchased and developed as needed to remain current in offering students the hands-on experience with "real world" equipment whenever possible.

Major equipment includes state-of-the-art programmable logic controllers, process control equipment, robots, and computers throughout the laboratories.

6.8.2 Support for Facilities and Equipment: Facility and equipment needs shall be reflected in the long range goals and objectives for the program(s) and options(s), and sources of potential funding shall be identified.

With implementation of the University's Master Plan for campus capital improvements and continued upgrading of the Advanced Technology Center at Indiana State University, the administration is assisting in the acquisition of appropriate facilities and equipment for the program.

As seen in Standard 6.8.1 above, there is adequate facilities and equipment to facilitate a high level of educational standards and experiences for the ET students.

Our long-range equipment needs are:

a. Continual upgrading/replacement of equipment
b. Additional process control equipment
c. Electronic circuit simulation software for student use
d. Laptop-computer stations.

Funding must continue to come from the University, industrial donations/educational discounts.

Every effort is being made to remain abreast of equipment needs; additional equipment is being purchased for the Advanced Technology Center.

We believe that these needs reflect the long-range goals and objectives of the program.

6.8.3 Appropriateness of Equipment: Equipment shall be appropriate to reflect contemporary industry. Student use of equipment reflecting current technology practices shall be evident.

The equipment invested by the program represents a cross section of the types and brands graduates will encounter on the job. The present equipment and an ongoing equipment modernization has insured that the students' laboratory experiences are relevant and up-to-date, reflecting contemporary industrial needs. Department faculty have been actively involved in acquiring new industrial equipment donations, contributions, and deep educational discounts. Examples of donations or contributions include robots, computer equipment, PLC software, variable frequency ac drive control software, Device Net equipment and software, additional process control equipment, power equipment, and digital training equipment. Examples of companies from which contributions or donations have been received are: Rockwell International, Allen Bradley, Siemens, Eli Lilly, National Instruments, Microbot, TRW, Adept Robot, and Intel. Every effort is made to use actual off-the-shelf equipment. PLCs used are SLC-500 and Micro-logix controllers from Rockwell/Allen-Bradley, level sensors, flow meters, proportional valves, and other sensors are Endress+Hauser industrial units, and robots are Mitsubishi commercial units.

6.9 Computer Systems

6.9.1 Availability of Computer Systems: Appropriate and current computer systems and software shall be available to both students and faculty. These systems must cover appropriate functions and applications in each program area. These systems may be on or off-site, as long as the systems are accessible to students and faculty.

Indiana State University is a lap-top computer institution meaning that all incoming Freshman students must have a laptop computer meeting minimum standards. Additionally, there are open computer labs throughout campus and most of the Electronics Laboratories have lab-specific computers with specialized software. Therefore, more than adequate computer systems are available to students' functions and faculty to cover applications in the Electronics Technology program. Additionally, ISU supports 85 technology enhanced classrooms, 15 public labs and 45 discipline specific computer labs, and 5 distance learning classrooms. Campus infrastructure currently supports over 100 servers and high performance computing facilities. The campus has become a notebook institution beginning with freshmen in Fall 2007. The campus is served by an extensive fiber optic cable system, and uses a gigabit backbone to deliver data and interactive video connections to every building. Wireless network access is available in all academic areas. High speed connection to both the commercial Internet and Internet2 is provided for faculty and student use. Student computing needs are served by 450 microcomputers in general use computer clusters, and 600 microcomputers in special use clusters.

6.9.2 Utilization of Computer Systems: Evidence shall be available which indicates that students and faculty are making significant use of computer systems related to program curricula.

Visitation and observation of classroom activity will provide sufficient evidence to indicate that faculty and students are making adequate and appropriate use of computer systems

Faculty Computer Usage:

Name	Type of Personal Computer
Ashby, Joe	Dell Optiplex
Beach. David P.	Macintosh
Clyburn, William	Dell Optiplex
Croft, William E.	Dell Optiplex, Macintosh
Cockrell, Gerald W.	Dell Optiplex
Malooley, David J.	Dell Optiplex, Macintosh

Student Computer Usage/Laboratories:

Development System Laboratory (Intel Equipment) – Six IBM AT 486 DX 100 MHz, and twelve Dell Dell Optiplex computers.

Process Control Lab – Five Dell Dell Optiplex computers, and IBM AT 486 DX 100 MHz (AT Compatible).

Computer Laboratory – 24 Dell Optiplex computers.

Power and PLC Lab – Eight Optiplex computers.

All other laboratories – Dell Optiplex computers

Software Used by Students – Multi-Sim, Breadboard (circuit analysis) program, Electronics Workbench are on all laboratory computers used in all ECT classes. LabView software is used by students to develop circuits and process control simulations. Additionally, students take at least one computer science course and a MET Computer Graphics course.

6.10 Financial Resources

6.10.1 Financial Support: The budget for the Industrial Technology program(s) shall be adequate to support program objectives. When judging sufficiency, the visiting team shall make comparisons with the support levels given to other professional programs at the institution.

The Budget for the Program is parsed through the Dean of the College. Additionally, the Department has a foundation fund, supported by the alumni, and faculty. This allows the Department to sponsor the annual advisory board meeting, and provides limited support for faculty development.

6.10.2 External Financial Support: There shall be evidence of external support for the program(s) in Industrial Technology. However, this external support shall be treated as supplementary support and is to be used to achieve and maintain a high level of program excellence. This external support shall not be used to displace funding support normally provided by the institution.

The Department has received funds from external sources totaling approximately $67,000 this year including a $566,000 three year NSF Grant, $1800 in Promising Scholar Grants, $17,000 in Work One grants. Additionally, several thousand dollars are received as a result of Distance Education classes offered by the Department.

Notification of NSF Approval of Additional Funding Support

Award No. DUE - 0703112
Amendment No. 003
Release Date: 04/07/2009
Released By: Herbert H. Richtol
Amount: $181,683
New Expiration Date: 07/31/2010

As authorized by the original award, the National Science Foundation hereby releases $181,683 for additional support of the award referenced above. The award, with this amendment, now totals $483,650 and will expire on 07/31/2010.

The attached budget indicates the amounts, by categories, on which NSF has based its continued support.

6.11 Library and Information Services

6.11.1 Library and Internet Resources: The administrative unit containing the Industrial Technology program(s) and/or the institutional library shall have access to technology resources, literature, and reference materials adequate to meet the curriculum and research needs of students and faculty.

The Department maintains some technical reference material stored in the Conference Room. The Indiana State University Cunningham Memorial Library (CML) serves as the main library and is supplemented by the Science Library, the Career Center and the Women's Resource Center. The total ISU Library collection numbers in excess of 1.9 million items and includes: books, journals, government documents, microforms, video recordings, filmstrips and computer software. The Library collection is accessible through the Library User Information System (LUIS) on-line computerized data search, which also lists holdings in the Rose Hulman Institute of Technology as well as Saint Mary-of-the Woods College. Additional library holdings are accessible from Vincennes University, University of Southern Indiana, and Purdue University through LUIS terminals.

The Cunningham Memorial Library has more than 24,000 technology-related items. Within the general classification of technology, the CML has about 1,372 items in the areas of: electronics, computer engineering/technology and computer science.

The Cunningham Memorial Library offers services for free database searches, instruction for classes and compact disk (CD-ROM) searches.

The College of Technology Library Representative recommends the purchase of books, journals, recordings and computer software to be housed in the CML.

6.11.2 Utilization of Library and Internet Resources: Evidence shall be available which indicates that students and faculty are making adequate and appropriate use of library and reference resources.

A bibliography of reference books, journals and documents is available for each course offered in the Department through the CML. Technical information for student laboratory reports are supplemented from the CML. Each faculty is encouraged to utilize available Library and Internet resources. ET Faculty assign readings available in the Library and utilize online technical documentation to support or supplement texts required in their classes. Student research for classroom presentations or laboratory exercises requires regular use of library and/or Internet based resources. Students are required to document for their presentation or laboratory reports utilization of library or web-based resources.

6.12 Support Personnel

Support Personnel: Personnel such as teaching assistants, student workers, office professionals, and laboratory technicians shall be adequate to support program objectives.

The Department has one administrative assistant. Their time is informally assigned to approximately 75% for undergraduate-related work and 25% for graduate-related work.

Student workers are hired as needed to assist in the office and laboratories.

Additionally, there is an electronics technologist assigned to the College of Technology, whose office is located within the Department.

Graduate Assistants are assigned to individual Faculty for use as teaching aides or laboratory assistants.

6.13 Placement Services

6.13.1 Placement Services: Appropriate services shall be available to assist with the placement of program graduates. Placement of graduates shall be tracked and the effectiveness of placement services shall be evaluated by the administrative unit containing the Industrial Technology program(s).

The Career Placement Center at Indiana State University is truly one of the outstanding in the nation. It provides many contemporary and effective services to assist with the placement of program graduates. ISU Career Center offers services to prepare, educate and assist ISU students throughout their career development, to prepare them for a competitive work environment, and to proactively develop and maintain effective relationships among students, employers and other relevant constituencies. Career Center is responsible for hosting two career fairs on campus. Other services of benefit to student employment include a) MyPlan: a Career Center online service to help students plan their career; b) CAREERLINK: a national recruiting network and suite of web based recruiting and career services automation tools serving the needs of colleges, employers and job candidates; c) Networking etiquette workshop: workshop that lets students learn about and practice important networking and dining skills including conversations; interviewing tips; proper dress etc; d) Speed interview review workshop: workshop that lets students practice interviewing skills in group setting alongside their peers.

6.13.2 Cooperative Education/Internship: If cooperative education or internship is either a required or an elective part of the program, then appropriate services shall be provided to assist with the placement and supervision of students.

Cooperative Education is an elective part of the program; the Career Placement Center provides appropriate services to assist with the placement and supervision of participating students. The ECMET Department has established long working relations with numerous industry partners who are willing to offer part-time or intern positions that require students to apply classroom experience to solve field problems.

6.14 Industrial Advisory Committee(s)

6.14.1 Program Advisory Committee(s): An industrial advisory committee shall assist in the validation of program content. If more than one program of study or program option is available, then appropriately qualified industrial representatives shall be added to the committee or more than one committee shall be maintained. Policies shall be presented to indicate the: (a) procedures used in selecting members, (b) length of appointment, (c) organization of the committee, (d) committee responsibilities, (e) frequency of meetings, and (f) methods of conducting business.

Throughout the history of the Electronics Program, the Department has had an active program industrial advisory board. Many members of the board are department alumni, and the department continues to invite graduates who are willing to help the programs improve their education objectives and program outcomes to join the board. ET faculty have established good working relations with the board members. Over the years the board meetings have proven to be a valuable venue to review program curricula and provide advisement on current and future needs of the technical fields in which graduates are employed. The membership of the current Industrial Advisory Board is as follows:

2009 Industrial Advisory Board - Electronics and Computer Technology

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6.14.2 Advisory Committee Meetings: The industrial advisory committee(s) shall meet at least once each year, and minutes shall be kept of these meetings showing agenda items, actions taken, and recommendations made.

Below are the Minutes of the Industrial Advisory Board Meetings:

Indiana State University
Department of Electronics and Computer Technology
College of Technology

Advisory Board Meeting
November 24, 2009
Minutes

Present:
Advisory Board Members: Mr. David Adler, Mr. John Brasker, Mr. Brian Bridgewater (by teleconference from Ireland), Mr. J. R. Musselman (by teleconference from Nashville, TN), Ms. Dana Nakanishi, and Mr. John Watler.
ECT Department Faculty: Dr. Joe Ashby, Dr. David Beach, Dr. William Clyburn, Dr. Gerald Cockrell, Dr. William Croft, Dr. Xiaolong Li, Dr. Yuetong Lin, Mr. David Malooley, and Dr. Ming Zhou
Guest: Dr. Brad Sims

The annual Industrial Advisory Board Meeting for the Electronics and Computer Technology Department was held November 24, 2009 on the campus of Indiana State University, TC 314. The meeting came to order at 9:00 a.m.

Opening remarks were made by Dr. Ming Zhou. He outlined some of the challenges facing our programs, such as enrollment concerns, financial constraints, and competition from other institutions. He asked the board for their help with efforts to continue improvements to our programs and with issues and requirements regarding accreditation.

Dean's Remarks. Dean Sims welcomed members of the advisory board and thanked them for their participation and efforts to improve programs in the College of Technology. He said that priorities within the COT are boosting enrollment and increasing outside funding.

Prof. Malooley thanked the advisory board for their participation in this meeting on such short notice. He said that we are currently in the midst of three accreditations: North Central Association (University), ATMAE, and TAC-ABET. He gave an overview of the current curriculum, and asked whether board members think that courses currently being offered are appropriate, or if there are others that should be added. What direction do we need to go to ensure that our students are successful?

Electronics Technology.

Cockrell: Do we still need to be doing device level courses?
Musselman: No.
Adler: Students need to know the basics even if they don't actually use it.
Watler: Agreed that you need to have an understanding.
Musselman: Suggested combining ECT 231 and ECT 232 into one course.
Watler: Agreed that courses could be compressed or combined.
Ashby: What are emerging technologies that should be included in the curriculum?
Musselman: Anything about I.P.
Clyburn: How about communications?
Watler: Students should know how to interface software & hardware.
Malooley: What about Visual Basic?
Watler: Said that he deals with that every day.
Adler: Students need to know about embedded microcontrollers
Sims: Suggested adding more soft skills in addition to technical skills—negotiating,
Selling, and writing. Hopefully our students want to be managers.
Dana: Students are doing Power Point presentations in elementary schools now.
Cockrell: We try to produce problem solvers.
Bridgewater: Asked if surveys to recent graduates are being done?
Adler: How do we keep current with hardware that is obsolete in three years?
Clyburn: If you understand basic fundamental concepts, you have an education and
have the ability to learn new things.
Adler: There is a perception in industry that academia is teaching technologies that are

dated. He said he doesn't have the answer, but just stating the problem.
Musselman: What type of people are we trying to develop?

Prof. Malooley asked the advisory board members to create a graduate profile for each of the three programs and get them back to us within the next 3 weeks. The ECT faculty will then see how we can mesh this into our curriculum. The hope is with this information in hand to be better equipped to have three well designed programs.

Computer Engineering Technology.
Dr. Lin thanked the advisory board members for their response to his recent survey. He also outlined deficiencies found in the CET program by the TAC-ABET team.

The team did not see enough involvement by the advisory board.
Periodic surveys are needed.
More meetings – at least one meeting per semester
Board members assist with co-ops.
Developing program educational objectives.
Must define educational objectives in consultation with advisory board.
Continuous improvement must be shown.
Capstone course or integrating experience needs to be implemented into curriculum.

Prof. Malooley said that we are going to need to know more from the board members, and have at least two sit down meetings per year. Also, we will be more frequently bouncing ideas off them throughout the year. He asked the board if they are willing to increase their participation, and respond to frequent communications. We are being required by our accrediting agencies, as well as increasing our commitment to them, as employers, by raising our level of students we provide to industry.

Bridgewater: Can we sit in on senior projects as a way to help critique the program?
Musselman: Invited us to bring our students to his company for co-ops. He also Challenged all advisory board members to become more involved and more productive.

Watler: He said he is willing to commit more time.
Cockrell: He said he would like to see the board create the agenda for our meetings.
Adler: Culminating experience is important not only for accreditation, but also to Show employers what the student has or can accomplish. This type of capstone course can make this school even better.
Musselman: Described his experience as a member of the advisory board for Vanderbilt

Engineering School (Nashville, TN) and being involved with students and
guiding them in a two-semester group co-op course.
Lin: Do we need to add a capstone in the curriculum, or take one 3-hour block out and
Convert it to a capstone experience? How do we approach this?
Bridgewater: Due to the rising cost of education, he does not agree with adding more
hours. He suggested re-arranging the curriculum to add the capstone.
Watler: We all agree that a capstone course needs to be added, however it may be implemented.

VOTE: 6-0-0 to add a Capstone or culminating experience to the curriculum.

Malooley: Should the program name be changed from Electronics Technology to Electronics Engineering Technology and move to TAC-ABET accreditation?
There was discussion regarding the marketing aspect and employer recognition.
Motion (Musselman/Watler), **VOTE: 6-0-0.**

There was general agreement by Mr. Brasker, Ms. Nakanishi, and Mr. Watler that the main reason for favoring the name change is program marketability and employer marketability/name recognition. Mr. Bridgewater said that the Engineering title is also more recognized internationally.

VOTE: 6-0-0 to seek TAC-ABET accreditation.

Electronics Technology Questionnaire. Prof. Malooley said that the questionnaire identifies 21 areas that make up the program and asks graduates to rate them. He asked advisory board members to take a look at the questionnaire and let us know if any changes should be made to the form.
Brasker: #10 and #11 are duplicates
Croft: Instead of C++ , he would prefer “high level structured language”
Malooley: Asked if the board has heard of a program called “Python,” and should we discontinue the requirement of Visual Basic? The general consensus was no, Visual Basic should stay.
Croft: Change #18 to theories of amplification circuits.
Dana (and Musselman agreed): change PLC to automation controllers and instrumentation.

Employee Information Form.
Musselman, Brasker, and Watler: That subject is an “untouchable” one for them as employers. They are not allowed to talk about their employees to anyone.

NSF Grant.

Dr. Cockrell mentioned that he and Dr. Ashby are working on a NSF and gave disks to advisory board members containing examples of the work that is being done, presentations, etc.

The meeting adjourned at 12:00 Noon and was followed by a luncheon at Generations Restaurant.

Indiana State University
Department of Electronics and Computer Technology
College of Technology

Advisory Board Meeting
April 11, 2008
Minutes

Present:

Advisory Board Members: Mr. John Brasker, Mr. Richard Roop, and Mr. John Watler
ECT Department Faculty: Mr. Joe Ashby, Dr. David Beach, Dr. William Clyburn, Dr. William Croft, Dr. Nicholas Farha, Mr. Richard Jinbo, Dr. Yuetong Lin, Mr. David Malooley, and Dr. Ming Zhou
Guest: Dr. Todd Jochem (by teleconference)

The annual Industrial Advisory Board Meeting for the Electronics and Computer Technology Department was held April 11, 2008 on the campus of Indiana State University, TC 314. The meeting came to order at 9:45 a.m. Opening remarks were made by Dr. William Clyburn. He explained the reorganization that has taken place within the College of Technology and what programs are now included in the new ECMET Department. He talked about the challenges facing us as well as opportunities.

Dean's Remarks. Dean Foster told the advisory board how important their input is to our department. He reported that graduate enrollment is growing, undergraduate enrollment is declining. He mentioned that a new faculty member has been recommended by the department for hire (Dr. Xiaolong Li). He also reported that a TAC-ABET consultant will be visiting on April 23, 2008 to explore the possibility of accreditation. Dean Foster also talked about the

Automation and Control Engineering Technology (formerly CIM) major that was recently moved to this Department.

Comments, Concerns, Etc. from the Advisory Board members:

Brasker: How are we dealing with increased pressure because of legislature changing the status of Vincennes University and IVY Tech.

Roop: His son recently graduated from Wabash College. He was amazed at their marketing success. He asked if money has been allocated for recruitment with high school counselors, etc. Dean Foster answered that Prof. Ashby is certified with the Project Lead the Way Program. Participating schools get $450/student. Those students come to us with 15 college credit hours and technology experience. ISU is reaching out to these students.

Dean Foster: IVY Tech has the same course content as the first two years of our programs, same accreditation, but it 40% cheaper for students.

Roop: Suggested that a market positioning statement is needed. Also suggested that we should use our alumni database for recruitment. R.O.I. (Return on Investment) should be stressed.

Jochem: Campus activities are much richer at ISU than IVY Tech or Vincennes University. He suggested that we find out what salaries their graduates are getting as compared to ours.

Jochem: Left ISU in 1990 (graduated 1996 with a Ph.D. in Robotics from Carnegie Mellon). He helped develop lane departure (drowsy driver) warning system for large trucks.

Brasker: 1981 ISU graduate, and is a team leader at Eli Lilly in insulin manufacturing facility.

Roop: 1980 Murray State EET graduate, received MBA at ISU. He began working in portfolio investments in 2001.

Watler: 1994 ISU graduate (M.S.)

Updates by Faculty on Curriculum.

Electronics Technology	Prof. Malooley
Computer Engineering Technology	Dr. Lin
Information Technology	Dr. Farha
Automation & Control Engineering Technology	Prof. Ashby
MSECT	Dr. Clyburn
Ph.D. Program	Dr. Beach

Farha: Asked Ashby how do you attract high school students to the Automation program?
Ashby: Project Lead the Way
Clyburn: Suggested that names of large well known industries that hire our students be used in our recruiting.
Brasker: Suggested that we get information about the Automation & Control Engineering Technology Program into publications such as Control Magazine, etc.
Ashby: We are getting really good publicity from ISA. Scholarships will also help attract students.
Brasker: Don't forget IEEE.

Student Co-ops and Placement. Dr. Croft reported that we have several students doing co-ops in local corporations. The last data we have regarding placement of our graduates was gathered for our last NAIT accreditation. Placement information is no longer being kept by the university. We do have graduates working all over the nation and in major and minor corporations all over the state. Our graduates also work in insurance and other unexpected fields.

Grants. Prof. Ashby reported that we recently received a NSF grant in the amount of $800,000. Dr. Cockrell and Don Arney (Ivy Tech) are P.I.s. Prof. Ashby is a secondary investigator. He talked about the remote lab advantage over simulation and outlined the 60 learning modules being developed.

Recruitment & Retention Activities. Dr. Farha talked about activities on the College of Technology level: Tech Trek, Tech Prep, Hands On High Tech, Articulation Agreements, and new brochures are being developed. Also University level: new web site (indstate.edu), Foundational Studies Program, First Year Students Program, Sycamore Advantage, Knowing Sycamores. Dr. Croft also mentioned that the ECT Department sent out materials to local and area high schools for the past few years and has begun to see some benefits from that effort.

Scholarships. Dr. Croft said that he had attended an Honors Day ceremony a few years ago where the ECT Department only awarded one scholarship. So we initiated a campaign to start new scholarships for our students (Alumni Endowed Scholarships). This year we were able to award four scholarships from this fund. Mr. Roop asked if it would be appropriate for the Advisory Board members to support a student scholarship?

Program Accreditation. Current accreditation is from NAIT. A consultant from TAC-ABET is coming later this month to consider accreditation.

Faculty Search Update. Prof. Malooley reported that we recently conducted a nationwide search. We had 40+ candidates and brought in 3 for interviews. The Search Committee has made their recommendation to the Dean. The Dean is currently contacting the candidate who was the number one selection.

Chair. A nationwide chair search was not granted. Dr. Ming Zhou is the Interim Chair until June.

Directions for the Future.

Jochem: We value critical thinking skills. One way to do this is to give students projects. He would encourage this. He would also encourage ECT students to take as many Computer Science courses (Linux, C++, etc.) as they can.
Roop: Suggested that we should be selling "a quality of life" instead of selling our product. Most big companies are using this approach to their advertising.
Brasker: What distinguishes us from other programs? He said that the Automation and Control Engineering Technology Program may be just that thing. He sees a real need in industry for graduates of this exact program.
Jochem: Does the department or college have funds for marketing without asking the university? Prof. Malooley replied that we are required to go through our marketing office for permission to use any ISU logo, etc. Dr. Jochem said to tell the university that our advisory board suggests these things ("This is industry talking.") He asked what can we as outsiders do for you? We suggested that as outsiders we can say & do things that faculty cannot. He said that we need to build constituency and support within the College of Technology.
Roop: Suggested that we approach the Marketing Department to have students to a project advertising our department.
Croft: Asked the board members what we can do to increase enrollment? He suggested the possibility of setting up communication among themselves and providing input to us.
Jochem: He suggested the possibility of offering a Robotics Engineering Technology program.
Roop: Robotics and Automation are the new basic skill sets to take out and market.
Watler: Recruit high school counselors and IVY Tech counselors.
Jochem: Asked if it would be possible for the advisory board members to get a list of new admits to contact by phone. Watler and Jochem both agreed that could be very useful.

The meeting adjourned at 2:45 p.m. Faculty members took the advisory board members on a tour of the ECT labs and facilities.

Indiana State University
Department of Electronics and Computer Technology
College of Technology

Advisory Board Meeting
April 13, 2007
Minutes

Present:

Advisory Board Members: Mr. David Adler, Mr. John Brasker, Mr. Brian Bridgewater, Mr. J. R. Musselman, Ms. Dana Nakanishi, Mr. Richard Roop, and Mr. John Watler
ECT Department Faculty: Mr. Joe Ashby, Dr. David Beach, Dr. William Clyburn, Dr. Gerald Cockrell, Dr. William Croft, Mr. Nicholas Farha, Dr. Yuetong Lin, Mr. David Malooley, and Dr. Reza Raeisi
Guest: Mr. Brian Bonnett (TRW)

The annual Industrial Advisory Board Meeting for the Electronics and Computer Technology Department was held April 13, 2007 on the campus of Indiana State University, TC 101E. The meeting came to order at 9:45 a.m. Members and faculty briefly introduced themselves. Opening remarks were made by Dr. William Croft.

Dean's Remarks. Dean Foster reported on the College of Technology's reorganization from five to three departments effective Fall 2007. He also spoke about the COT's participation in Project Lead the Way, a program whereby high school students can earn up to 15 credit hours for courses taken. The Dean talked about some of the COT graduates and the jobs they are being offered upon graduation. He also mentioned the competition being provided by IVY Tech.

Advisory Board members each gave updates on their recent activities.

Minutes from the last meeting (4/7/06) were approved (Motion, Watler/Cockrell) unanimously.

Undergraduate Electronics Technology Program. Dr. Cockrell reported that the ECT programs have gone about 25 years without modifications. He asked board members what they see as new electronics technology for the future. Dr. Cockrell talked about program considerations such as *standards* being very important in the curriculum. Ms. Nakanishi noted that we should include not only U.S. standards, but also global standards. Is there benefit to putting a lab together? A large percent of our curriculum is lab-based. Is that what we should continue to be doing? Or can we simulate? It was suggested that much of the labs could be done in Project Lead the Way.

Dr. Croft asked how much of these program considerations need to be emphasized?
Mr. Bonnett: Some consolidation could take place.
Mr. Musselman: AC-DC op amps could be condensed, and that fundamentals should be covered at a shallow level while upper level material should be at a deeper level.
Mr. Bridgewater: Ability to communicate in a technical way.
Mr. Brasher: Students can not get enough Physics.
All agreed that Fluid Power should remain.
Math
IMT 103---some yes, some no
Dr. Cockrell: The emphasis in the last two years has been critical thinking and critical analysis.
Ms. Nakanishi: Make first two years better than what IVY Tech students are getting in their first two years.

Internship Report. Jesse Wortman transferred to ECT from Lakeland. He had an internship during Summer 2006 at B&C Machine & Design in Effingham, IL and gave a presentation about his experiences and discussed the types of technology used. Jesse is graduating May 2007 and has been offered a job at Praxair.

Nationwide Electronics Program at Distance. Dr. Croft explained the Nationwide articulation which would open up our 3rd and 4th year degree completion program to distance students nationwide. We would transfer in credits as a block for students who have earned an A.S. degree.

Computer Engineering Technology. Dr. Croft explained the process that has gone into revising the old Computer Hardware Technology program which has become the new Computer Engineering Technology major. The ECT Department has surveyed Advisory Board members, alumni, students, etc. After examining other programs across the country we found that we were already a Computer Engineering Technology program. We just didn't have the name. Former students said that the "name" would have made a difference in the type of job they could get. The accrediting group would change from NAIT to TAC-ABET. Dr. Croft described the new curriculum and the courses. Mr. Roop: "Awesome, this hits exactly what we need in industry." Mr. Musselman: "I don't see anything on computer security." The faculty has worked on this program revision and voted to approve. Dr. Croft asked for a vote (7-0-0) from the Board to proceed.

Information Technology Program. Prof. Farha gave an overview of the IT Program and noted that it does lack a security course. If it did include a security course he would put it up against any IT program in the nation. Mr. Musselman: Needs a security course and system design (configuration, etc.)

Graduate Programs. Dr. Clyburn reported briefly that there are approximately 80 students currently in the on-campus M.S. ECT Program. These students are mainly from India, and come here without any advertising or promoting.

Mr. Musselman: Through his company, he works with Vanderbilt Advisory board. They solicit companies for projects.

Dr. Cockrell talked about the M.S. ECT Distance Program and that it continues to grow. Students are enrolled from all over the United States.

Dr. Cockrell also spoke about the Ph.D. Program. 156 students are currently enrolled in the program among a consortium of five universities. He reported that Mr. Timur Mirzoev is graduating from the program in May and has a faculty position at Georgia Southern University beginning in Fall 2007.

Articulations._ Our articulations with two-year colleges have recently been updated.

Internships/Co-ops. A list of recent internships and co-ops was presented to the Board.

Placement. The ECT Department continues to have very high undergraduate placement numbers (80-85%).

Student Recruitment & Retention. After brainstorming sessions, the ECT Department tried the simplest thing first—we sent letters to all the Guidance Counselors in Indiana and Illinois. Then we sent letters to technical teachers in those high schools. We are now beginning to get calls and inquiries from these people.

NAIT Accreditation. Dr. Croft announced that we have full accreditation until 2010 for all programs in the department.

Faculty Grants.

Prof. Joe Ashby: His Promising Scholar funding is internal ISU money, but came from Lilly. His project is “Remote Labs.” Mr. Ashby also has an IRTS grant. He reported that he will be going to Project Lead the Way Training.

Dr. Yuetong Lin: Has a Promising Scholar grant. His project is “Combining Neural Networks & Fuzzy Logic.”

Dr. Reza Raeisi: Has a grant for Digital Logic Design.

Dr. Gerald Cockrell: Has been awarded an NSF grant. He mentioned that this opens the doors for ISU College of Technology to get more of these grants in the future. He will write 60 modules to be used in conjunction with IVY Tech. The award is for $800,000 over 3 years.

College of Technology Reorganization. The ECT Department will meld with a portion of the IMT Department. We will take on four of their faculty and some of their programs. Our programs will continue to exist as they are and we will still have need for our Advisory Board.

Assessment Plan. NAIT said that we lacked an Assessment Plan. Dr. Croft presented a two page (draft) questionnaire. The Advisory Board suggested that the wording in the questionnaire be changed from “liked best” or “liked least” to something like “strongest points.”

Directions for the Future. Mr. Musselman again mentioned the Vanderbilt Advisory Board and suggested that it might have some benefits for us.

Dr. Croft thanked all for coming, and emphasized that we do listen to their suggestions and advise. He gave each member a College of Technology shirt. The meeting adjourned at 2:50 p.m.

Indiana State University
Department of Electronics and Computer Technology
College of Technology

Advisory Board Meeting
April 7, 2006
Minutes

Present:

Advisory Board Members: Mr. Brian Bridgewater, Ms. Dana Nakanishi, Mr. Richard Roop, and Mr. John Watler
ECT Department Faculty: Mr. Joe Ashby, Dr. David Beach, Dr. William Clyburn, Dr. Gerald Cockrell, Dr. William Croft, Mr. Nicholas Farha, Dr. Yuetong Lin, Mr. David Malooley, and Dr. Reza Raeisi
Guest: Dr. Tad Foster

The annual Industrial Advisory Board Meeting for the Electronics and Computer Technology Department was held April 7, 2006 on the campus of Indiana State University, TC 314. The meeting came to order at 9:45 a.m. Members and faculty introduced themselves briefly. Opening remarks were made by Dr. William Croft.

Dean's Remarks. Dean Foster mentioned that Digital Communications was the largest contingent in the Ph.D. program. Electronics Technology is always changing and is challenged to remain current. He briefly discussed budgetary issues at ISU.

Dr. Croft announced that Dr. Maloba has resigned his faculty position in the ECT Department and remains in the Democratic Republic of Congo as the President of the National Electric Company there.

Undergraduate Electronics Technology Program. Prof. Malooley gave an overview of the curriculum. The Program is scheduled to be revised in the next two years. He asked board members for their input for program revision. ECT 160 will become a non-major course and will be developing a section of 160 for Automotive majors. He announced that we will be offering our program (ECT 321 forward) at a distance on a nationwide basis. Mr. Roop inquired as to what had previously limited it to the state of Indiana. Dr. Cockrell asked the board members what language would be most beneficial for our students to study. They replied: Chinese, Spanish, Japanese. Prof. Malooley also talked about the transfer and articulation process and showed ISU's Transfer Central website and the Computer Assisted System (CAS). ISU is one of 259 institutions participating in CAS, and students may log on and get direct course equivalency information. Also, an interactive DARs is soon to come online.

Computer Hardware Technology Program. Dr. Raeisi explained that the program was very similar to the Electronics Technology program and that was the reason for revision. The Program has undergone a 2 year review. We are presenting the results of that review and we ask for comments from the Advisory Board. New emerging technology courses are to be offered in the revised program. Some courses have been eliminated from the old program and new ones added. Mr. Bridgewater asked if we based our benchmark against Computer Engineering degrees? Dr. Raeisi and Prof. Ashby gave a course by course overview of the courses to be included in the new program. Mr. Bridgewater asked if any course would cover industry standards such as S95? Dr. Croft asked for input—are we on the right track, have we missed anything? Ms. Nakanishi commented that some 200 level courses have been re-numbered as 100 level courses. Mr. Bridgewater asked how we will differentiate ourselves from MIS or IT majors. Dr. Croft replied that the revised program will move us to look like MSI or IT majors, but with much more added. We will keep the IT side but will retain the industrial flavor. Dr. Cockrell explained that in 1981 the program was called Computer Technology and later changed to Computer Hardware Technology. Mr. Bridgewater asked if our vision for the program is plant floor perspective or IT perspective. He sees too much computer design. Mr. Watler agreed. Those things are not needed in industry. Dr. Croft explained that we need to produce a person who is employable in all facets and useful in the marketplace. Mr. Bridgewater added that our graduates need to be able to "program it, understand it, and communicate it." Ms. Nakanishi sees a product design person coming out of this program more than overall systems integration. Mr. Roop: (1) In the power industry, there is a need for the Computer Hardware program and that is the type of person they look for. (2) Small and medium sized businesses are driving the economy and this Computer Hardware Program fulfills their needs. Mr. Watler said that careful advising will be needed to know what direction a student would want to take. Mr. Roop wants to challenge us to be visionary-- what will be needed for the future. Mr. Watler felt like he got from the ECT Department a very good foundation for what he needed in his career. Mr. Bridgewater suggested that plant tours would be very beneficial, and that after tours students should be asked what route they want to take—plant floor or IT? We could ask alumni to give plant tours.

Nationwide Articulation. We are preparing to open up our 3rd and 4th year degree completion program to distance students nationwide. We would transfer in as a block for students who have earned an A.S. degree. Question to the advisory board: Do you have any reservations about the concept or ideas on the subject. Mr. Bridgewater expressed concerns about resourcing or staffing to support the courses. Could graduate students teach? Mr. Watler asked how large we anticipated the population grow, and that we might consider limiting enrollment if needed. Dr. Cockrell sees this as growing to be similar to the University of Phoenix, and added that it will be open to those in the military. Mr. Bridgewater asked who we are aligned with for marketing? Dr. Croft asked if there were any cons to consider and how it might be viewed by employers. Mr. Roop asked if we have a plan in place to prevent other schools from copycatting. Ms. Nakanishi asked if we had the hardware requirements to support the increased student enrollment. The Advisory Board as a whole gave their approval to offering the program on a nationwide basis.

Information Technology Program. Prof. Farha gave a brief overview of the program, explaining that there were four ways to approach the study of computers at ISU: 1. Computer Science (Programming), 2. MIS (Business based), 3. Computer Hardware Technology (Electronics based), and 4. IT (Technology based, broadest content). Currently there are 126 majors in the IT Program. Prof. Farha hopes to add a securities course to the program. Mr. Watler suggested that we open up Computer Technology courses into the IT program.

M.S. Program. Dr. Clyburn gave an overview of the program. He reported the enrollment figures for the on-campus M.S. in ECT program were 51 students in Fall 2005, and 40 students in Spring 2006. He has admitted an additional 40 students for Fall 2006. Enrollment in the on-campus program is primarily made up of students from India. He asked board members to keep in mind that these students have BSEE degrees and could help with projects or problems in industry, and the students could then use that experience as a Major Project. Advisory Board members could then serve as a member of the student's Major Project committee.

M.S. Program (Distance). Dr. Cockrell reported that currently 24 students are enrolled in the distance M.S. program. These students are full time working professionals.

Ph.D. Program. Dr. Beach gave an overview outlining specializations and participating consortium members. There are currently 152 students enrolled, 48 are in Digital Communications.

Faculty Activities, Grants, etc.:

Prof. Joe Ashby: Mini-grant ($5,000) for PLC Trainers for remote lab to allow distance students to perform hands on lab work.

Dr. David Beach: Serving on 37 Ph.D. dissertation committees

Dr. William Clyburn: Mini-grant for Systems Integration

Dr. Gerald Cockrell: He is involved in a long-term project with Russia. 11 students came here last summer for a week as part of an exchange program with ISU. 6 more students are scheduled to visit this Fall. He has been teaching a Distance Project Management course and will be awarding completion certificates at the end of this semester. He also announced the creation of CASI (Center for Automation and Systems Integration).

Dr. Yuetong Lin: Mini-grant for the upgrade of software. He is also collaborating with Dr. Beach on the Neural Network.

Dr. Reza Raeisi: Internal grant to revitalize micro-controllers in labs.

Recruitment. Dr. Croft reported that recently the faculty met for a brainstorming session regarding ideas for recruiting new students to ECT. They came up with 30 ideas and narrowed those down to the top 5. Dr. Cockrell asked student Michael Grounds what he would view as the best way to reach high school students? And what influenced him to come to ISU. Suggestions from the advisory board: Science Fairs, Boy Scout Science Fair, and 4-H.

NAIT. Dr. Clyburn reported that the ECT department is in the process of preparing a 2-year report. During our last review, the accreditation team felt that we were in partial compliance for 10 items. A 2-year review will answer those problems. We were criticized heavily on our Assessment Plan.

Questions from the Advisory Board:

What is our budget for the year? (Mr. Bridgewater)

$11,000 equipment

What about contact with alumni and gifts? (Mr. Roop)

- Scholarship initiative
- ECT Foundation
- New Development Director interviews are currently taking place

What about the possibility of a Mentoring program (alumni)? (Mr. Bridgewater)

What about the possibility of a Career Day—bring in alumni who are professionals for students to talk with? (Mr. Roop)

Dr. Croft asked the board members to complete the written surveys before they left for the day including an Assessment Survey.

Mr. Bridgewater mentioned that Purdue graduates are required to do a 4-year project as an assessment tool.

Mr. Watler suggested an Exit interview with students upon graduation. A one-on-one informal interview. Not necessarily every student, maybe just a sampling.

Mr. Roop suggested a Senior Exam that would pull everything together in their major.

Dr. Croft asked, "What do we do with the results?" Compare grade results with those in courses taken by the student. Mr. Roop said the exam does not need to be difficult—just something to see that students have basic competency and help bring together everything they have learned. Bring career application-type questions into the exam. Or—questions to graduates after one year of work to find out if students are adequately prepared.

What competencies are needed? Written and verbal communication skills (Nakanishi and Bridgewater). Mr. Roop suggested that each course require a written report. Senior projects would challenge students' technical and communication skills. Ms. Nakanishi added that presenting gives students the opportunity to present in a safe environment.

Dr. Croft asked, "What made your employer hire you?" I was able to exhibit fundamental methodology of problem solving (Nakanishi). Common sense and could communicate. They saw that I had a degree and knew that I could problem solve (Watler). Titles are very important buzzwords to employers when they hire (Roop).

Suggested Content Areas for the Future:

- Technical Research skills (Watler)
- Being able to read prints (Roop)
- Understanding Standards (Bridgewater)
- Industry Regulations (Nakanishi)
- Regulatory bodies—teach OSHA, NFPA, etc. (Roop)
- Industrial Safety Network (Nakanishi)

The meeting adjourned at 3:35 p.m.

Indiana State University
Department of Electronics And Computer Technology
College of Technology

Advisory Board Meeting
April 22, 2005
Minutes

Present:

Advisory Board Members: Mr. David Adler, Mr. Brian Bridgewater, Mr. J. R. Musselman, and Mr. Richard Roop
ECT Department Faculty: Mr. Joe Ashby, Dr. David Beach, Dr. William Clyburn, Dr. Gerald Cockrell, Dr. William Croft, Mr. Nicholas Farha, Mr. Richard Jinbo, Mr. David Malooley, and Dr. Reza Raeisi
Guest: Dr. Tad Foster

The annual Industrial Advisory Board Meeting for the Electronics and Computer Technology Department was held April 22, 2005 on the campus of Indiana State University, TC 314. The meeting came to order at 10:00 a.m. Members introduced themselves briefly. Opening remarks were made by Dr. William Croft who gave an overview of the ECT Department curriculum and announced our recent reaccreditation by NAIT.

Prof. Farha reported on the Information Technology major which currently has about 130 majors. ECT, MIS, and CS departments are all involved in this major.

Dr. Clyburn talked about the M.S. in ECT Program on campus. He spoke of his duties as Coordinator and stated that there are currently 54 students in the program. A brief overview of the curriculum was presented.

Dr. Cockrell described the M.S. in ECT at Distance Program. ISU has become a leader in presenting distance courses and simulation via the internet. The only advertising for the program is done through ISA. The content is exactly the same as for the students who study on the ISU campus. There are currently 66 active students in the M.S. at Distance program.

Dr. Cockrell also spoke about the Ph.D. in Technology Management degree. It is made up of a consortium of five universities, and is the largest doctoral program at ISU. Admission to the program is very selective, with about 150 students currently accepted. Eleven students have graduated to date.

Prof. Malooley described the Electronics Technology B.S. degree and the articulation programs with 2-year schools. He gave an overview of our current curriculum and 4-year plan. Dr. Cockrell asked the Advisory Board what foreign language they would view as most beneficial for advisors to recommend to students. All agreed that Spanish is the language they would recommend.

Dr. Croft talked about the distance-based undergraduate program in ECT . IHETS courses have been eliminated and delivery is now internet-based, paving the way for consideration to offer the program nationwide. He told the board members that he will be seeking their input on issues they may anticipate in offering the courses on a nationwide basis.

Prof. Ashby and Dr. Raeisi reported for the Computer Hardware Subcommittee. They discussed the proposal to revise the Computer Hardware Program and asked for help in finding opportunities for our students. The purpose of the program modification is in response to changes in industry. The proposed 4-year plan was presented and discussed course by course. Several new courses are included in this plan. J. R. Musselman noted the addition of several new courses and asked if old courses had been eliminated or combined. Dr. Croft clarified what is being done. He also talked about how the Computer Hardware major and Electronics major curricula currently look almost identical except for only 4 courses. David Adler asked about server technology. What course or courses would include that material? Brian Bridgewater asked about other networks besides ethernet networking such as bus networks. Dr. Cockrell noted that we no longer are working with components. This has become a “systems world.” J.R. Musselman expressed that he saw this program modification as a great move. He said that we must think about the future, and that the U.S. is becoming less of a manufacturing country and is moving more toward Information Technology. He asked about Information Security. He was concerned as to whether we were including courses covering security. Brian Bridgewater mentioned a need for people to understand Data Segregation. Dr.

Croft said that sometime between now and the next meeting the department will be asking for input from the Advisory Board members on the proposed curriculum. Brian Bridgewater and J.R. Musselman talked about Wireless Technology and how it can be applied to the plant floor. Mr. Musselman applauds our efforts and thought we are on the right path but also advised us to look to the future. A Computer Hardware Technology Survey was included in the materials given to the Advisory Board members. Dr. Croft asked the board to answer the questions on the survey and return them to the ECT Department by June. There was also some discussion about the name of the program and if it conveys what the major is about. Mr. Adler mentioned the possibility of using the word "Infrastructure" in the program name.

A motion was made (Cockrell/Malooley) to have Brian Bridgewater and David Adler as permanent members of the ECT Industrial Advisory Board.

Dr. Croft reported to the board about the ECT Department Scholarship Initiative. It is an in-house initiative to promote new scholarships for our students. What can we do to establish and offer new scholarships to our students? He asked for input from the board members as to where we might seek money for this program.

Lunch was served at George's Café, 12:00-1:00.

Dr. Cockrell reported that the Automation Task Force was looking at developing among several departments an interdisciplinary program in Automation. The Dean would like to develop a Center for Automation and Systems Integration which would be a Center for Expertise to be utilized by industry. Dr. Cockrell asked for input as to whether something like this is needed. Mr. Adler mentioned that Imperial College (London) might be a good place to model the Center after. He could provide information about that institution. Mr. Bridgewater said this would allow high school students to know what can be done with this kind of degree. He thinks they would find it fascinating. Dr. Croft asked what kind of issues they could see us having to deal with. Mr. Adler mentioned colloquialisms and ways we communicate with other cultures. Dr. Croft asked how does industry view hiring people who have a distance based education. Mr. Adler related that Lilly is very traditional in the types of people they hire, and are more inclined to hire people from the Midwest.

At the conclusion of the meeting the Industrial Advisory Board members were invited to tour the John Myers Technology Building and the ECT laboratories.

The meeting adjourned at 1:50 p.m.

6.15 Educational Innovation

6.15.1 Educational Innovation: There shall be evidence that program objectives are based upon long-range planning related to the industries being served. Program content must be current in both content and delivery of instruction.

Presentations and participation of faculty at national and international conferences in education or technology provide partial evidence that innovation furthering program objectives is being carried out. This information is included as portions of the faculty resumes.

Educational innovations of the Department include emerging areas of distance delivery or evaluation; and cooperative/multidisciplinary research or development activities. As of 2009, the ECMET faculty participate in a degree completion program that allows students to start their education at other institutions and to complete it at Indiana State University. There are also many signed articulation agreements between programs in the ECMET Department with two-year institutions from Indiana and Illinois.

Faculty and students in ECMET have developed a robotics laboratory that is viewable across the Internet.

Two course description examples are included to demonstrate innovation in diverse areas such as management and robotics.

- *Course development work for ECT437 and ECT537 Industrial Computer Systems Management*

This course offers students in the Computer Engineering Technology and other engineering technology programs exposure to classic project management practices and tools. The course was developed in 1981. Extensive changes were made incrementally to the course during the 2005 and 2006 schools years. These changes included: (a) the addition of a team project component where the teams are tasked to develop a complete project plan including staffing, scheduling, costing, risk analysis and closure plans; (b) the team members share common technical skills or a mix of backgrounds to accommodate cross-discipline project experience; (c) the graduate students are assigned team leadership roles; (d) the distance and face-to-face sections of the course were combined using Blackboard as the common course delivery tool with classroom lectures being recorded and archived for the distance students; (d) the project teams were organized such that each had both on-campus and distance members, requiring the use of web meeting tools to accomplish the project assignment; and (e) the need for professionalism and timeliness is stressed in all written and oral communications in the course.

A description of these course improvements and the results were outlined in a peer-reviewed paper published and presented at the 2008 Annual ASEE IL/IN Section Conference held on April 5, 2008. The paper was titled *Facilitating Team Activities in a Project Management Course*.

Faculty in the ECMET Department are currently involved in Project Lead the Way. This project involves developing curriculum in Indiana High Schools that lead to college credit.

At present, the Electronics Technology baccalaureate program offers 100% of the department's upper division courses via WEB based delivery.

Recently (2009) several ECMET faculty have participated in traveling to local high schools and delivering discussions and presentations regarding degree programs at Indiana State University.

Several ECMET faculty are currently involved in a large National Science Foundation grant secured by members of the Department. This grant calls for participation between ECMET faculty at ISU with faculty at a local two-year institution to develop educational modules to delivered via distance-based modality.

The NSF grant is in the last year of a three year effort. The grant team is developing a series of automation technician training modules in collaboration with Ivy Tech Community College Wabash Valley. The program, called AutomationTek will include 60 online training modules. A student will be able to complete the modules and receive a certificate of completion validating the learning experience. Indiana State University will offer the online laboratory exercises for the program.

Members of the department participated in a number of automation related activities including:

1. Member of a team in partnership with the International Society of Automation (ISA) and the US Department of Labor to develop an Automation Competency Model.
2. Member of a team to develop an Automation Engineering sample curriculum through ISA.
3. Met with White house and Congressional officials to support development of a Industrial Cyber Security curriculum.

6.16 Assessment

6.16. Assessment Plan and Integration: An assessment plan shall be comprised of, but not limited to, the following for each program: (1) program mission statement, (2) program outcomes/student competencies, (3) evidence that the program incorporates these outcomes/student competencies, (4) assessment measures used to evaluate student mastery of the student competencies stated, (5) compilation of the results of the assessment measures, and (6) evidence that these results are used to improve the program.

Beginning in 2010, Eleven outcome competency areas and associated performance criteria have been identified and a review process developed to determine if these areas are being met. These areas are: (A) Mastery of Knowledge and Tools, (B) Apply Technical Knowledge, (C) Experiment And apply Results, (D) Be Creative In Design And Application, (E) Function Effectively In The Team Environment, (F) Effective Problem Solving, (G) Effective Communication, (H) Embrace Lifelong Learning, (I) Understand Professional And Ethical Responsibilities (J) Respect Diversity and Professional Responsibilities, (K) Embrace Quality.

The Evaluation plan is shown in Figure 6.16.

Figure 6.16:
Program Outcome assessment plan for ET

Summary of courses where assessment will take place:
ECT 232 (1), 281 (1), 321 (1), 325 (1), 343 (2), 430 (1), 437 (6), 444 (4), 448 (3), 488 (12); MET 203 (1); TMGT 471 (1), 478 (3)

Outcome A - Mastery of knowledge & tools

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Application of circuit analysis and design.	ECT 221, 321, 421	Evaluation of in-class problem solving per rubric	ECT 321	F2010, F2013, (3 year cycle)	ET Program Champion	ET Program Team
2. Application of circuits, design, and application.	ECT 165, 167, 324, 325, 343, 448	Evaluation of in-class project per rubric	ECT 448			
3. Application of Digital Electronics	ECT 231, 232	Evaluation of performance per semester project rubric	ECT 232	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
4. Application of computer programming and associated software	CS 151, 256; ECT 165, 167, 281, 444	Evaluation of in-class problem solving per rubric	ECT 281			

5. Apply science, math, and engineering tools	Physical science courses (8hrs); MATH 115, 301; MET 103, ECT 381, 437, 448, 488	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
6. Apply PLCs, Robotics, and control system equipment	ECT 281, 280, 444, 488	Evaluation of in-class project per rubric	ECT444	F2010, F2013, (3 year cycle)	ET Program Champion	ET Program Team
7. Use fluid power, engineering materials and manufacturing processes	MET329; MFG225, 370,371; ECT488	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
8. Management techniques of systems and processes	ECT 437, 488; TMGT 478,471,473,492	Evaluation of in-class project per rubric	ECT437	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Outcome B - Apply technical knowledge

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Use mathematics in design	Physical science courses (8hrs); MET103; ECT165,167,231, 221, 324, 448, 488	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
2. Modeling for analysis	MET203	Evaluation of in-class project per rubric	MET203	F2010, F2013, (3 year cycle)	ET Program Champion	ET Program Team
3. System design	MET299; ECT488	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Outcome C - Experiment and apply results

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Conduct Experiments	Physical science lab courses (2hrs); ECT 167, 281, 448, 488; MET 329	Evaluation of lab work in class per rubric	ECT 448	F2010, F2013, (3 year cycle)	ET Program Champion	ET Program Team
2. Analysis and interpretation of laboratory exercises	ECT 167, 324, 325, 343, 448, 488	Evaluation of lab work in class per rubric	ECT 343	F2010, F2013, (3 year cycle)	ET Program Champion	ET Program Team
3. Test plans	ECT488	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Outcome D - Be creative in design and application

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Circuit design	ECT 165, 167, 232, 324, 325, 343, 448	Evaluation of lab work in class per rubric	ECT 325	F2010, F2013, (3 year cycle)	ET Program Champion	ET Program Team
2. Software and program development	CS 151, CS256; ECT 165, 167, 281, 444, 488; MET 329	Evaluation of performance per semester project rubric	ECT444	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
3. System design and control	ECT 324, 448, 488	Evaluation of lab work in class per rubric	ECT 448	F2010, F2013, (3 year cycle)	ET Program Champion	ET Program Team

Outcome E - Function effectively in the team environment

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Effective team member	Physical Science lab courses (2 hrs); MET329; ECT165, 167, 324, 325, 437, 488; TMGT 471, 478, 492	Evaluation of in-class project per rubric	TMGT 478	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
2. Understands the purpose of teams	Physical Science lab courses (2 hrs); MET329; ECT165, 167, 324, 325, 437, 488; TMGT 471, 478, 492	Evaluation of in-class project per rubric	ECT437	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
3. Works and communicates well in the team setting	Physical Science lab courses (2 hrs); MET329; ECT165, 167, 324, 325, 437, 488; TMGT 471, 478, 492	Evaluation of in-class project per rubric	ECT437	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Outcome F - Effective problem solving

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Effectively used problem solving methods	Physical Science lab courses (2 hrs); MET329; ECT165, 167, 324, 325, 437, 488; TMGT 471, 478, 492	Evaluation of lab work in class per rubric	TMGT 471	F2010, F2013, (3 year cycle)	ET Program Champion	ET Program Team
2. Use electrical troubleshooting tools properly	ECT 165, 167, 324, 325, 343, 448, 488	Evaluation of lab work in class per rubric	ECT 343	F2010, F2013, (3 year cycle)	ET Program Champion	ET Program Team
3. Debugs logic and software applications successfully	CS256; ECT 281, 280, 444, 488	Evaluation of lab work in class per rubric	ECT444	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Outcome G - Effective communication

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Exhibits good verbal communications	Foreign Language Studies (6 hrs); COM101; ECT437 ,488; TMGT 478, 471, 492,	Evaluation of in-class project per rubric	TMGT 478	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
2. Possesses good written communication skills	ENG101,105,107, 305T; ECT165,167,437,488; TMGT478	Evaluation of in-class project per rubric	ECT 437	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

3. Understands the need for formality and respect in communication	Foreign Language Studies (6 hrs); ENG101,105,107, 305T; ECT165,167,437,488; TMGT478,492	Evaluation of in-class project per rubric	ECT437	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Outcome H - Embrace lifelong learning

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Demonstrates a desire to learn	Every course	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Outcome I - Understands professional and ethical responsibilities

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Demonstrates professionalism	ECT 165, 167, 324, 325, 343, 448, 488; TMGT 471, 478, 492	Evaluation of in-class project per rubric	ECT437	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
2. Understands and exhibits ethics	Foreign Language Studies (6hrs); Social and Behavioral Studies 6hrs); Literary, Artistic & Phil. Studies (6hrs); Historical Studies (3 hrs); Multi-cultural Studies (6 hrs); Liberal Studies Capstone (3 hrs);TMGT478,492, ECT437,488	Evaluation of in-class project per rubric	TMGT478	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
3. Understands the role of professional societies	ECT 130, 430, 437	Evaluation of in-class project per rubric	ECT430	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Outcome J - Respect diversity and professional responsibilities

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Understands the automated control system marketplace	ECT 430, 444, 437,488	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
2. Understands social responsibility	Foreign Language Studies (6hrs); Social and Behavioral Studies 6hrs); Literary, Artistic & Phil. Studies (6hrs); Historical Studies (3 hrs); Multi-cultural Studies (6 hrs); Liberal Studies Capstone (3 hrs);TMGT478,492, ECT437,488	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
3. Understands the responsibility of safe design practices and operations	TMGT 471, 478, 492; ECT 430, 437, 444, 488; MET329	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Outcome K - Embrace quality

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Understands the breadth of quality concerns	ECT 325, 343, 444, 437, 448, 488; MET 329; TMFG 471, 478, 492	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
2. Understands the importance of quality	ECT 325, 343, 444, 437, 448, 488; MET 329; MFG 370, 371; TMGT 471, 478, 492	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team
3. Understands timeliness and continuous improvement	ECT 325, 343, 444, 437, 448, 488; MET 329; MFG 370, 371; TMGT 471, 478, 492	Evaluation of performance per semester project rubric	ECT488	Sp2011, Sp2014, (3 year cycle)	ET Program Champion	ET Program Team

Figure 6.16:
Program Outcome assessment plan for ET

As this is a new procedure beginning in 2010, no data is available at this time.

Standards for Accreditation
Baccalaureate Degree Programs

Technology Management Department

Advanced Manufacturing Management
B.S.

6. Standards for Accreditation – Baccalaureate Degree Programs

The objective of accreditation is to ensure that programs in Industrial Technology which are accredited meet or exceed established standards. Consideration will be given to both the qualitative and quantitative criteria set forth in these standards.

6.1 Preparation of Self-Study Report

Self-Analysis: The Self-Study Report shall follow the guidelines and be completed by a representative portion of the institution's administrative staff, teaching faculty, and students.

Guided by College of Technology faculty and administrators who have participated in the accreditation process at other institutions of higher education, and by a review of the 2004 reaccreditation material, the faculty of the Department of Technology Management planned a course of action to complete the 2010 reaccreditation material.

Those listed below participated in the preparation of the reaccreditation materials.

Dr. Brad Sims, Dean, College of Technology
Dr. Jeff McNabb, Associate Dean, College of Technology
Dr. James Smallwood, Chair, Department of Technology Management
Ms. Beth Fauber, Associate Professor, Department of Technology Management
Dr. Gordon Minty, Professor, Department of Technology Management
Other faculty, staff, and students contributed materials as well.
Chair, Department of Electronics, Computer and Mechanical Engineering Technology
Office of Vice President of Academic Affairs
Office of Vice President of Administrative Affairs
Office of Vice President of Development and Public Affairs

Documents not included in the reaccreditation report are available in the Office of the Dean and/or the Department Chair.

6.2 Philosophy and Objectives

6.2.1 Mission: The department, college, and institutional missions shall be compatible with the approved definition of Industrial Technology.

Within the concept of a university where truth and knowledge are pursued, preserved, and transmitted so that enlightenment may guide the human experience, Indiana State University seeks to fulfill its particular mission.

The University endeavors to provide educational opportunities to all qualified applicants for admission to its several and various undergraduate and graduate programs, in the fulfillment of its role and mission as a general, multi-purpose university. One of the major purposes of the institution is to offer each and every student as broad an opportunity for study and the acquisition of knowledge in the many fields, areas, and disciplines offered by the University as his or her ability, interest, and talent will allow. This purpose includes the imparting to the student of knowledge by an informed, expert faculty and the development of an understanding and appreciation of the role and responsibility of a learned and educated individual in our society. The University serves the academic, intellectual, cultural, and vocational needs of students who possess a wide range of academic preparation, ambitions, goals, and intellectual development.

Technology Management Department
Preamble
The Department of Technology Management consists of the following programs:

- Technology Management
- Construction Management
- Packaging
- Advanced Manufacturing Management
- Human Resource Development
- Career and Technical Education
- Technology and Engineering Education
- Industrial Technology

Mission
Our mission is to instill knowledge and skills from our undergraduate and graduate program areas through experiential learning that enable our graduates to become leaders in education and industry.
Vision
Our department will have the lead programs in the nation to advance teaching, scholarship, research, and innovation in the fields of technology management, education, and training.

College of Technology
The College of Technology will provide exemplary undergraduate and graduate programs, generate solutions and knowledge through research, and serve the technology needs of the State, the nation, and the international community.

Indiana State University Mission Statement
Indiana State University, a doctoral research university, combines a tradition of strong undergraduate and graduate education with a focus on community and public service. We integrate teaching, research, and creative activity in an engaging, challenging, and supportive learning environment to prepare productive citizens for Indiana and the world.

6.2.2 Program Definition: The program of study definition and purpose shall be compatible with the approved definition of Industrial Technology.

The Advanced Manufacturing Management program prepares students for careers as technical managers in manufacturing and allied fields. The program emphasizes an understanding of the technology utilized in manufacturing processes and compliments this technical understanding with practice using the managerial skills necessary in the modern work environment.

6.2.3 Program Acceptance: Each program of study shall be understood and accepted by appropriate individuals and representative groups within the internal university community and the external business and industrial community.

The Advanced Manufacturing Management program has a positive working relationship with many other departments and colleges in the University, as well as with many companies in the Terre Haute area.

The program utilizes the College of Arts and Sciences for physics, mathematics, chemistry, and economics; the College of Health and Human Performance for safety management; Department of Electronics, Computer and Mechanical Engineering Technology for DC fundamentals, automation, fluid power and computer aided design classes.

Our graduates are employed by local companies as well as nationally known companies. Many companies continue to develop relationships with our program by making financial or equipment donations. Often, alumni are invited guest speakers in our classes. An example of these companies include the following:

Doncasters Combustion Systems
Tredegar, Inc.
GE Unison
SONY - Digital Audio Disc Corporation
Clabber Girl

6.2.4 Program Goals: Each program of study shall have: (1) clearly written short and long range goals and objectives, which are consistent with the program mission statements; and (2) plans for achieving them.

The Advanced Manufacturing Management program places an emphasis on each student developing an understanding of the basic technology utilized in manufacturing and blending this understanding with managerial skills necessary for success in today's work environment.

The short-range goals are:

a. to conduct a meeting of the advisory committee during the Spring and Fall 2010 semesters and keep accurate minutes,

b. to develop a plan to retain and/or increase the number of students enrolled in the program,

c. to review and/or develop articulation agreements with selected community colleges,

d. to make better connections with industry,

Long-range goals are:

a. to continue work to provide excellence in instruction at all levels,

b. to continue to update and enhance laboratories in the Technology Center,

c. to conduct yearly meetings of the advisory committee and keep accurate minutes.

d. to continue seeking the support of industry through donations of funds, supplies, equipment and/or services.

e. to continue seeking the support of industry for expanded opportunities in cooperative education,

f. to continue to provide effective student advisement in relation to general education requirements,

g. to continue to provide effective student advisement in relation to requirements for the major,

h. to continue identifying areas that need repair and/or updating of equipment.

i. to continue urging faculty to update their professional, educational and technical skills,

j. to seek the advice and implement the suggestions of the Advisory Board members.

The short-range goals and long-range goals will be pursued using the following techniques:

a. follow the University procedure to enact changes to the curriculum,

b. continue membership and participation in professional organizations.

c. participate in appropriate seminars, conferences, and/or workshops to update professional, educational, and technical skills.

d. participate in departmental, school, and university committees,

e. attend and participate in departmental faculty meetings.

f. encourage students and alumni to participate in evaluation techniques such as questionnaires and club meetings to discuss their concerns with their advisor or department chair,

g. participate in outreach activities that involve education, industry and government agencies.

h. to better market and advertise the manufacturing program.

i. continue to pursue in-kind donations to provide up-to-date laboratories,

j. continue to develop relationships with local industries by inviting guest speakers and conducting field trips,

k. staff each program with sufficient and appropriate faculty.

6.3 Program of Study

6.3.1 Program Name: Each program of study and/or program option shall have appropriate titles consistent with the approved ATMAE definition of Industrial Technology.

Advanced Manufacturing Management

6.3.2 Program Level: The program of study shall lead to the baccalaureate degree, and not less than the junior and senior years of baccalaureate level study shall be offered by the institution seeking accreditation. Appropriate lower division requirements may be offered by the same institution or may be transferred from other institutions such as community colleges and technical institutes.

The Advanced Manufacturing Management program is a program of study that leads to the baccalaureate degree. All levels of the program from freshman to senior are offered. Appropriate lower division requirements can be transferred into the program from community colleges and technical institutions.

6.3.3 Program Definition: The program of study may have more than one option, specialization, or concentration; but specific course requirements for each option shall be clearly specified, and the requirements for all program options shall meet

or exceed ATMAE standards.

The program of study has no formal options, specializations, or concentrations.

6.3.4 Program Emphasis: Primary emphasis in the program of study shall reflect the current technology and management of industry.

The primary emphasis of the Advanced Manufacturing Management program reflects the current technology and management of industry. This is evidenced in the laboratory exercises and teaching methodologies. Furthermore, students in classes from 100 through 400 levels are taken on field experiences to view first-hand the current technology utilized by industries. The faculty, through professional organizations, remain cognizant of current issues and practices in modern manufacturing technologies and management techniques.

6.3.5 Foundation Requirements: Programs shall be a minimum of 120 semester hours (or equivalent) and must meet the minimum foundation requirements shown in Table 6.1. Programs may exceed the maximum foundation requirements specified in each area, but appropriate justification shall be provided for each program and/or program option that exceeds the maximum limits. A specific list of courses and credit hours that are being counted toward each category shall be included in the Self-Study Report.

Indiana State University requires all students who expect to graduate to complete a minimum of 124 semester hours. Presented is an analysis of the Advanced Manufacturing Management program requirements in relation to ATMAE requirements. Please see the following table:

6.3.5 Foundation Requirements: B. S. Degree in **Advanced Manufacturing Management**

Table 6.1

Course Name	**Course #**	**ISU REQ.**	**ATMAE REQ.**
General Education		**35-44**	**18-36**
English Composition	ENG 101 & 105 or ENG 107	3 - 6	
Technical Writing	ENG 305 T	3	
Communication	COM 101	3	
Physical Education	PE 101 & 101 L	2	
Social/Behavioral Studies	Approved List	6	
Literary/Arts/Philosophical Studies	Approved List	6	
Historical Studies	Approved List	3	
Multicultural Studies	Approved List	6	
Foreign Language	H.S. credit or Approved List	0 - 6	
General Education Capstone	Approved List	3	
Mathematics		**9-12**	**6 - 18**
College Algebra & Trig	MATH 115 or	3	
Algebra & Graphical Analysis	MATH 111 & MET 215	Or 6	
Information Technology Literacy	TMGT 195	3	
Computer Science	CS 151	3	
Physical Sciences		**7**	**6 - 18**
Physics	Physics 101	3	3

Physics Lab	Physics 101 L	1	1
Physical Science	Approved List	3	3
Management /Professional		**22**	**12 - 24**
Professional Internship	TMGT 351	3	3
Lean Manufacturing Systems	TMGT 374	3	3
Senior Seminar	TMGT 430	1	1
Production Planning & Control	TMGT 471	3	3
Quality Control of Industrial Products	TMGT 473	3	3
Industrial Organizations & Functions	TMGT 478	3	3
Industrial Supervision	TMGT 492	3	3
Problem Solving Techniques	TMGT 497	3	3
Technical		**35**	**24 - 36**
Introduction to Manufacturing	TMGT 131	2	2
Introduction to Technical Graphics	MET 103	3	3
Electronic Fundamentals	ECT 160	3	3
Introduction to Solid Modeling	MET 203	3	3
Intro to Materials, Processes, Testing	MFG 225	3	3
Introduction to Automated Mfg. Systems	ECT 280	3	3
Robotic Controls	ECT 281	3	3
Fluid Power Technology	MET 329	3	3
Fundamentals of Manufacturing Processes	MFG 370	3	3
Manufacturing Processes & Materials	MFG 371	3	3
CNC Systems	MFG 376	3	3
PLC's OR	ECT 444	3	3
Robotics & Automation	ECT 480	(3)	(3)
Electives		**9 - 18**	**0 - 18**
Industrial Accident Prevention	HLTH 318	3	3
Other Electives		1-6	
Grand Total		124	120

6.3.6 Course Sequencing: There shall be evidence of appropriate sequencing of course work in each program of study to ensure that advanced level courses build upon concepts covered in beginning level course work.

The course number system indicates when the student should take the course. Courses that have a number with the first digit of one are freshman level courses. Courses with a first digit of two are sophomore level courses, etc. Faculty expect that concepts from lower division courses are understood by students. In TMGT 478, Industrial Organization and Functions, technical concepts of design and manufacturing are assumed to be known. This course is treated as a capstone course. The following suggested course sequencing sheet is provided to students in the program. Advisors emphasize to students the importance of taking courses in the appropriate order.

FALL			SPRING		
Semester I			Semester II		
ENG 101	3	Basic	ENG 105	3	Basic
COMM 101	3	Basic	MET 103	3	
MATH 115	3	Basic	ECT 160	3	

PE 101 & L	2	Basic	Econ 100 (Gen Ed)	3	SBS
TMGT 131	2		CS 151 (Gen Ed)	3	S&M
TMGT 195 (IT Lit)	3	Basic			
	16 hrs			15 hrs	31
Semester III			Semester IV		
Foreign Lang 101	3	Basic	Foreign Language 102	3	Basic
MFG 225	3		ECT 280	3	
ECT 281	3		LAPS: LL	3	Gen Ed
Physics 101, L (Gen Ed)	4	S & M	MET 203	3	
MFG 370	3		TMGT 351	3	
	16 hrs			15 hrs	62
Semester V			Semester VI		
MET 329	3		(HlTH 318) Elective	3	
MFG 371	3		Multi Cultural USD	3	Gen Ed
HS: R	3	Gen Ed	MFG 376	3	
TMGT 374	3		Phys Science Elective	3	
LAPS:E (3/400)	3	Gen Ed	ENG 305 T	3	Basic
	15 hrs			15 hrs	92
Semester VII			Semester VIII		
TMGT 430	1				
MCS: IC	3	Gen Ed	Elective (300/400 level)	1	
ECT 480 or ECT 444	3		Capstone (300/400 level)	3	
TMGT 471	3		TMGT 497	3	
TMGT 473	3		TMGT 478	3	
TMGT 492	3		SBS:E (3/400)	3	Gen Ed
			Elective	3	
	16 hrs			16 hrs	124

Program = Black Basic Studies/ Gen Ed = Blue Electives = Green Lib. Studies/Gen Ed = Red

6.3.7 Application of Mathematics and Science: Appropriate applications of the principles of mathematics and science shall be evident in technical and management course work.

MFG 225: Apply mathematics to determine % elongation in tensile strength tests. Apply principles of chemistry when studying atomic bonding of metals, lattice and crystalline structures, and grain boundaries.
MFG 370: Apply mathematics to determine metal removal rates, power requirements, feeds, speeds, depth of cut, tool angles, measurements and tolerances.
MFG 371: Apply mathematics and science when determining stress-strain calculations, chemistry of metals, metallurgy, bending, forming, and heat treatment.
MFG 376: Apply mathematics in determining Cartesian coordinates, tool path, feeds, speeds, depth of cut, etc.
TMGT 374: Calculations of task time requirements
TMGT 478: Applications of mathematics and science as necessary for implementation of processes required to complete projects in the capstone course.
ECT 160 and MET 103 and 329 are courses where principles of mathematics and science are applied.
TMGT 471: Mathematical computations are used to determine schedules and line balancing requirements.
TMGT 473: Requires application of statistical sampling techniques.

6.3.8 Computer Applications: The program of study shall include instruction on computer application software, and the use of computers for information retrieval and problem solving.

The program of study includes instruction on computer application software, and the use of computers for information retrieval and problem solving. The following are examples:

MET 103: Computer aided design fundamentals
MET 203: Intro to Solid Modeling
TMGT 195: Intro to Computer applications. Satisfies the University requirement for IT Literacy. Must be taken in the freshman year, prior to receiving 32 credit hours.
MFG 371: NC and CNC programming oxy-fuel/plasma cutter
MFG 376: NC and CNC programming, for milling, turning, EDM application; MasterCam software for generating tool path.
TMGT 374: Use of computer program to estimate work standards
TMGT 471: Use of production scheduling applications
TMGT 478: Computerized GANT charts for planning and scheduling; computerized plant layouts; computer generated forms; computer generated drawings; electronically distributed content information.
ECT 280: Control software for robotics
ECT 281: Control software for robotics
ECT 444: Application software for PLC's
ECT 480: Application software for robotics and automation

6.3.9 Communications: Oral presentations and technical report writing shall be evident in both technical and management course requirements.

The General Education curricula focus specifically on communications in the COM 101 course, and includes oral and written work in all courses counted as general education. The ENG 305T is tailored to the needs of the technology students, and emphasis is places on writing technical reports.

The integration of oral presentations and technical report writing is evident in many of the Manufacturing Technology courses as described below.

TMGT 131: In 2001 the curriculum of the introduction to technology course TMGT 131, was revitalized with a focus on the eight dimensions identified as most important in the professional development of the technology student. One of those dimensions was Communication. To this end, students are required to make several technical presentations, are required to use Power Point to enhance the professionalism of their presentation, and are required to accompany their oral presentation with a written technical report. The presentations are video taped and students review and critique the CD of his or her presentations.

TMGT 492: As a final project in some 492 classes, students are required to form "Consulting Teams" and work together to make recommendations to a company concerning technical and management concerns. Students practice their team work abilities while planning, practicing, and presenting their conclusions. Each consulting team is required to make a professional presentation using Power Point or other presentation applications. A final written technical report is required of this project.

TMGT 497: The purpose of the class is to give students experience using team problem solving techniques. The class is structured so each student has opportunities to work, first with a partner, then with a team, to investigate and prepare presentations to the rest of the class. The students learn not only problem solving techniques, but how to work in groups and teams, how to make presentations, and how to write technical reports describing the process and their results.

TMGT 478: Although the catalogue name for this course is Industrial Organization and Function, it is known by everyone as SIMCO, because it simulates a Manufacturing company. Each semester students assume roles as members of the organization in an attempt to make products to specifications within a budget and to a schedule. Students are placed in interest groups and investigate the functions of an organization, such as the design function, the manufacturing function, the quality function, etc, and make formal technical presentations to the rest of the class. This then becomes the basis for their expertise and their placement in the manufacturing function of the class. The formal technical papers each student writes as part of their presentation, become the resource and the knowledge base for the class. Therefore, each student is dependent on each other student for information and understanding of the functions of the organization. It could be considered a capstone technical writing and presentation experience in the capstone course. The students are each given written and verbal feedback regarding both oral presentation skills and their technical writing skills. The presentations are video taped, and each student is required to view his or her performance and submit a written evaluation of what they did well and what they could do differently to improve.

Further evidence of oral presentation and technical report writing can be found in the course resource notebooks.

6.3.10 Industrial Experience: Each program of study shall include appropriate industrial experiences such as industrial tours, work-study options/cooperative education, or senior seminars focusing on problem-solving activities related to industry. Industrial experiences shall be designed to provide an understanding of the industrial environment and what industry expects of students upon employment.

Industrial Tours: Many classes take field trips to local industries to provide the students with exposure to the broad continuum of experiences available to them in the industrial setting. Some examples include:

TMGT 131: Digital Audio Disc Corporation; Bemis Corporation

MFG 225: Gartland Foundry; AET

TMGT 430: Aisin Break & Chassis; Clabber Girl Baking Powder

Industry Speakers: Many classes invite industry representatives as guest speakers. Often when this occurs, the professor hosting the speaker opens the invitation to the whole College of Technology, so the message can be received by as many students as possible.

Professional Internship Experiences: Industrial experience described to the students as, “One of the most important experiences you can have as a student.” In the TMGT 131 class, students who have completed a cooperative education experience are invited to speak to the class and to describe the value of their experience to the incoming freshmen. The Career Center willingly sends a representative to any class to describe the process involved in registering for a cooperative education experience. Each student in the TMGT 131 class is required to complete the forms required for the cooperative education experience. Furthermore, the Career Center stations a representative in the lobby of the new technology building for four to six hours for one week in the beginning of each semester to register students for co-op experiences. The most recent advertisement is the kiosk in the atrium of the technology building. This kiosk gives information, testimonials, and examples of students who have had a cooperative education experience.

TMGT 351: Every student in the Advanced Manufacturing Management major is informed by their advisor that they are required to complete one “coop” experience, although up to six hours of college credit can be earned by enrolling in an approved cooperative education experience. The student is required to keep a daily journal, write a mid-term and final technical report of their experiences, and the professor of record visits the student’s supervisor to insure all goals are being met.

6.3.11 Competency Identification: Student competencies shall be identified for each Program of study, including all options, which are relevant to the employment opportunities available to graduates.

a. Mastery of knowledge & tools: The student will be able to: Apply CAD principles; Plan/execute production; Utilize control systems in automated manufacturing; Utilize computers and software for design in manufacturing.

b. Effective Problem Solving: The student will be able to: Use scientific methods to solve problems; Use management principles to solve problems; Interact with team members to communicate and solve problems.

c. Effective Communication: The student will be able to: Exhibit good verbal communication skills; Demonstrate fluency in written communication; Deliver formal presentations using appropriate technology.

d. Safety/Accident Prevention: The student will be able to: Apply safety principles around technical equipment and processes; Apply knowledge of safety principles in the workplace; Demonstrate knowledge of safety principles in supervision and management of others.

e. Utilize Quality Concepts: The student will be able to: Understand quality concerns in manufacturing; Apply quality concepts; Implement concepts of continuous improvement.

f. Engage in Lifelong Learning: The student will be able to: Demonstrate a desire for lifelong learning.

6.3.12 Competency Validation: Validation of program of study outcomes/student competencies shall be an on-going process and shall be accomplished through a combination of external experts, industrial advisory committee(s), and follow-up studies of program graduates. Documentation of this validation shall be provided in the Self-Study Report.

Internal Competency Validation:

a. The student's advisor meets with the student to review the goals and expectations and outlines a plan of study to be followed.

b. First year review: During the first year, the student is expected to have successfully completed the introductory course TMGT 131, to have fulfilled the requirements for IT literacy (TMGT 195) as well as the first sequence in the requirement for math literacy (MATH 111). The student must maintain a 2.0 GPA.

c. Second year review: The student must maintain a GPA of 2.0 or better in MFG 225, ECT 280, and MET 203.

d. Third year review: The student must maintain a GPA of 2.0 or better in MFG 370, 371, 376, HLTH 318, and ENG 305T.

e. Fourth year review: Successful completion of the capstone course TMGT 478, Industrial Organization and Functions, exit interview conducted by advisor or as a written document in senior seminar class TMGT 430. Student is given the opportunity to identify the strengths and areas of needed improvement in the program.

Post Graduation Assessment:

a. Alumni survey: A survey instrument is sent to graduates asking them to evaluate the level of preparation their program gave them.

b. Employer survey: A survey instrument is sent to employers of program graduates asking them to rate the level of satisfaction with the level of skill of recent graduates.

c. Graduate Placement: The University Career Center gathers data regarding placement and salary ranges.

d. Industrial Advisory Board: The Board meets with the TMGT faculty once each semester to give their perspective and point of view regarding program vitality and currency.

6.3.13 Program Development Revision and Evaluation: Program of study development, revision and evaluation shall involve currently enrolled students, faculty, program graduates, and representative employers.

The Department of Technology Management employs a four-step process in the planning and development of new curriculum areas. The initial step in the process is a review of current literature and existing programs similar in nature across the nation. This review or "needs analysis" is completed by interested faculty members within the Department.

If the initial investigation suggests that a curricular area is warranted, then the second step is for the formation of a formal committee to develop an initial curriculum proposal. During this step, committee members do additional research, both literature and industrial-based, to ascertain the needs of current industry.

Upon completion of the initial curriculum proposal, step three involves a review of the proposal by both industrial consultants and also industrial advisory committees. At this point, the proposal is put into final form for the fourth step in the process.

Step four consists of the required procedures for new curriculum approval at both the University and State level. This involves approval by the College of Technology's Curriculum and Academic Affairs Committee and the Faculty Council. Upon approval at the school level, the proposal is forwarded to the University Curriculum and Academic Affairs Committee, then to the Faculty Senate.

Please refer to the Curriculum Approval Procedures Manual (CAPS) for a complete explanation of the curriculum process.

Programs in the TMGT Department are continually evaluated for relevancy and rigor, to ensure that they meet the needs of students and employers. Programs are evaluated by currently enrolled students through senior exit interviews and surveys as well as general discussion. Individuals responsible for instruction provide feedback for a program based on their research, contacts at conferences, and discussions with employers. Program graduates provide input through surveys.

If major revision becomes necessary, the procedure described for program development is followed.

6.3.14 Transfer Course Work: Institution and/or department policies shall be used to evaluate course work transferred from other institutions. All programs/options, including those with a significant amount of transfer course work, must meet the minimum credit hour foundation course requirements (Table 6.1) in each category.

A growing percentage of the College of Technology student body are transfer students from other four-year institutions, Vincennes University, Ivy Tech Comm. College, and two-year colleges from other states. An initial transfer evaluation (on the basis of instructional accreditation and satisfactory grades) is provided by the Office of Admissions. Department chairs and TMGT faculty then further evaluate the credit for possible acceptance in the program for which the student has applied. Credit is then posted to the student's permanent transcript. Formal agreements with Ivy Tech Comm. College and other schools are continuously being updated.

6.3.15 Upper Division Course Work: Students shall successfully complete a minimum of 15 semester hours of junior and/or senior level major courses at the institution seeking program accreditation.

The University requires a minimum of 124 hours of credit, 30 hours of resident credit, a minimum cumulative grade point average of 2.0 on a 4.0 scale, completion of a minimum of 50 hours at the 300-400 level, and completion of the General Education Program.

The Advanced Manufacturing Management program requires the completion of 15 courses or 43 hours of 300 – 400 level course work. Eleven of these courses are offered within the department; one is an MET course, one a Health course, and two are ECT courses.

6.3.16 Program Publicity – Adequate and Accurate Public Disclosure: Institutions shall broadly and accurately publicize, particularly to prospective students: (a) industrial technology program goals and objectives, (b) preadmission testing or evaluation requirements and standards, (c) assessment measures used to advance students through the program(s), and (e) fees and other charges.

University Effort. A major part of the University recruitment program is organized and administered by the Office of Admissions. Specific goals of this office include:

a. Present information about the University in a manner that will assist prospective students and their parents in making appropriate choices as to which college or university to attend.

b. Develop techniques and programs that will motivate students to seek additional information about the University.

c. Organize and conduct activities that will present the University in the most favorable way to prospective students and feeder school personnel.

d. Organize and conduct activities that will increase the number of new students enrolling at the University.

e. Work cooperatively with other University staff members to ensure maximum efficiency of the recruitment and application processing activities.

The Office of Admissions meets these goals through the following activities.

a. Direct mailing to prospective students

b. On-campus days, interviews, and campus tours

c. New Student Orientation

d. Freshmen follow-up

e. College fairs

f. Student-parent receptions

g. High school visits

h. Special alumni events

i. Phone call program

j. Distribution of posters

College Activities. One of the major functions of the Office of the Associate Dean in the College of Technology is to coordinate undergraduate recruitment activities for the COT. The Associate Dean oversees the Technology Student Services Center that has the responsibility to conduct recruiting activities. Some of the regular recruitment efforts include:

a. School representative to the Office of Admissions

b. Development and dissemination of brochures

b. Coordinate recruiting activities such as Tech Trek, Major's Fair, College Tech Prep, and Hands-on-High Tech

d. Development of all special recruitment programs such as Introduction Programs, College of Technology Career Fairs, etc.

Department Activities: The Department has faculty members who visit high schools for recruitment purposes. Faculty members also meet prospective students and parents when they visit campus. This usually includes tours of the facilities, program information, and initial advisement.   The Department has also completed several mailings to counselors at the high school level, across the State, to inform them of the opportunities at Indiana State University. The Department also takes an active role in all school-level recruitment activities such as those listed above. Department faculty are also involved in outreach activities such as the Explorer Program that expose young students to skills and careers in the manufacturing profession.

The institution, the College of Technology, the TMGT Department and even the Technology Student Services Center all have web sites to advertise much of the Information listed in this standard.

6.3.17 Legal Authorization: Only institutions legally authorized under applicable state law to provide degree programs beyond the secondary level and that are recognized by the appropriate national or regional accrediting agency are considered for ATMAE accreditation.

Indiana State University is a public, state-supported institution, under the general control of a board of trustees, known and designated as the Indiana State University Board of Trustees. Other state boards, offices, and agencies exercise certain statutory controls and have specified duties and responsibilities pertaining to the operation of the University. .

6.4 Instruction

6.4.1 Course Syllabi: Course syllabi must be presented which clearly describe appropriate course objectives, content, references utilized, student activities, and evaluation criteria. Representative examples of student's graded work shall be available for coursework.

Course syllabi are available for each course. Course notebooks have been prepared to clearly describe appropriate course objectives, content, references utilized, student activities, evaluation criteria and evidence showing a range of examples of students' graded work. The notebooks will be made available in the resource room.

6.4.2 Reference Materials: Appropriate reference materials such as periodicals, audio-visual materials, websites and computer application software (when appropriate) shall be utilized for each course or series of courses to supplement textbooks or course packs.

There are many areas where the program can access reference materials appropriate for individual classes. The Cunningham Memorial Library houses books, periodicals, electronic media, and an excellent reference service complete with computerized searches. Research assignments are given, for example, in TMGT 131, and TMGT 478, where students are required to avail themselves of the services offered at the library. There exists a Library Committee in the College of Technology and each year faculty are given the opportunity to request books and periodicals to be purchased and available for student use in the library.

The Office of Information Technology supports multimedia services for all faculty as needed in instructional settings.

Each room in the Myers Technology Building is equipped with media projection systems. Professors often access the web during class to supplement the information being presented.

6.4.3 Program Balance: Appropriate laboratory activity shall be included in the program(s) and a reasonable balance must be maintained in course work between the practical application of "how" and the theoretical/conceptual emphasis of "why".

By definition, the student of industrial technology is one who has a theoretical understanding balanced by "hands-on application." Because the faculty is committed to this balance, classes have theoretical instruction balanced by laboratory demonstrations and student participation. Theoretical underpinnings and laboratory instruction are delivered by the professor of the course. The grading system in each of the classes reflects this same balance between theory and application. Grades are determined by assessment of the theoretical knowledge by examination as well as demonstration of application in laboratory exercises. No single element is more important than the other. Thus, through instruction and grading practices the message is clear that theory and application are seamlessly integrated and skill with both makes the technologist a valuable resource.

6.4.4 Problem-Solving Activities: Emphasis in instruction shall be focused on problem-solving activities which reflect contemporary industrial applications.

The employers who hire our students tell us that the ability to solve problems is one of the most valued traits in the college graduate. Obviously, laboratory experiments are natural opportunities to apply the ability to solve problems, and more than 50% of the course work towards the degree in Advanced Manufacturing Management has a laboratory component. However, each class offers students opportunities to apply their problem solving skills. There are many instances and examples that could be cited, following are some examples:

TMGT 131: Students are given the assignment to "Think like a problem solving technologist" and identify a company manufacturing a product they would be interested in knowing more about. They must then solve the problem of finding someone to sponsor them for a field trip, and complete the assignment by presenting their results to the class. The steps of the problem solving process are explained and students are given a "real world" opportunity to implement the process.

MFG 225: Students are required to understand why certain testing is done on Materials used in manufacturing. One of the lab problems they must solve involves determining what the composition of the material is, based on the results of hardness, tensile, impact, etc. testing.

MFG 376: Students are required to solve a programming problem to manufacture a design based on specifications.

TMGT 478: Students are given the problem of manufacturing a specific number of products, within a budget, in a narrow time frame. The students are also tasked with designing an original product that would be marketable to a target population.

TMGT 497: Students are taught, in an interactive format, a specific problem solving method. The class is required to apply the newly learned method to solve a "real world" problem identified at ISU.

Examples of problem solving activities can be found in the course notebooks.

6.4.5 Supervision of Instruction: Appropriate supervision of instruction shall be evident throughout the program.

Faculty members in the Department have been selected and appointed to their positions after careful scrutiny and verification that they possess excellent qualifications for the position. These include both professional and technical qualifications. Careful evaluation of their instruction is conducted by the chairperson and a committee of their peers during their probationary period prior to being granted tenure. Following the granting of tenure, instruction is evaluated less formally except in cases where the faculty member applies for promotion or "above standard" pay increases. In those instances, rather detailed documentation of teaching performance is required.

6.4.6 Scheduling of Instruction: The organization and scheduling of instruction shall allow adequate time for completion of appropriate homework assignments and laboratory problem-solving activities.

Many of the required courses are offered every semester, however, some courses are offered once a year. Students are able to schedule their courses in the suggested sequence and meet the requirements of any prerequisites. By distributing courses throughout the week, students have ample time to complete homework and other "out-of-class" assignments. Most laboratory assignments are scheduled for class time as very few labs are "open labs". Professors are aware of the restrictions on student time and are generally conscientious about setting realistic deadlines for any assignments, especially laboratory assignments. Evening classes are offered as necessary. Distance courses are offered to accommodate our distance students in certain programs.

Faculty teaching assignments depend on the departmental schedule requirements, the nature of the courses taught, the combination of undergraduate and graduate courses, and, to a limited extent, non-teaching assignments. The normal teaching load is nine to twelve credit hours of course work per semester. Contact hours for a course load would vary according to what type of course is being taught, i.e., one hour contact per one hour lecture and more contact for a laboratory. Consideration is also given to the number of preparations required of a faculty member. These weights are carefully observed in making faculty teaching assignments.

6.5 Faculty

6.5.1 Full-Time Faculty: Each program of study option shall have an adequate number of full-time faculty.

Currently, the AMM program is low enrolled and there are more than enough faculty teaching courses in the program. They also teach courses in other programs. Several courses such as TMGT 492 – Industrial Supervision, are required in several programs in the COT.

6.5.2 Minimum Faculty Qualifications: The review of program faculty qualifications shall include current faculty resumes providing clear evidence documenting the extent and currency of: (a) academic preparation, (b) industrial experience at the management/supervisory levels, (c) applied industrial experience related to the program content area(s), (d) current certifications/licensure related to the program content area(s), (e) membership and participation in appropriate professional organizations, and (f) scholarly activities. The minimum academic qualifications for regular tenure track, or full-time, faculty members shall be a graduate degree in a discipline closely related to the instructional assignment.

Resumes of the regular full-time faculty teaching in the Advanced Manufacturing Management program will be available in the resource room. The minimum academic qualification for a tenure track faculty member is a master's degree in a discipline closely related to the faculty member's instructional assignment. Varying additional hours of graduate work are required for hiring at academic ranks above the instructor level with the requirement of an earned doctorate for the professor rank. Tenure-track faculty are appointed with the expectation that a pre-tenure probationary period will be served.

6.5.3 Academic Preparation of Faculty: A minimum of fifty percent of the regular tenure track, or full-time faculty members assigned to teach in the program of study content area(s) shall have an earned doctorate or appropriately defined terminal degree. Exceptions may be granted to this standard if the institution has a program in place that will bring the faculty demographics into compliance within a reasonable period of time.

At the present time there are 2.5 full-time faculty in the TM Department teaching in the AMM program. The TM Department chair has the following responsibility: .5 chair, .5 faculty. Two of the faculty hold earned doctorates and one has completed all the course work for the doctorate.

6.5.4 Selection and Appointment Policies: Policies and/or procedures utilized in the selection and appointment of faculty shall be clearly specified and shall be conducive to the maintenance of high quality instruction.

Appointment to the Indiana State University faculty is by the Indiana State University Board of Trustees on the recommendation of the President of the University. The usual procedures for selecting candidates for faculty positions is 1) determine a need, 2) develop a staffing plan, 3) get approval from Academic Affairs, 4) advertise the position, 5) interview potential candidates, and 6) hire an individual.

6.5.5 Tenure and Reappointment Policies: Faculty tenure and/or reappointment policies and procedures shall be comparable to other professional program areas in the institution. Requirements in the areas of teaching, service, and scholarly activity shall be clearly specified for faculty in Industrial Technology.

Faculty tenure and reappointment policies and procedures in the Technology Management Department are comparable to other professional program areas in the institution. Requirements for teaching, service and scholarly activity are clearly specified for all COT faculty and can be reviewed in the COT Promotion and Tenure Standards document. This document will be available in the resource room.

6.5.6 Faculty Loads: Faculty teaching, advising, and service loads shall be comparable to the faculty in other professional program areas at the institution. Consideration

shall be given in faculty teaching load assignments to high contact hours resulting from laboratory teaching assignments.

The University Handbook identifies a normal teaching load as 12 semester credit hours of course work per semester or 24 semester credit hours per academic year.

Teaching loads within the College of Technology depend on the departmental schedule requirements, the nature of the courses taught, and any non-teaching assignments. Graduate courses are weighted more heavily than undergraduate courses. A faculty member teaching a graduate course may have his/her teaching load reduced to nine credit hours. .

Faculty service loads are comparable to the faculty in other professional program areas at the institution. TM faculty perform institutional, professional and community service in varying degrees. The service component is only one area upon which faculty are evaluated for reappointment, tenure and promotion. Faculty understand there needs to be a good balance between teaching, service, and scholarly activity. With each year's evaluation for reappointment, TM faculty are reminded to work toward activities in all three areas.

The advising of students is divided equally among the faculty teaching in the AMM program. It is understood that advising, when done properly, takes a considerable amount of time. The routine scheduling of classes was shifted a few years ago to the Associate Dean's Office. Currently, Ms. Jo Anne Seybold is providing assistance to some of the AMM students regarding routine scheduling of classes.

6.6 Students

6.6.1 Admission and Retention Standards: Admission and retention standards shall be used to ensure that students enrolled are of high quality. These standards shall compare favorably with the institutional standards. Sources of information may include admission test scores, secondary school rankings, grade point averages, course syllabi, course examinations, written assignments, and oral presentations.

Indiana State University, in affirming its commitment to excellence, recognizes the value of a student population reflecting academic achievement, cultural diversity, and special talent. The University's admissions policy allows for the individual consideration of each applicant, and helps it service a student population with these characteristics.

The primary criterion for admission is evidence that a candidate is prepared to succeed in a degree program, given the University's limited resources for special assistance.

Admission standards are stated in terms of traditional school and college grading systems. For applicants whose records include either a high proportion of non-traditional grades, or a subject pattern which departs markedly from that normally associated with university study, additional evidence of academic potential in support of their applications, such as entrance examinations, interviews, and letters of recommendation, may be requested. The admission of applicants who are older than the traditional college age will be determined individually with special attention given to employment experience and motivation.

Individuals may seek exceptions to any of the requirements by petitioning the Admissions Committee to consider additional factors that may indicate college potential. A limited number of students may be admitted on condition that they agree to follow a prescribed course of study and advisement.

The supporting evidence for this standard can be found in Section II of the self-study report.

6.6.2 Scholastic Success of Students: Students in Industrial Technology shall have scholastic success comparable to those in other professional curricula in the institution. Grading practices in Industrial Technology courses shall be comparable to other departments and/or programs in the institution.

Students graduating from the College of Technology, and particularly the TM Department, have scholastic success comparable to those in other curricula in the institution.

Students in the Manufacturing Technology program have scholastic success comparable to those in other programs. The scholastic achievement level of students in the major course work can be found in the course resource notebooks.

Evidence can be found in the Appendix – COT GPA**.**

6.6.3 Placement of Graduates: The initial placement, job titles, job descriptions, and salaries of graduates shall be consistent with the program(s) goals and objectives. Industry's reaction to graduates as employees must be favorable. Follow-up studies of graduates shall be conducted every two to five years. Summary statistics relating to follow-up studies of graduates shall be made available to the visiting team. These statistics shall include placement rates as well as salary levels of program graduates.

The initial placement of graduates of the TM program have enjoyed the same favorable reception by industry as graduates of similar programs around the country. One May, 2009, graduate is working for Delta Faucets as an Engineer, starting at $56,000. Another May graduate of the program is an Engineer in Training at GE Unison Engine Components.

The ultimate goal of the program is to prepare our graduates with the proper skills to be successful in their career. The TM faculty work closely with the advisory board and other manufacturing professionals to help ensure that the AMM program will prepare students to gain initial employment and then advance in their career.

Evidence can be found in the Appendix - Surveys

6.6.5 Student Evaluation of Program(s): Evaluations of the Industrial Technology program(s) shall be made by its graduates on a regular basis (two to five years). Reactions and recommendations shall be considered in program revisions.

Students in the AMM program have a few opportunities to evaluate the program. Each student will have an exit interview just prior to graduation. Students also complete a senior survey with the Career Center. Every few years, survey letters are sent to alumni and employees to further evaluate programs in the TM Department. The Dean's office and the office of CRT also conduct post-graduate surveys.

6.6.6 Student Enrollment: Enrollment shall be adequate in each program area to operate the program(s) efficiently and effectively. The level of available financial and facility resources shall be considered as a constraint on the maximum number of qualified students to be admitted to the program(s). Enrollment trends shall be

tracked, and factors affecting enrollment patterns shall be identified and analyzed. Enrollment projections shall be made which relate closely to short and long-range goals as well as financial and physical resource needs.

Enrollments (both undergraduate and graduate) in the College of Technology have Remained steady since 1998. Enrollments in the AMM program have also remained steady. The program has always been low enrolled. However, filling the classes necessary for the program is usually not a problem since most of the courses are required by students in other programs such as Mechanical Engineering Technology, Packaging Technology and others.

6.6.7 Advisory and Counseling Services: Adequate and timely advising and counseling services shall be available for students.

All students who have not declared a major area of study (non-preference students) and all non-degree students are advised in the Student Academic Services Center. The Center serves as the designated "school" of enrollment for these students until an official major has been declared.

The purposes of the Student Academic Services Center are: (1) to help freshmen adjust more easily to the academic processes of the University; (2) to assist in selecting academic majors, in choosing wisely the specific courses needed to attain these goals; (3) to coordinate the participation of faculty in the advisement of students; and (4) to function as a resource center for materials and information concerning undergraduate curricula and general education requirements.

Primarily, the Student Academic Services Center serves freshmen and sophomores. Students are provided an opportunity to discuss academic concerns in confidence with counselors, and arrangements are made for students to confer with faculty members concerning career opportunities in various academic areas.

When a student chooses a major area of study, his/her records are transferred to the chosen College and department. A faculty advisor is then assigned to the student.

<u>Faculty Academic Advising</u>

When the student has chosen an area of specialization, he/she is referred to a regular faculty member who serves as the academic advisor. Data including the student's personal biography, high school rank, and rating on the freshman orientation and achievement examinations are supplied to the advisor. The advisor will assist the student in planning the use of his/her time in acquiring good study methods and in referring the student to special services on campus as the need arises.

The advisor, in cooperation with various University agencies, will assist the student in scheduling his/her successive programs of study. At the first mid-semester, the end of each semester thereafter, and such other times as advising sessions are needed, the academic advisor will confer with the student regarding the progress in relationship to his/her own natural level of learning and to the academic standards of the University.

Faculty in the Department of Technology Management advise students who are enrolled in the AMM program.

<u>Student Participation in Program Planning</u>

Each student enrolled in the University is expected to read carefully and to understand the contents of the University Catalog that are applicable. This includes the awareness of the University general policies and regulations for academic achievement necessary for continued enrollment as well as for graduation, in addition to those regulations identified by Student Services relating to his/her social and campus conduct.

The students are also responsible for familiarizing themselves with any requirements special to the academic discipline of their choice which must be a condition of their qualifying for graduation.

Each student should assume at the earliest moment possible the initiative for preparing the semester schedule of classes. The academic advisor is available to offer suggestions and to verify the accuracy of course choices in meeting curricular patterns, but the primary responsibility for knowing the requirement of the academic program and proceeding to satisfy those requirements in an orderly and sequential manner remains with the student.

6.6.8 Ethical Practices: Ethical practices shall be fostered, including reasonable student refund policies and nondiscriminatory practices in admissions and student employment.

Indiana State University is unequivocally pledged to principles of nondiscrimination, assuming fair and equitable treatment of all persons. The University has given assurance of compliance with national, state and local civil rights legislation and enactments.

Indiana State University reaffirms its present policy of nondiscrimination and equal employment opportunity with respect to recruitment, hiring, training, promotion, and treatment of persons. The organizations, services, and programs under the legal control of the Trustees of Indiana State University shall be maintained on a nondiscriminatory basis in regard to race, sex, religion, handicap, veteran status, age, or national origin at all times.

Indiana State University will continue to take positive actions to ensure against discrimination directed to any persons. All members of the faculty and staff are expected to give full support to the University's commitment to equal opportunity and affirmative action.

The tuition refund policy and withdrawal policy can be found in the Undergraduate Catalog, http://catalog.indstate.edu/index.php

6.7 Administration

6.7.1 Program Administration: Programs in Industrial Technology are expected to have an identifiable, qualified individual with direct responsibility for program coordination and curriculum development. This individual should be a full-time employee of the institution.

The lead professor in the Advanced Manufacturing Management program is Professor Fauber. She is a tenured faculty in the Department and holds the rank of Associate Professor. She is a full-time employee of the institution. Professor Fauber's vita listing her accomplishments is available for review.

6.7.2 Administration Leadership: Individuals assigned to administer Industrial Technology programs must demonstrate effective leadership and a high level of

support for Industrial Technology

The Dean of the College of Technology has been very supportive of all programs housed within the College. The respect the College of Technology has achieved within the University, within the community, and within the region, in part, can be attributed to the past three Dean's.

The chair of the Technology Management department has always supported Industrial Technology programs and has been a member of ATMAE (NAIT) since 1989.

6.7.3 Administrative Support: There must be appropriate support for Industrial Technology from the personnel holding leadership positions in the departments and colleges where Industrial Technology is administratively located.

The Chair and the Dean support the concept of shared participation which has been utilized in student recruitment, curricular matters, instructional evaluation and service and scholarly activities. Committees are utilized to develop policies the Chair may use in regard to personnel matters, budget development, supply and equipment expenditures, repairs and curriculum matters.

Both of the Deans and the TM Department Chair support the Industrial Technology programs. Two of these individuals have been long-time members of ATMAE (NAIT), attend the yearly ATMAE (NAIT) conference and are actively involved in the organization.

6.8 Facilities and Equipment

6.8.1 Adequacy of Facilities and Equipment: Physical facilities and equipment, which are suitable to serve the goals and objectives of the program(s), shall be available for each program option. Where facilities and equipment appear to be minimal to support a quality program(s), comparisons with support levels for other professional programs at the institution will be made by the visiting team.

The $18.5 million, 120,000 sq.ft. Myers Technology Center, opened in 1998, provides a 21st century learning environment.

At the present time there are four major lab areas associated with the AMM program. They are (1) Machine Tool Processing Lab, (2) Metallurgical and Nondestructive Testing Lab, (3) Manufacturing Lab, and (4) SIMCO lab.

6.8.2 Support for Facilities and Equipment: Facility and equipment needs shall be reflected in the long range goals and objectives for the program(s), and option(s) and sources of potential funding shall be identified.

One of the long-range goals is to continue to update equipment and enhance laboratories in the AMM program.

The TM Department receives a budget for equipment each year. These monies are then distributed to the various programs by a process whereby individual faculty submit requests to a departmental committee. The committee reviews the requests and submits a list of recommended purchases to the Department Chair for purchase. The system is deemed fair and equitable and the available monies adequate to maintain program integrity.

Additional support for the programs through donations of equipment and supplies from outside sources is constantly being sought and has been very successful.

6.8.3 Appropriateness of Equipment: Equipment shall be appropriate to reflect contemporary industry. Student use of equipment reflecting current technology practices shall be evident.

An underlying philosophy held by the faculty involved in the manufacturing programs has been to secure equipment that is representative of that used by industry. Whenever this is not possible, table top models or units are considered for purchase. Essentially all equipment is used by the students in laboratory situations.

6.9 Computer Systems

6.9.1 Availability of Computer Systems: Appropriate and current computer systems and software shall be available to both students and faculty. These systems must cover appropriate functions and applications in each program area. These systems may be on or off-site as long as the systems are accessible to students and faculty.

Campus wide, there exists several thousand computers in approximately 400 laboratory settings. The COT has hundreds of computers. One such lab, the Student Computing Center, is open 24 hours a day, has 100 computers and several laser printers available for student use, and always has a computer consultant available to help students with concerns or problems.

Labs specific to Manufacturing classes include TC 114, which has 21 Dell OptiPlex GX 270 computers. Fifteen of these computers in the SIMCO Lab are equipped with MasterCAM software, as well as the complete MicroSoft Office Suite, , as well as internet explorer. Another lab specific to AMM is TC025 where 12 Dell OptiPlex GX 270 computers reside. These labs and the computers are available for students during class time or by arrangement with professors.

6.9.2 Utilization of Computer Systems: Evidence shall be available which indicates that students and faculty are making significant use of computer systems related to program curricula.

Evidence indicating that students and faculty are making adequate and appropriate use of computer systems begins with on-line registration and is evident through many class assignments and ends with the on-line designation of grades. ISU has enacted an interactive computer system called: MYISU. Students determine what classes are available, register for classes, drop and add, find out their grades, and communicate with their professors and fellow students through use of the Portal.

Faculty use computer systems for advisement by downloading Degree Audit Reports, for reporting attendance by electronically inputting absences after the sixth and tenth weeks of the semester, and for electronically reporting grades at mid-term and end of term. Faculty use the computing systems to email, make assignments, and send electronic attachments to all class members, thus eliminating the need to make hard copy and distribute during class.

Students use computers and software in many different courses. Evidence of this can be found In the course notebooks located in the resource room.

6.10 Financial Resources

6.10.1 Financial Support: The budget for the Industrial Technology program(s) shall be adequate to support program objectives. When judging sufficiency, the visiting team shall make comparisons with the support levels given to other professional programs at the institution.

Each year the Department receives an operating budget based on the previous year's expenditures. Over the years, the operating budget hasn't changed much until the most recent budget crises where the department lost some supply funds. Generally, if operating expenses exceed the budget, a request is made to the Dean for financial support. This rarely happens as the chair and faculty work to stay within the budget.

In addition to the operating budget, equipment budgets are also given to each department. The allocation of these equipment budgets is based on the laboratory needs of each department. Each department also receives a portion of the Distance Delivery dollars that are generated by distance courses. The TM department currently receives approximately $13,000/year that can be used to support distance financial endeavors.

Faculty salaries are determined upon initial appointment. After initial appointment salary increases are based on standard across the board raises or sometimes upon below standard increases, standard increases, or above standard increases. The level of increase which each faculty may receive is based on their level of activity in the areas of Teaching Effectiveness, Service, and Scholarly Activities.

Faculty also receive increases in base pay upon earning advanced degrees and also in the case of promotion to higher ranks.

Control of expenditures is solely within the Department. An initial allocation of operational funding is given to each program in the form of a supply and a student wages account. All equipment purchases are approved by a departmental finance committee which ranks and approves requests for capital equipment purchases.

Evidence of the CoT operating budget can be found in Section II of the self-study report.

6.10.2 External Financial Support: There shall be evidence of external support for the programs(s) in Industrial Technology. However, this external support shall be treated as supplementary support and is to be used to achieve and maintain a high level of program excellence. This external support shall not be used to displace funding support normally provided by the institution.

External financial support comes in many forms. The AMM program benefits from industry donations. Over the past several years items have been donated from Sony-DADC, Sumco, Inc., Robotic Technology Systems and Thermwood.

SONY donated motors and electronics valued at $50,000 and Sumco donated a Leco Mounting press valued at more than $2500.

6.11 Library Services

6.11.1 Library and Internet Resources: The administrative unit containing the Industrial Technology program(s) and/or the institutional library shall have access to technology resources, literature and reference materials adequate to meet the curriculum and research needs of students and faculty

Library materials are adequate to meet the curriculum and research needs of students and faculty.

The collections used by the AMM program are housed in two University locations on campus. Cunningham Memorial Library is the main library, with the science library containing a collection of science materials.

Approximately 20% of the holdings in the Cunningham Memorial Library relate to the technical, scientific, management or behavioral sciences useful to the various courses of the program.

The University has an agreement with Rose-Hulman Institute of Technology, Saint Mary-if-the-Woods College, Vincennes University and the University of Southern Indiana where the holdings of these institutions can be searched through the ISU Library's system and retrieved.

An excellent inter-library search and loan system is in place at Cunningham Memorial Library.

Evidence of this can be found in the Appendix – Library.

6.11.2 Utilization of Library and Internet Resources: Evidence shall be available which indicates that students and faculty are making adequate and appropriate use of library and reference resources.

Students are making adequate and appropriate use of the Library. Most courses include technical reports, term papers, and other class presentations where the Library houses the necessary information.

Evidence of these requirements may be found in the syllabi found in the course resource notebooks.

The faculty have identified no accurate techniques to measure the extent to which faculty are making adequate and appropriate use of library resources.

Evidence of this can be found in the Appendix – Library.

6.12 Support Personnel

Support Personnel: Personnel such as teaching assistants, student workers, office professionals, and laboratory technicians shall be adequate to support program objectives.

The following personnel provide support for the AMM Program:

1. Administrative Assistant – The Department has one full-time Administrative Assistant. She must handle the work from all members of the Technology Management Department.

2. Technicians – The College of Technology has an electronic technician and a mechanical technician available to assist faculty with projects and repairs.

3. Graduate Assistants – The TM programs have seven graduate assistants presently assigned who are being utilized as teaching assistants. The Department also has one Ph.D. fellow working with the Department faculty.

4. Student Workers – Student workers provide support for all TM programs. Students are used to help organize, clean and set up the labs, and assist the Lab coordinators. Money is available in the operating budget to hire Student workers.

6.13 Placement Services

6.13.1 Placement Services: Appropriate services shall be available to assist with the placement of program graduates. Placement of graduates shall be tracked and the effectiveness of placement services shall be evaluated by the administrative unit containing the Industrial Technology program(s).

Although the Career Center helps students find suitable summer and part-time employment, the focus of its activities is on placement of seniors, graduates, and alumni. Career Center services are viewed as an integral part of the academic program of any student to fulfill the University's educational objectives.

Evidence of this can be found in the Appendix – Career Center/Internships

6.13.2 Cooperative Education/Internship: If cooperative education or internship is either a required or an elective part of the program, then appropriate services shall be provided to assist with the placement and supervision of cooperative education students.

Cooperative education/Internship is required in the AMM program. As stated earlier in this document, students receive credit for co-op through a course numbered TMGT 351 in their major. Some students take repeated co-op positions and can receive TMGT 351 credit for a total of six semester hours.

Employers are contacted about their possible interest in co-op through several activities. Faculty make many contacts with industry professionals and the Career Center sponsors career fairs for companies interested in co-op students.

Students are made aware of co-op opportunities through a variety of activities. Career Center personnel make presentations in many College of Technology classes. Students also attend meetings of professional organizations, and participate in many other student-centered activities including IOPP meetings, SME meetings, Women in Technology Meetings, the Career Fair, and other activities.

6.14 Industrial Advisory Committee(s)

6.14.1 Program Advisory Committee(s): An industrial advisory committee shall assist in the validation of program content. If more than one program of study or program option is available, then appropriately qualified industrial representatives shall be added to the committee or more than one committee shall be maintained. Policies shall be presented to indicate the: (a) procedures used in selecting members, (b) length of appointment, (c) organization of the committee, (d) committee responsibilities, (e) frequency of meetings, and (f) methods of conducting business.

The industry advisory committee assists the manufacturing programs in many ways. They help with validation of content, provide their expertise and that of the companies they represent and make suggestions that will help improve the program. Following is a list of the contact information of the Industrial Advisory Committee:

Advisory Board Members

Mr. Bob Brown
Tri Aerospace
1055 S. Hunt Street
Terre Haute, IN 47803

Mr. David Lynch
PDF Controls
10102 N. Murphy Ave., P.O. Box 493
Brazil, IN 47834

Phone: 812-872-2400
Email: bbrown@triaerospace.com

Ms. Ann Case
Tredegar Industries
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Cell: 812-249-6292
Phone: 812-466-0328
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Mr. Mark Deady
Clabber Girl
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Terre Haute, IN 47805
Phone: 812-478-7189
Email: mdeady@clabbergirl.com

Mr. John DiCenso
Raybestos Powertrain, LLC
609 E. Chaney Street
Sullivan, IN 47882
Phone: 812-268-0322 X 223
Email: jdicenso@raybestospowertrain.com

Cell: 812-236-1330
Phone: 812-443-6000
Email: dave@pdfcontrols.com

Mr. Marvin Miller
MECO
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Paris, IL 61944
Phone: 217-465-6500 X 6577
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MMiller@Doncasters.com

Mr. Wesley R. Richardson
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10037 E. Flesher Avenue
Terre Haute, IN 47803
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ISU Members

Professor Beth Fauber
Technology Management Dept.
Phone: 812-237-3379
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Dr. Tad Foster
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Dr. Jeff McNabb
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Dr. Brad Sims, Dean
College of Technology
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Email:

Bradford.Sims@indstate.edu

Dr. Gordon Minty
Technology Management Dept.
Phone: 812-237-3380
Email: Gordon.Minty@indstate.edu

Dr. Jim Smallwood
Technology Management
Phone: 812-237-3462
Email: Jim.Smallwood@indstate.edu

Since there are many similarities between the Advanced Manufacturing Management program and the Technology Management program, one industrial advisory committee is utilized for both programs. After the last NAIT re-accreditation in 2004 a constitution and by-laws document was created to guide the activities of the industrial advisory board. It addresses all of the items in this standard and is included here for the visiting team to review.

CHARTER CONSTITUTION AND BY-LAWS

Advisory Board for the Manufacturing Programs

at

Indiana State University

Approved: April 20, 2006
Revised June 10, 2008

Preamble

We, the members of the Advisory Board for the Manufacturing Programs at Indiana State University, do hereby adopt and establish the following Constitution and By-Laws.

Name

This organization shall be known as the Advisory Board for the Manufacturing Programs at Indiana State University (or briefly, the Advisory Board).

Purpose

The purpose of the Advisory Board shall be to advise, support, and promote the Manufacturing Programs (MP) at Indiana State University so that the student's learning experience upon graduation will more effectively support the practical development of future leaders in the manufacturing industry.

Other objectives of the Advisory Board shall be to:

Provide regular critiques of the Program's curriculum.
Suggest course offerings that would benefit MP students.
Provide strategic planning assistance to help meet future needs of graduates and the manufacturing industry.
Provide input to the MP graduate programs.

Assist in the establishment of MP certificate programs.

Assist in providing cooperative education/internship experiences for students, placement of MP graduates, and professional development for faculty.

Support fund-raising.

Membership

The number of Advisory Board members will be a minimum of eight (8) and a maximum of twenty (20) plus ex officio (nonvoting) members:

Dean of the College of Technology.

Chair of the Department of Technology Management (TM).

Manufacturing Programs (MP) faculty.

Procedures used in selecting members:

Advisory Board members shall be selected from professions and trades related to the manufacturing industry.

The Advisory Board members shall be nominated by the MP faculty to the Chair of the TM Department. The Chair shall schedule a meeting of the MP faculty to make a final decision.

Each appointment to the Advisory Board shall be for three (3) years, except when the appointment is to fill an unexpired term.

Approximately two-thirds of the members will be retained each year with none serving more than three (3) successive years, unless reappointed by the Manufacturing Programs faculty.

The term of a new Board member shall begin on January 1.

Any member may resign his or her membership in the Advisory Board by submitting a signed resignation to the chairperson of the TM Department.

Any member missing two consecutive meetings without due cause shall be considered uninterested and eliminated from membership.

Board Policies

The Advisory Board for the Manufacturing Programs is based upon the principles of equality of all its members regardless of sex, race, creed, or color.

All members shall strive to fulfill in good faith the objectives of the Advisory Board and the obligations assumed by them in accordance with this constitution.

Finances

The necessary expenses of this organization shall be paid from the operating expenses of the TM Department.

No dues shall be required of any Advisory Board members.

Amendments

Amendments to the Constitution or By-Laws shall be ratified by three-fourths affirmative vote of the active members.

BY-LAWS

Officers

The Advisory Board shall have two officers—President and President-Elect. The Chair of the TM Department shall serve in an advisory role with duties listed below. Elections will be held once a year during the spring meeting. Nominations can be taken from the floor. Officers shall serve for a term of one (1) year.

The duties of the President shall be as follows:

Provide a focus for the membership and preside at each meeting.

Coordinate all administrative responsibilities of the Advisory Board.

Schedule meetings.

Prepare agendas.

The President-Elect shall assist the President as necessary and prepare to serve as the next President.

The Chair of the TM Department shall assist the President as follows:

Serve as the liaison between the Advisory Board and the Manufacturing Programs faculty.

Write and distribute meeting minutes.

Prepare, update, and distribute a Board directory.

Coordinate meetings and prepare agendas.

Assist in the selection of new members.

Board Committees

The President shall appoint committees as deemed necessary.

Board Meetings

The Advisory Board shall meet at least once a year.

Special meetings of the Board may be called by the President as deemed necessary.

A quorum shall consist of one half of the active members of the Board. If there shall be less than a quorum present, those present may either adjourn or act on the matters before it, subject to ratification at the next meeting which constitutes a quorum.

(End of Document)

6.14.2 Advisory Committee Meetings: The Industrial advisory committee(s) shall meet at least once each year, and minutes shall be kept of these meetings showing agenda items, actions taken, and recommendations made.

The IAC has been very helpful in making suggestions that have benefited the Manufacturing programs. The board meets at least once a year and often meets twice/year (fall and spring).

Following are two examples of minutes from IAC meetings. Some of the recommendations made and actions taken are evidenced in the minutes. Minutes from other meetings are available on request.

Technology Management Department
Advanced Manufacturing Management Program (BS)
Technology Management (BS)
Industrial Technology Program (MS)
Minutes of Advisory Board Meeting
March 27, 2008

ATTENDEES:

Bob Brown	Tri Aerospace
John DiCenso	Raybestos Power Train
Beth Fauber	ISU
Tad Foster	ISU
David Lynch	PDF Controls
Jeff McNabb	ISU
Gordon Minty	ISU
Wes Richardson	Quality Council/IN
Jim Smallwood	ISU
Mark Deady	Aisin Brake
Marvin Miller	Unison Engine
Mike Johnson	Novelis

I. Welcome and Introductions

II. Agenda Additions

III. Approval of Minutes (April 12, 2007) – Approved as submitted.

IV. Dean's Report, Dr. W. Tad Foster – Dean Foster spoke to the following issues:
1. Project with Landstone (Compression and Absorption)
2. COT Reorganization
3. Enrollments (undergrad and grad)
4. Project Lead the Way

V. Verify Address, Phone, E-Mail

VI. Discussion Items (New Business)
A. General Announcements
1. Ivy Tech – Articulation agreements will be updated and signed in April.
2. Meeting canceled last fall due to so many conflicts.
3. How you have helped the ISU faculty and programs.

B. Election of President & President-Elect – Elected for the 2008-2009 year were:

President – Wes Richardson; President-Elect – John DiCenso.

C. COT Reorganization – J. Smallwood just added to what the Dean spoke about the reorganization by relating how the changes would affect the Board.

D. TM Dept. Programs – J. Smallwood distributed information about all programs in the new TM department.

E. Curriculum Update – B. Fauber and G. Minty discussed the changes that were made to the manufacturing programs. Information was shared (checksheets, suggested 4 yr. course sequence, etc..)

F. NAIT Reaccreditation – Wes Richardson requested this be added to the agenda. There was discussion about the next team visit and what we needed to do now to get prepared.

G. Action Items from last meeting:
1) Bob Brown gave the WVAMC video to Sajid but somehow it didn't get to J. Smallwood. We will follow up to see what happened.
2) There was some discussion on how to market manufacturing programs through the WVAMC and WIB. More discussion on this topic at a future meeting.

H. Actions Items for Next Meeting (Fall 2008):

1) **Send** constitution and by-laws to Mark Deady.
Person in Charge: Jim Smallwood
2) **Send** an updated list of the activities to the advisory board.
Person in Charge: Jim Smallwood
3) **Contact** Archie Kappel and Jim Kern to see if they want to continue on the advisory board**. Person in Charge**: Jim Smallwood
4) **Update** the Constitution and By-Laws to reflect the new TM department**.**
Person in Charge: Jim Smallwood.

Meeting adjourned.

Technology Management Department
Advanced Manufacturing Management Program (BS)
Technology Management (BS)
Industrial Technology Program (MS)
Minutes of Advisory Board Meeting
October 30, 2008

ATTENDEES:

Bob Brown	Tri Aerospace	Gordon Minty	ISU
John DiCenso	RayBestos PowerTrain	Wes Richardson	Quality Council/IN

Beth Fauber	ISU	Jim Smallwood	ISU
Ann Case	Tredegar	Jeff McNabb	ISU
Mike Hayden	ISU		

I. Welcome and Introductions

II. Agenda Additions

III. Approval of Minutes (March 27, 2008) – Approved as submitted.

IV. Dean's Report, Dr. Jeff McNabb – Dr. McNabb spoke to the following issues:
   1. Enrollment and Retention
   2. Searches in the COT
   3. NAIT
   4. Project Lead the Way
   5. Capital Campaign
   6. Tech Trek

V. Verify Address, Phone, E-Mail

VI. Discussion Items (New Business)
   A. General Announcements
      1. Action Items completed from last spring.
      2. Dean's Search committee is being assembled.
      3. Dr. Smallwood will be on Sabbatical Leave in the spring.
      4. New faculty in TMGT dept.

   B. NAIT re-accreditation – The NAIT visiting team will come in Spring, 2010 to review programs for re-accreditation. There was discussion on what needs to be done to get prepared for their visit.

   C. Student Learning Outcomes – There was discussion on the Student Learning Outcomes for the Advanced Manufacturing Mgt. program. The advisory board provided some input and is being asked to provide additional feedback to Professor Fauber.

   D. Mission and Vision – The TM dept. is currently working on the mission and vision statements for the new department. The advisory board provided some input.

   E. Strategic Planning - Strategic planning is underway for the manufacturing related programs. The advisory board is being asked to provide input.

   F. Action Items from last meeting: Dr. Smallwood completed the four action items from the spring advisory board meeting.

G. Actions Items for Next Meeting (Spring, 2009):

1) Provide input to Professor Fauber on a) Mission and Vision, b) Student Learning
Outcomes for the AMM program, c) Strategic Plan.
Person in Charge: All Advisory Board Members and ISU faculty.

Meeting adjourned.

6.15 Educational Innovation

Educational Innovation: There shall be evidence that program objectives are based upon long-range planning related to the industries being served. Program content must be current in both content and delivery of instruction.

Input is gathered from the Industrial Advisory Council and other industry professionals through professional association meetings, internships, field-trips, projects and many other techniques. Through all of these efforts the faculty have a good understanding of current manufacturing practices, both technical and management. The program objectives in the AMM program are constantly reviewed for relevance. As you will see in standard 6.16 the faculty have established an assessment plan for the program that will review all of the outcomes/student competencies twice over a six year period. This long range plan will allow us the opportunity to confirm what we do in the AMM program or to make decisions about curricular changes where necessary.

Teaching methods are changing as faculty identify and develop the best method to use in meeting objectives of each course. Several Department members have completed Distance Delivery training and are transforming classes to be offered via distance education methodologies or improving classes which are currently offered through distance measures. Several faculty use the course management software Blackboard to supplement their on-campus courses. Some faculty use a combination of delivery which includes in-class and synchronous distance education by using the Eluminate and Tegrity software. This is something new for us since ISU is slowly getting away from the old IHETS system. Several faculty in the department have attended training sessions on both of these software and delivery techniques. The TM faculty have made a good effort to stay current in learning the different options available for delivery of instruction.

Results of these innovations and new technologies are disseminated in published papers and conference presentations.

6.16 Assessment

Assessment Plan and Integration: An assessment plan shall be comprised of, but not limited to, the following for each program: (1) program mission statement, (2) program outcomes/student competencies, (3) evidence that the program incorporates these outcomes/student competencies, (4) assessment measures used to evaluate student mastery of the student competencies stated, (5) compilation of the results of the assessment measures, and (6) evidence that these results are used to improve the program.

(1) Program Mission Statement
The Advanced Manufacturing Management degree program at Indiana State University strives to provide graduates who are both knowledgeable and experienced in the

processes and technologies of current manufacturing operations and the management of the manufacturing workforce. We integrate teaching with experiential learning in a challenging environment to prepare manufacturing professionals for Indiana and the world.

(2) Program Outcomes/student competencies

Program Outcome # 1: The student will demonstrate mastery of the knowledge and tools to support and maintain manufacturing processes.
Program Outcome # 2: The student will be able to solve problems individually and as a member of a team.
Program Outcome # 3: The student will have an ability to exhibit good verbal and written communication skills.
Program Outcome # 4: The student will exhibit a respect for safety awareness and accident prevention.
Program Outcome # 5: The student will demonstrate an ability to utilize quality concepts.
Program Outcome # 6: The student will have a recognition of the need for and an ability to engage in lifelong learning.

(3) Evidence that the program incorporates these outcomes/student competencies

COURSE #	A have mastery of knowledge & tools to support and maintain manufacturing processes	B effectively solve problems individually and as a member of a team	C exhibit good verbal and written communication skills	D safety awareness/accident prevention	E utilize quality concepts	F engage in lifelong learning
TMGT 131	Introduced	I	I		I	I
MET 103	Practiced	I		I		
ECT 160	I	I	I	I	I	
MET 203	P	P				
MFG 225	I	I	I	P	I	
ECT 280	I	I				
ECT 281	I	I				
CS 151	I	I				
MET 329	P	P	P	P	P	
MFG 370	P	P	P	P	P	
MFG 371	P	P	P	P	P	

TMGT 374	P	P	P	P	P	P
TMGT 351	Reinforced	R	R	R	P	R
MFG 376	R	R	P	R	R	
TMGT 430		R	R			R
ECT 444	R	R			P	
ECT 480	R	R			P	
TMGT 471	P	R	R		I	
TMGT 473		R	R		R	R
TMGT 478	R	R	R	R	R	R
TMGT 492		R	R	P	R	R
TMGT 497		R	R			R
HLTH 318				I		

(4) assessment measures used to evaluate student mastery of the student Competencies stated

Program Outcome measurement plan for AMM

Fauber — Summary of courses where evaluation will take place:

MET 203(2);TMGT 471(1);MFG 370(1);ECT 480(1);TMGT 492(4);TMGT 478(2);TMGT 351(3);TMGT 374(1);TMGT 473(2)

Outcome A - Mastery of knowledge & tools

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Apply CAD principles	MET 103, 203	Evaluation of in class project per rubric	MET 203	F2010, F2013 (3 year cycle)	AMM Program Champion	AMM Program Team
2. Plan/execute production	TMGT 131,351,374,471, MFG 225, 370, 371,TMGT 478	Evaluation of in class project per rubric	TMGT 471	F2010, F2013 (3 Year Cycle)	AMM Program Champion	AMM Program Team
3. Utilize control systems in automated manufacturing	MFG 376, TMGT 478 ECT 160, 280, 281, 444, 480, MET 329, CS151	Evaluation of lab work in class per rubric	TMGT 478	F2010, F2013 (3 year cycle)	AMM Program Champion	AMM Program Team
4.Utilize computers and software for design in manufacturing	MET 103, 203, TMGT 351, 478, MFG 376,	Evaluation of in class project per rubric	MET203	F2010, F2013 (3 year cycle)	AMM Program Champion	AMM Program Team

Outcome B - Effective Problem Solving

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1.Use scientific methods to solve problems	Physical science courses (8hrs); MET103,203; CS151 ECT160,280,281,444,480 MFG 225,370,371,376	Evaluation of performance per semester project rubric	ECT480	Sp2011, Sp2014, (3 year cycle)	AMM Program Champion	AMM Program Team
2.Use management principles to solve problems	TMGT 374, 351,430,471,478,492, 497	Evaluation of in class project per rubric	TMGT 492	F2010, F2013, (3 year cycle)	AMM Program Champion	AMM Program Team
3. Interact with team members to communicate and solve problems	MET 329, MFG 370, 371, 376, TMGT 131,473,478, 492, 497	Evaluation of in class project per rubric	TMGT 478	Sp2011, Sp2014, (3 year cycle)	AMM Program Champion	AMM Program Team

Outcome C - Effective communication

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Exhibit good verbal communication skills	TMGT131,351,478,492, 497	Evaluation of in class project per rubric	TMGT 492	F2010, F2013, (3 year cycle)	AMM Program Champion	AMM Program Team
2. Demonstrate fluency in written communication	ENG101,105,107,305T; TMGT131,351,374,430, 471,473,478,492,497; MFG 225, 370,371,376; MET 329; ECT 160	Evaluation of internship per rubric	TMGT 351	F2010, F2013, (3 year cycle)	AMM Program Champion	AMM Program Team
3. Deliver formal presentations using appropriate technology	ENG101,105,107,305T; TMGT131,351,374, 430, 478,492,497;	Evaluation of in class project per rubric	TMGT 492	Sp2011, Sp2014, (3 year cycle)	AMM Program Champion	AMM Program Team

Outcome D - Safety/Accident Prevention

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
Apply safety principles around technical equipment and processes	ECT 160, MFG 225, 370, 371, 376, TMGT 351, 478, MET 329, HLTH 318	Evaluation of safety in lab work per rubric	MFG 370 or MFG 371	F2010, F2013, (3 year cycle)	AMM Program Champion	AMM Program Team
Apply knowledge of safety principles in the workplace	MET 103, 329, TMGT 351, 374, 478, 492, HLTH 318	Evaluation of safety in the internship per rubric	TMGT 351	F2010, F2013, (3 year cycle)	AMM Program Champion	AMM Program Team
Demonstrate knowledge of safety principles in supervision and mgt. of others	TMGT 351, 374, 478, 492, HLTH 318	Evaluation of performance per semester project rubric	TMGT 492	Sp2011, Sp2014, (3 year cycle)	AMM Program Champion	AMM Program Team

Outcome E - Utilize quality concepts

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Understand quality concerns in manufacturing	TMGT 131, 351, 374, 471,473,478; MFG 225,370,371,376; ECT 160, 444; MET 329	Evaluation of performance per semester project rubric	TMGT 473	Sp2011, Sp2014, (3 year cycle)	AMM Program Champion	AMM Program Team
2. Apply quality concepts	TMGT 374, 473, 478; MFG 225,370,371,376; MET 329; ECT 444, 480	Evaluation of performance per semester project rubric	TMGT 473	Sp2011, Sp2014, (3 year cycle)	AMM Program Champion	AMM Program Team
3. Implement concepts of continuous improvement	MFG 225,370,371,376 TMGT131,374,478,492	Evaluation of in-class project	TMGT 374	Sp2011, Sp2014, (3 year cycle)	AMM Program Champion	AMM Program Team

Outcome F - Engage in Lifelong Learning

Performance Criteria	Strategies	Assessment Methods	Source of Assessment	Time of Data Collection	Assessment Coordinator	Evaluation of Results
1. Demonstrate a desire for lifelong learning	TMGT 131, 374, 351, 430, 473, 478, 492, 497,	Evaluation of performance during internship	TMGT 351	Sp2011, Sp2014, (3 year cycle)	AMM Program Champion	AMM Program Team

Advanced Manufacturing Management ATMAE Standard

6.16 Assessment

(5) Compilation of the results of the assessment measures:

Outcome A: Mastery of knowledge & tools

Performance Criteria 3: Utilize control systems in automated manufacturing

Source of assessment: TMGT 478

Students in TMGT 478 must utilize their knowledge of the MasterCam program to communicate with the Thermwood CNC router in order to complete the project for the class. This application of knowledge has always been successful until the last two semesters. It is apparent that there is a gap between what the students need to know and what they do know in order to successfully utilize the control systems necessary to program the CNC machine and complete this project. The results of this assessment have been communicated to program directors to analyze and determine the best course of action to rectify this problem

(6) evidence that these results are used to improve the program

The results of this analysis have been communicated to the program directors and it was discovered that the ECT class where MasterCam had been formerly been introduced had recently omitted that from the curriculum. Upon further discussion it was realized that the MFG 376 class where MasterCam was practiced and CNC controls were practiced, had been cancelled by upper administration due to "under-enrollment." The discussion will center around solutions to this problem such as requiring the introduction in the ECT 280 class, the practice in the MFG 370 and MFG 376 classes, to improve the program and the students' knowledge and skills.

Outcome B: Effective Problem Solving

Performance Criteria 2: Use management principles to solve problems

Source of Assessment: TMGT 492

Students in TMGT 492 are given an assignment known as the Student Lead Experiential Activity. The assignment requires students to apply management principles to solve the problem of facilitating the learning of a supervisory principle. Therefore, the teams of students—usually 5—must communicate, plan, organize, participate, give feedback, and demonstrate to the rest of the class they understand a supervisory principle and can solve the complex problem of how to inform the class of the principle.

(6) evidence that these results are used to improve the program

The results of this analysis indicate that most students still require coaching and an iterative approach is best when requiring the execution of a complex assignment. The program needs to require more complex, interactive, and group assignments to give the students more practice working with others to solve problems because these skills will benefit them in the workplace.

Outcome C: Effective Communication

Performance Criteria 1: Exhibit good verbal communication skills

Source of assessment: TMGT 492

Students in TMGT 492 are required to make two formal presentations for which their verbal communication skills are held to performance standards. They are provided with written rubrics as well as DVD examples of presentations made by former students. The rubric requires articulation, loudness, confidence with content, and professional language. The students are coached by the professor prior to the presentations to clarify any requirements and answer any questions.

(6) evidence that these results are used to improve the program

The results of the analysis indicate that by the time the students are in 400 level classes, they have had opportunities to practice the skills required for professional verbal communication. To improve the program, it is recommended that every class require at least one component where a student is required to communicate verbally to the entire class.

Performance Criteria 2: Demonstrate fluency in written communication

Source of assessment: TMGT 351

Students are doing very well on this performance criteria. I used a rubric to grade the daily and weekly journals and midterm and final reports. I conclude that AMM students are able to demonstrate fluency in written communication and feel good that the program is preparing students with this particular skill to help meet our Program Outcome # 3: The student will have the ability to exhibit good verbal and written communication skills.

(6) evidence that these results are used to improve the program

As I mentioned, I believe AMM students are able to demonstrate fluency in written communication and feel good that the program is preparing students with this particular skill to meet our program outcome. I am confirming that we are meeting this part of the program outcome.

Outcome D: Safety/Accident Prevention

Performance Criteria 2: Apply knowledge of safety principles in the workplace

Source of Assessment: TMGT 351

From the information I had, I was unable to determine if students are doing well on this item. I am certain they are, but have no way of garnering this information from the assignments that are submitted. Therefore, I will be making some changes to the assignments in order to gather the information I need to make a better determination.

(6) evidence that these results are used to improve the program

I will be making adjustments to my assignments for TMGT 351 in order to better determine if students are achieving the skills to apply knowledge of safety principles in the workplace. At the end of this semester we can assemble the team to discuss the results and decide what changes, if any, need to be made to the program.

Outcome E: Utilize Quality Concepts

Source of Assessment: TMGT 473

Performance Criteria 1: Understand quality concerns in manufacturing

Students are required to use a text written by Besterfield who uses multiple examples from manufacturing. These examples help the students understand how quality concepts impact the choices manufacturing engineers make regarding materials, processes, tools, and controls.

(6) evidence that these results are used to improve the program

The assessment methods utilized in TMGT 473 include homework assignments over concepts and mid-term and final exams. The AMM team will be discussing other methods to assess outcomes and close the link to improve the performance of students in the program.

Outcome F: Engage in Lifelong Learning

Performance Criteria1: Demonstrate a desire for lifelong learning

From the information I had, I was unable to determine if students are doing well on this item. I am certain they are, but have no way of garnering this information from the assignments that are submitted. Therefore, I will be making some changes to the assignments in order to gather the information I need to make a better determination.

(6) evidence that these results are used to improve the program

I will be making adjustments to my assignments for TMGT 351 in order to better determine if students are demonstrating a desire to be lifelong learners. At the end of this semester we can assemble the team to discuss the results and decide what changes, if any, need to be made to the program.

Standards for Accreditation
Baccalaureate Degree Programs

Technology Management
Department

Packaging
B.S.

6. Standards for Accreditation – Baccalaureate Degree Programs

The objective of accreditation is to ensure that programs in Industrial Technology which are accredited meet or exceed established standards. Consideration will be given to both the qualitative and quantitative criteria set forth in these standards.

6.1 Preparation of Self-Study Report

Self-Analysis: The Self-Study Report shall follow the guidelines and be completed by a representative portion of the institution's administrative staff, teaching faculty, and students.

Guided by College of Technology faculty and administrators who have participated in the accreditation process at other institutions of higher education, and by a review of the 2004 reaccreditation material, the faculty of the Department of Technology Management planned a course of action to complete the 2010 reaccreditation material.

Those listed below participated in the preparation of the reaccreditation materials.

Dr. Brad Sims, Dean, College of Technology
Dr. Jeff McNabb, Associate Dean, College of Technology
Dr. James Smallwood, Chair, Department of Technology Management
Dr. Marion Schafer, Associate Professor, Department of Technology Management
John Jukes, Student, Department of Technology Management
Other faculty, staff, and students contributed materials as well.
Office of Vice President of Academic Affairs
Office of Vice President of Administrative Affairs
Office of Vice President of Development and Public Affairs

Documents not included in the reaccreditation report are available in the Office of the Dean and/or the Department Chair.

6.2 Philosophy and Objectives

6.2.1 Mission: The department, college, and institutional missions shall be compatible with the approved definition of Industrial Technology.

Within the concept of a university where truth and knowledge are pursued, preserved, and transmitted so that enlightenment may guide the human experience, Indiana State University seeks to fulfill its particular mission.

The University endeavors to provide educational opportunities to all qualified applicants for admission to its several and various undergraduate and graduate programs, in the fulfillment of its role and mission as a general, multi-purpose university. One of the major purposes of the institution is to offer each and every student as broad an opportunity for study and the acquisition of knowledge in the many fields, areas, and disciplines offered by the University as his or her ability, interest, and talent will allow. This purpose includes the imparting to the student of knowledge by an informed, expert faculty and the development of an understanding and appreciation of the role and responsibility of a learned and educated individual in our society. The University serves the academic, intellectual, cultural, and vocational needs of students who possess a wide range of academic preparation, ambitions, goals, and intellectual development.

The ISU Packaging program provides hands-on experiences with community and industry partners to foster creativity and ethics in both individual and team situations to prepare students as professionals in the engineering and design of packaging systems.

Technology Management Department
Preamble
The Department of Technology Management consists of the following programs:

- Technology Management
- Construction Management
- Packaging
- Advanced Manufacturing Management
- Human Resource Development
- Career and Technical Education
- Technology and Engineering Education
- Industrial Technology

Mission
Our mission is to instill knowledge and skills from our undergraduate and graduate program areas through experiential learning that enable our graduates to become leaders in education and industry.
Vision
Our department will have the lead programs in the nation to advance teaching, scholarship, research, and innovation in the fields of technology management, education, and training.

College of Technology
The College of Technology will provide exemplary undergraduate and graduate programs, generate solutions and knowledge through research, and serve the technology needs of the State, the nation, and the international community.

Indiana State University Mission Statement
Indiana State University, a doctoral research university, combines a tradition of strong undergraduate and graduate education with a focus on community and public service. We integrate teaching, research, and creative activity in an engaging, challenging, and supportive learning environment to prepare productive citizens for Indiana and the world.

6.2.2 Program Definition: The program of study definition and purpose shall be compatible with the approved definition of Industrial Technology.

The Packaging program prepares students for careers as technical managers in the field of packaging and related technologies. The program emphasizes an understanding of the technologies utilized in manufacturing and other industrial processes and compliments this technical understanding with practice using the design and engineering skills necessary in the modern packaging work environment.

6.2.3 Program Acceptance: Each program of study shall be understood and accepted by appropriate individuals and representative groups within the internal university community and the external business and industrial community.

The Packaging program has a positive working relationship with many other departments and colleges in the University, as well as with many companies in the Terre Haute area.

The program utilizes the College of Arts and Sciences for physics, mathematics, chemistry, and economics; the College of Business for accounting, and business management; the College of Health and Human Performance for safety management; Department of Electronics, Computer and Mechanical Engineering Technology for DC fundamentals, automation, fluid power and computer aided design classes.

Our graduates are employed by local companies as well as nationally known companies. Many companies continue to develop relationships with our program by making financial or equipment donations. Often, alumni are invited guest speakers in our classes. Example of these companies include the following:

Temple Inland
Tredegar, Inc.
Aisin Brake
SONY - Digital Audio Disc Corporation
Eli Lilly
Allison

6.2.4 Program Goals: Each program of study shall have: (1) clearly written short and long range goals and objectives, which are consistent with the program mission statements; and (2) plans for achieving them.

The Packaging program places an emphasis on each student developing an understanding of the basic technologies utilized in the packaging industry and blends this understanding with design, engineering and managerial skills necessary for success in today's work environment.

Short-range goals:

a. Develop a plan to recruit new students into the program.

b. Increase the number of industry projects performed in the packaging lab.

c. Review and promote articulation agreements with community colleges,

Long-range goals:

a. Develop new articulation partnerships with more community colleges.

b. Update and enhance distance offerings of hands-on laboratory courses.

c. Employ a second faculty member in packaging.

The short-range goals and long-range goals will be pursued using the following techniques:

Short-range goals:

a. Recruiting plans will be developed in cooperation with university admissions, the department, and the COT Associate Dean's office.

b. Make known to potential industry partners how we can help.

c. Articulation agreements will be reviewed by packaging faculty and the Associate Dean's office to assure that changes due to the new foundational studies program and any other changes at ISU or the partner institution are still meeting the spirit of the agreements.

Long-range goals:

a. As the program is refined, the program faculty will reach out to new community college partners to develop articulation agreements that will allow degree completion for transfer students.

b. Faculty will enlist the help of university information technology personnel to develop new methods of delivering hands-on laboratory courses through distance methods in order to better provide the coursework needed to serve the future needs of technology managers.

c. It will be necessary to significantly increase the number of students in the packaging program to justify the expense of a second faculty member, unless outside funding can be found.

6.3 Program of Study

6.3.1 Program Name: Each program of study and/or program option shall have appropriate titles consistent with the approved ATMAE definition of Industrial Technology.

Packaging

6.3.2 Program Level: The program of study shall lead to the baccalaureate degree, and not less than the junior and senior years of baccalaureate level study shall be offered by the institution seeking accreditation. Appropriate lower division requirements may be offered by the same institution or may be transferred from other institutions such as community colleges and technical institutes.

The Packaging program is a program of study that leads to a baccalaureate degree. All levels of the program from freshman to senior are offered. Appropriate lower division requirements can be transferred into the program from community colleges and technical institutions.

6.3.3 Program Definition: The program of study may have more than one option, specialization, or concentration; but specific course requirements for each option shall be clearly specified, and the requirements for all program options shall meet or exceed ATMAE standards.

The program of study has no specific requirement for a minor or a concentration, but those options are encouraged.

6.3.4 Program Emphasis: Primary emphasis in the program of study shall reflect the current technology and management of industry.

The primary emphasis of the Packaging program reflects the current technology and management of the packaging industry. This is evidenced in the laboratory exercises and teaching methodologies. The faculty, through professional organizations, such as the Institute of Packaging Professionals and the International Safe Transit Association, remains cognizant of current issues and practices in modern technologies and management techniques.

6.3.5 Foundation Requirements: Programs shall be a minimum of 120 semester hours (or equivalent) and must meet the minimum foundation requirements shown in Table 6.1. Programs may exceed the maximum foundation requirements specified in each area, but appropriate justification shall be provided for each program and/or program option that exceeds the maximum limits. A specific list of courses and credit hours that are being counted toward each category shall be included in the Self-Study Report.

Indiana State University requires all students who expect to graduate to complete a minimum of 124 semester hours

Table 6.1 B. S. Degree in **Packaging**

Course Name	Course #	ISU REQ.	ATMAE REQ.
General Education		**35-44**	**18-36**
English Composition	ENG 101 & 105 or ENG 107	3 - 6	
Technical Writing	ENG 305 T	3	
Communication	COM 101	3	
Physical Education	PE 101 & 101 L	2	
Social/Behavioral Studies	Approved List	6	
Literary/Arts/Philosophical Studies	Approved List	6	
Historical Studies	Approved List	3	
Multicultural Studies	Approved List	6	
Foreign Language	H.S. credit or Approved List	0 - 6	
General Education Capstone	Approved List	3	
Mathematics		**6**	**6 - 18**
College Algebra & Trig	MATH 115	3	
Information Technology Literacy	TMGT 195	3	
Physical Sciences		**8**	**6 - 18**
Physics	PHYS 105	3	
Physics Lab	PHYS 105 L	1	
Chemistry	CHEM 100	3	
Chemistry Lab	CHEM 100 L	1	
Or Physics	PHYS 106		
Physics Lab	PHYS 106 L		
Management /Professional		**21**	**12 - 24**
Introduction to Mfg Technology	TMGT 131	2	
Professional Internship	TMGT 351	3	
Workplace Law for the Tech Mgr	TMGT 429	3	
Senior Seminar	TMGT 430	1	
Production Planning & Control	TMGT 471	3	
Quality Control of Industrial Products	TMGT 473	3	
Industrial Organizations & Functions	TMGT 478	3	
Industrial Supervision	TMGT 492	3	
Technical		**36**	**24 – 36**
Introduction to Technical Graphics	MET 103	3	
Fluid Power Technology	MET 329	3	
Power Systems	MET 333	3	
Fundamentals of Machine Tool Proc	MFG 370	3	
Or Mfg Processes & Materials	MFG 371		
Or Plastics Technology	MFG 372		
Intro to Packaging Design	PKG 180	3	
Packaging Matls & Testing I	PKG 280	3	
Packaging Matls & Testing II	PKG 380	3	
Environmental Issues of Packaging	PKG 381	3	
Package Development and Analysis	PKG 482	3	
Distribution Pkg Des & Testing	PKG 484	3	
Packaging Machinery Systems	PKG 486	3	
Packaging Industry Projects	PKG 489	3	

Electives		**9 - 18**	**0 – 18**
Grand Total		124	120

6.3.6 Course Sequencing: There shall be evidence of appropriate sequencing of course work in each program of study to ensure that advanced level courses build upon concepts covered in beginning level course work.

The course number system indicates when the student should take the course. Courses that have a number with the first digit of one are freshman level courses. Courses with a first digit of two are sophomore level courses, etc. Faculty expect that concepts from lower division courses are understood by students. The following suggested course sequencing sheet is provided to students in the program. Advisors emphasize to students the importance of taking courses in the appropriate order.

Table 6.2 B. S. Degree in **Packaging**

FALL		SPRING	
Semester I		Semester II	
ENG 101	3	ENG 105	3
COMM 101	3	CHEM 100 & 100L	4
MATH 115	3	PKG 180	3
PE 101 & L	2	SBS:F	3
MET 103	3	TMGT 131	2
TMGT 195	3		
	17 hrs		15 hrs
Semester III		Semester IV	
Foreign Lang 101	3	Foreign Language 102	3
PKG 280	3	HS	3
MCS:USD	3	MFG 370 or 371 or 372	3
Physics 105 & 105 L	4	LAPS:F	3
SBS:E	3	Elective	3
	16 hrs		15 hrs
Semester V		Semester VI	
ENG 305T	3	LAPS:E	3
PKG 381	3	TMGT 351	3
MCS:IC	3	PKG 380	3
MET 329	3	MET 333	3
Elective	3	Elective	3
	15 hrs		15 hrs
Semester VII		Semester VIII	
GEN ED Capstone	3	TMGT 492	3
PKG 482	3	PKG 486	3
PKG 484	3	PKG 489	3
TMGT 471	3	TMGT 429	3
TMGT 473	3	TMGT 478	3
TMGT 430	1		
	16 hrs		15 hrs

Table 6.3 B. S. Degree in **Packaging transfer with A.A.S.**

FALL		SPRING	
Semester V		Semester VI	
ENG 305T	3	LAPS:E	3
PKG 381	3	TMGT 351	3
MCS:IC	3	PKG 380	3
MET 329	3	MET 333	3
PKG 280	3	PKG 180	3
	15 hrs		15 hrs
Semester VII		Semester VIII	
GEN ED Capstone	3	TMGT 492	3
PKG 482	3	PKG 486	3
PKG 484	3	PKG 489	3
TMGT 471	3	TMGT 429	3
TMGT 473	3	TMGT 478	3
TMGT 430	1		
	16 hrs		15 hrs

Table 6.4 B. S. Degree in **Packaging transfer with A.S.**

FALL		SPRING	
Semester V		Semester VI	
ENG 305T	3	LAPS:E	3
PKG 381	3	TMGT 351	3
MCS:IC	3	PKG 380	3
MET 329	3	MET 333	3
PKG 280	3	PKG 180	3
	15 hrs		15 hrs
Semester VII		Semester VIII	
GEN ED Capstone	3	TMGT 492	3
PKG 482	3	PKG 486	3
PKG 484	3	PKG 489	3
TMGT 471	3	TMGT 429	3
TMGT 473	3	TMGT 478	3
TMGT 430	1		
	16 hrs		15 hrs

6.3.7 Application of Mathematics and Science: Appropriate applications of the principles of mathematics and science shall be evident in technical and management course work.

MFG 370: Apply mathematics to determine metal removal rates, power requirements, feeds, speeds, depth of cut, tool angles, measurements and tolerances.
MFG 371: Apply mathematics and science when determining stress-strain

calculations, chemistry of metals, metallurgy, bending, forming, and heat treatment.
MFG 372: Apply mathematics and science when determining weight/volume calculations, understanding polymerization and heat transfer.
TMGT 471: Mathematical computations are used to determine schedules and line balancing requirements.
TMGT 473: Requires application of statistical sampling techniques.
TMGT 478: Applications of mathematics and science as necessary for implementation of processes required to complete projects in the capstone course.
MET 103: Principles of mathematics and science are applied.

6.3.8 **Computer Applications: The program of study shall include instruction on computer application software, and the use of computers for information retrieval and problem solving.**

The program of study includes instruction on computer application software, and the use of computers for information retrieval and problem solving. The following are examples:

PKG 180: Computers are used in designing packaging, by using AutoCAD, ArtiosCad, and ProEngineer software.
MET 103: Computer aided design fundamentals
TMGT 195: Intro to Computer applications. Satisfies the University requirement for IT Literacy. Must be taken in the freshman year, prior to receiving 32 credit hours.

MFG 371: NC and CNC programming oxy-fuel/plasma cutter
TMGT 471: Use of production scheduling applications
TMGT 478: Computerized GANT charts for planning and scheduling; computerized plant layouts; computer generated forms; computer generated drawings; electronically distributed content information.

6.3.9 Communications: **Oral presentations and technical report writing shall be evident in course requirements.**

PKG 180: Students are required to write reports on design projects throughout the semester, and make class presentations.

PKG 280: Students make presentations to the class on several assignments and designs developed during the course.

PKG 380: Students make presentations to the class on several assignments and designs developed during the course.

PKG 381: Students are required to research several topics throughout the course and report to the class their findings in formal written reports. Since this is now an internet course, students are required to critique each others' work on each assignment.

PKG 482: There is an emphasis on using the package as a communication tool to reach consumers. Students do exercises requiring evaluation and critique of package copy and graphics. Students report orally and in writing to the class. For industry projects, the students report orally and in writing also to the industry partners.

PKG 484: Students prepare written reports of recommendations and test results. These are presented along with an oral summary to the class and industry representatives. Students are expected to access current packaging journals and magazines, find articles on packaging materials or test equipment, and write a summary on each article. Students also write reports on lab projects throughout the semester.

PKG 486: Students prepare formal written reports on layout plans, machine requirements, and costs. These are also presented to the class orally as mock formal business presentations to a board of directors of a company.

PKG 489: Students prepare written technical reports of their research and present these orally to the class and/or the client company.

6.3.10 Industrial Experiences: **Each major program shall include appropriate industrial experiences such as industrial tours, work-study options and cooperative education, or senior seminars focusing on problem-solving activities related to industrial situations. The industrial experiences shall be designed to provide an understanding of the industrial environment and what industry expects of students upon employment.**

All students in this program are required to enroll in at least one semester of TMGT 351 Internship/Cooperative Industrial Practice to gain real world experience in an industrial setting.

In all packaging courses, when possible, students participate in tours of packaging industries scheduled at various times during the semester. Students are also encouraged to attend Central Indiana Institute of Packaging Professional meetings and interact with industry professionals.

PKG 489: This course is designed to specifically accommodate senior students doing projects with industry partners or clients.

6.3.11 Competency Identification: **Competencies shall be identified for each major program, including all available options, which are relevant to the employment opportunities available to graduates.**

Competencies for graduates of the Packaging program include:
1. Perform a variety of technical activities the student is likely to manage.

2. Communicate effectively in the packaging production/engineering/management environment.

3. Solve packaging problems or control the environment.

4. Make packaging related decisions.

5. Allocate resources effectively.

6. Operate well in team environments, whether as leader or team member.

7. Operate well in an unsupervised environment.

8. Integrate ethics in all dealings.

Specific objectives required in the Packaging Technology degree program are listed in the course syllabi.

6.3.12 Competency Validation: **Validation of major program outcomes/student competencies shall be an on-going process and shall be accomplished through a combination of external experts, an industrial advisory committee(s), and follow-up studies of program graduates. Documentation of this validation shall be provided in the Self-Study Report.**

The Packaging program receives validation from the Packaging Advisory Committee, and from the Institute of Packaging Professionals. The advisory committee meets at least once each year to discuss the state of the program and what needs to be changed to meet the needs of the packaging industry. Members are asked to give input regarding the overall program requirements and suggestions they have for strengthening the program and producing more viable graduates. This information is combined with feedback from employers and graduates to formulate revisions to the program.
Informal feedback from employers and former students are also used for program improvement.

Placement of graduates in packaging jobs is very high. Almost all graduates are placed within three months of graduation in good positions in their field of study. Those graduates typically have been afforded upward mobility over time in the packaging industry, though some choose to move into management in other areas.

6.3.13 Program Development, Revision, and Evaluation: **Major program development, revision, and evaluation shall involve currently enrolled students, individuals responsible for instruction, program graduates, and representative employers.**

The Packaging program was revised in 2007. At that time, PKG 180, Introduction to Packaging Design was added as a required course and MET 203 was dropped from the program. Other packaging courses were revised and renamed with the PKG prefix to reflect changes in the industry. These changes reflected the recommendations of the Packaging Advisory Committee, in response to a survey of past graduates and industry professionals.

6.3.14 Transfer Course Work: **Institution and/or department policies shall be used to evaluate course work transferred from other institutions. All programs/options, including those with a significant amount of transfer course work, must meet the minimum credit hour foundation course requirements (Tables 5.1 and 6.1) in each category.**

University policies regarding transfer credit are outlined in the Undergraduate Catalog. The Department of Technology Management accepts transfer course work from accredited institutions of higher education. Courses must be college level with a letter grade of C or better. Credit is transferred on a course-by-course basis by faculty evaluation. The Dean’s office approves faculty recommendations and applicability of transfer credit. ISU faculty work with the faculty from the lower division schools to ensure that courses/degrees transferred into ISU contain the appropriate content and are taught at the appropriate level utilizing appropriate methods to be valid in ISU programs.

Articulation agreements are in place for Ivy Tech Community College that ensure learners meet the minimum requirements of the University and ATMAE.

6.3.15 Upper Division Course Work: **Students shall successfully complete a minimum of 15 semester hours of junior or senior level major courses at the institution seeking program accreditation.**

All students are required to complete a minimum of 50 semester hours of course work at the junior/senior level for any Bachelor of Science degree conferred at the university. A minimum of 30 semester hours must be completed as residence credits from Indiana State University.

6.3.16 Program Publicity - Adequate and Accurate Public Disclosure: **Institutions shall broadly and accurately publicize, particularly to prospective students: (a) Industrial Technology program goals and objectives, (b) preadmission testing or evaluation requirements and standards, (c) assessment measures used to advance students through the program(s), (d) educational achievement rates of graduates, and (e) fees and other charges.**

The TM Department distributes brochures and information sheets to prospective students through direct mail, trade show booths, high school presentations, community college counselors, and one-on-one promotion. All prospective students who contact the TM department by phone, mail, or e-mail are sent a packet of information with a personal letter of invitation to visit and ask questions. Information about points (b) – (e) are found in the University Undergraduate Catalog.

University Effort. A major part of the University recruitment program is organized and administered by the Office of Admissions. Specific goals of this office include:

a. Present information about the University in a manner that will assist prospective students and their parents in making appropriate choices as to which college or university to attend.

b. Develop techniques and programs that will motivate students to seek additional information about the University.

c. Organize and conduct activities that will present the University in the most favorable way to prospective students and feeder school personnel.

d. Organize and conduct activities that will increase the number of new students enrolling at the University.

e. Work cooperatively with other University staff members to ensure maximum efficiency of the recruitment and application processing activities.

The Office of Admissions meets these goals through the following activities.

a. Direct mailing to prospective students

b. On-campus days, interviews, and campus tours

c. New Student Orientation

d. Freshmen follow-up

e. College fairs

f. Student-parent receptions

g. High school visits

h. Special alumni events

i. Phone call program

j. Distribution of posters

College Activities. One of the major functions of the Office of the Associate Dean in the College of Technology is to coordinate undergraduate recruitment activities for the CoT. The Associate Dean oversees the Technology Student Services Center that has the responsibility to conduct recruiting activities. Some of the regular recruitment efforts include:

a. School representative to the Office of Admissions

b. Development and dissemination of brochures

c. Coordinate recruiting activities such Tech Trek, Major's Fair, College Tech Prep, and Hands-on-High Tech

d. Development of all special recruitment programs such as Introduction Programs, College of Technology Career Fairs, etc.

Department Activities: The Department has faculty members who visit high schools for recruitment purposes. Faculty members also meet prospective students and parents when they visit campus. This usually includes tours of the facilities, program information, and initial advisement. The Department has also completed several mailings to counselors at the high school level, across the State, to inform them of the opportunities at Indiana State University. The Department also takes an active role in all school-level recruitment activities such as those listed above. Department faculty are also involved in outreach activities such as the Explorer Program that expose young students to skills and careers in the manufacturing profession.

The institution, the College of Technology, the TMGT Department and even the Technology Student Services Center all have web sites to advertise much of the Information listed in this standard.

6.3.17 Legal Authorization: **Only institutions legally authorized under applicable state law to provide degree programs beyond the secondary level and that are recognized by the appropriate regional accrediting agency are considered for accreditation.**

The Packaging program at Indiana State University is approved by the Indiana Department of Higher Education as a program of study within the university. Indiana State University was chartered by the State of Indiana as an institution of higher learning in 1865, and has been operating under the legal authorization of the State continuously since that time.

6.4 Instruction

6.4.1 Course Syllabi: **Course Syllabi which clearly describe appropriate course objectives, content, references utilized, student activities, evaluation criteria, and a range of examples of student's graded work shall be available for each course.**

Course Syllabi which clearly describe appropriate course objectives, content, references utilized, student activities, evaluation criteria are provided to each student at the beginning of the course. A range of examples of student's graded work, course syllabi, schedules, study guides from each course will be on display in the ATMAE display room during the on-site visit.

6.4.2 Reference Materials: **Appropriate reference books, library materials such as periodicals, audio-visual materials, and computer application software (when appropriate) shall be utilized for each course or series of courses to supplement textbooks or course packs.**

The Indiana State University Cunningham Memorial Library houses a fine collection of reference materials, and provides access to materials in other libraries, used by all the courses in the Packaging program. Proprietary software, such as ArtiosCAD, ValView, Q-Test, and CAPE may be accessed on the computers in the packaging lab.

6.4.3 Program Balance: **Appropriate laboratory activity shall be included in the program(s) and a reasonable balance must be maintained in course work between the practical application of "how" and the conceptual emphasis of "why."**

All Packaging courses are designed to provide a balance of the why and how of the field.

The following classes contain about 50% lecture/demonstration, 50% hands-on lab activity: PKG 180, PKG 482, PKG 484.

The following classes contain about 80% lecture/demonstration, 20% hands-on lab activity: PKG 280, PKG 380, and PKG 486.

PKG 381 is conducted primarily as lecture and demonstration, with outside activities involving research work.

PKG 489 is nearly 100% lab and research activities involving specific industry projects. While TMGT 351 is 100% immersion in actual work in industry.

6.4.4 Problem-Solving Activities: **Emphasis in instruction shall be appropriately focused on problem-solving activities which reflect contemporary industrial situations.**

PKG 180: This class requires students to design packages that will survive standard tests, such as drop, and compression while performing the basic functions of protecting and containing the contents.

PKG 280: This class analyzes the properties of various paper-based packaging materials to determine their characteristics and properly identify the materials being testing. The PKG 280 class also learns to fabricate paper, paperboard, and corrugated paperboard packages.

PKG 380: This class analyzes the properties of various plastic, metal, and glass packaging materials to determine their characteristics and appropriate uses.

PKG 381: This class is assigned to evaluate the environmental concerns about packaging and recommend sound, environmentally friendly, alternatives.

PKG 482: This class develops complete package designs for consumer and pharmaceutical products and presents the findings to the industry partner.

PKG 484: This class involves individuals and teams learning about the physics and characteristics of proper packaging for distribution while working on industry projects to come up with solutions to the assigned industry problems. Normally, existing packaging is tested and new designs are fabricated and tested for effectiveness and economy.

PKG 486: This class is divided into work groups to develop a workable packaging line for a given product and justify their solutions through written and oral presentations.

PKG 489: This class involves individuals and working on industry projects to come up with solutions to the assigned industry problems. Existing packaging is tested and new designs are fabricated and tested for effectiveness and economy.

6.4.5 Motivation of Students: **Effective motivation of students shall be evident.**

Using real industry projects in classes adds the relevance students yearn for in their program of study. The experiences gained from these projects, coupled with the interaction and networking with industry professionals provides a taste of professional life. Just as in industry, teams are used to solve problems, with peer evaluations to motivate each student to perform optimally.

Most students are involved in the Institute of Packaging Professionals student organization. This helps maintain excitement about packaging and ties the students to the Central Indiana Institute of Packaging Professionals chapter, where students can attend meetings and learn first-hand from industry professionals.

6.4.6 Supervision of Instruction: **Appropriate supervision of instruction shall be evident throughout the program.**

The Department of Technology Management has a Faculty member with a ½ time administrative appointment to be Department Chair. One of the Chair's duties is to supervise instruction. Each faculty member, in conjunction with colleagues and the Chair, develops yearly and long-range goals. As per the

Departmental Faculty Evaluation plan, faculty are evaluated by their colleagues and the chair. Evidence and documentation of teaching performance is by peer and chair evaluation of teaching, student assessment of teaching, and other means as needed. The university has several ongoing initiatives to maintain and improve quality of instruction. Many faculty participate in the institutes and workshops that are conducted throughout the year.

6.5 Faculty

6.5.1 Full-Time Faculty: **Each major program option shall have an adequate number of appropriately qualified full-time faculty. Program faculty qualifications shall include emphasis upon extent, recency, and pertinence of: (a) academic preparation, (b) industrial professional experience (such as technical supervision or management), (c) applied industrial experience (such as technical applications), (d) membership and participation in appropriate Industrial Technology professional organizations, and (e) scholarly activities.**

It is difficult to break down the faculty by program because faculty often cross over and teach in other programs within the department and in other departments. Additionally, many courses within and external to the department are of a service nature and not focused on one major. The Packaging program has one tenured, full-time faculty dedicated to it at this time. The Packaging faculty member has: (a) an undergraduate degree in packaging; (b) and (c) worked for nearly 19 years in industry in a variety of positions before beginning teaching; (d) is a member of the Institute of Packaging Professionals with lifetime status as a Certified Packaging Professional, is a member of the International Safe Transit Association with lifetime status as a Certified Packaging Laboratory Professional at the highest level, and is a member of ASTM and ATMAE; and (e) continually conducts scholarly activities in the field of packaging.

6.5.2 Minimum Faculty Qualifications: **The minimum academic qualifications for a tenure track faculty member (except in unusual circumstances which must be individually justified) shall be a bachelor's and master's degree in a discipline closely related to the faculty member's instructional assignments.**

All full-time faculty members in the TM Department have at least a master’s degree closely related to their usual teaching assignment. The packaging faculty person holds a B.S. in Packaging Technology, an M.S. in Industrial Professional Technology, and a Ph.D. in Curriculum and Instruction.

6.5.3 Academic Preparation of Faculty: **A minimum of fifty percent of the regular full-time faculty members assigned to teach in the major program(s) shall have an earned doctorate (exceptions to this standard will be granted only for unique programs such as Marine Transportation). If more than one major program exists at an institution, this standard will apply to all regular full-time faculty assigned to teach major programs in Industrial Technology at the institution. Exceptions may be granted to this standard if the institution has a program in place that will bring the institution into compliance within a reasonable time.**

The Packaging faculty person has an earned Ph.D. degree.

6.5.4 Selection and Appointment Policies: **Policies and procedures utilized in the selection and appointment of regular faculty shall be clearly specified and shall be conducive to the maintenance of high quality instruction.**

The department adheres to University and COT selection and appointment policies. Appointment to the Indiana State University faculty is by the Indiana State University Board of Trustees on the recommendation of the President of the University. The usual procedures for selecting candidates for faculty positions is 1) determine a need, 2) develop a staffing plan, 3) get approval from Academic Affairs, 4) advertise the position, 5) interview potential candidates, and 6) hire an individual.

6.5.5 Tenure and Reappointment Policies: **Faculty tenure and reappointment policies and procedures shall be comparable to other professional program areas in the institution. Requirements in the areas of teaching, service, and scholarly activity shall be clearly specified for faculty in Industrial Technology.**

The department adheres to University and COT Promotions and Tenure procedures. Faculty tenure and reappointment policies and procedures in the Technology Management Department are comparable to other professional program areas in the institution. Requirements for teaching, service and scholarly activity are clearly specified for all COT faculty and can be reviewed in the COT Promotion and Tenure Standards document.

6.5.6 Faculty Loads: **Faculty teaching, advising, and service loads shall be comparable to the faculty in other professional program areas at the institution. Consideration shall be given in faculty teaching load assignments to high contact hours resulting from laboratory teaching assignments.**

Packaging Faculty loads are typical for Industrial Technology programs in comparable Universities. It is typical for Departmental faculty to teach a 12-hour load (four 3-credit courses). A 9-hour load is often granted when one or more courses are taught both on campus and via distance.

6.6 Students

6.6.1 Admission and Retention Standards: **Admission and retention standards shall be used to ensure that students enrolled are of high quality. These standards shall compare favorably with the institutional standards. Sources of information may include admission test scores, secondary school rankings, grade point averages, course syllabi, course examinations, written assignments, and oral presentations.**

The Department follows University admission and retention standards. Indiana State University, in affirming its commitment to excellence, recognizes the value of a student population reflecting academic achievement, cultural diversity, and special talent. The University's admissions policy allows for the individual consideration of each applicant, and helps it service a student population with these characteristics.

The primary criterion for admission is evidence that a candidate is prepared to succeed in a degree program, given the University's limited resources for special assistance.

Admission standards are stated in terms of traditional school and college grading systems. For applicants whose records include either a high proportion of non-traditional grades, or a subject pattern which departs markedly from that normally associated with university study, additional evidence of academic potential in support of their applications, such as entrance examinations, interviews, and letters of recommendation, may be requested. The admission of applicants who are older than the traditional college age will be determined individually with special attention given to employment experience and motivation.

Individuals may seek exceptions to any of the requirements by petitioning the Admissions Committee to consider additional factors that may indicate college potential. A limited number of students may be admitted on condition that they agree to follow a prescribed course of study and advisement.

6.6.2 Scholastic Success of Students: **Students in Industrial Technology shall have scholastic success comparable to those in other curricula in the institution. Grading practices in Industrial Technology courses shall be comparable to other departments and/or programs in the institution. Evidence shall be presented to indicate the scholastic achievement level of Industrial Technology students in both basic studies and major course work.**

Students graduating from the College of Technology, and particularly the TM Department, have scholastic success comparable to those in other curricula in the institution. Scholastic achievement of students is comparable to the University Average.

6.6.3 Placement of Graduates: **The initial placement, job titles, job descriptions, and salaries of graduates shall be consistent with the program(s) goals and objectives. The advancement of graduates within organizations shall be tracked to ensure advancement to positions of increasing responsibility. Industry's reaction to graduates as employees must be favorable. Follow-up studies of graduates shall be conducted every two to five years. Summary statistics relating to follow-up studies of graduates shall be made available to prospective students. These statistics shall include placement rates as well as salary levels of program graduates.**

The Packaging program typically has better than average placement rates and starting salaries when compared to the University as a whole. Recent starting salaries have ranged from $38,000 to over $60,000 according to verbal self-reporting of graduates.

6.6.4 Deleted

6.6.5 Student Evaluation of Program(s): **Evaluations of the Industrial Technology program(s) shall be made by its graduates on a regular basis (two to five years). Their reactions and recommendations shall be considered in program revisions.**

Current students complete a course/instructor evaluation at the end of the semester for each course in which they are enrolled. Former graduates are surveyed every 5 years.

6.6.6 Student Enrollment: **Enrollment shall be adequate in each program area to operate the program(s) efficiently and effectively. The level of available resources shall be considered as a constraint on the maximum number of qualified students to be admitted to the program(s). Enrollment shall be tracked, and factors affecting enrollment patterns shall be identified and analyzed. Enrollment projections shall be made which relate closely to short and long-range goals and resource needs.**

Student enrollments and trends are tracked by the college and the university. Knowledge gained from analysis of trends is incorporated into budget, scheduling, and staffing decisions. Enrollment factors are discussed and used in decision making in Departmental, COT, and Chairs Advisory Committee meetings.

6.6.7 Advisory and Counseling Services: **Adequate and timely advising and counseling services shall be available for students.**

All tenured faculty members advise students, with some help from tenure-track and full-time temporary faculty. Students receive both scheduling and developmental advice, as needed.

6.6.8 Ethical Practices: **Ethical practices shall be fostered, including equitable student tuition refunds and nondiscriminatory practices in admissions and employment.**

Indiana State University, the College of Technology, and the Department of Technology Management are committed to non-discriminatory equal access policies. Equality for all students and faculty, and an embrace of diversity, are hallmarks of the campus.

6.7 Administration

6.7.1 Program Administration: **Programs in Industrial Technology are expected to have an identifiable, qualified individual with direct responsibility for program coordination and curriculum development. This individual should be a full-time employee of the institution.**

The coordinator of the Packaging program is also the primary faculty for the Packaging program. The coordinator position is conferred by faculty consensus upon the faculty member best capable of providing leadership for the program. The faculty of the department have the primary authority and responsibility for curriculum development.

6.7.2 Administrative Leadership: **Individuals assigned to administer Industrial Technology programs must demonstrate effective leadership and satisfactory support for Industrial Technology.**

The Department chair serves as the head coach and cheerleader for the department. The chair is the spokesperson for the department and is the primary liaison between the department and the rest of the University community. The chair is responsible for reporting and record keeping requirements. For most activities, such as curriculum decisions, faculty evaluations, and program administration, the chair as one entity and the rest of the departmental faculty as another share equal authority. In these matters, the chair is required to seek faculty input. The chair has discretionary authority concerning only budgeting and scheduling.

6.7.3 Administrative Support: **There must be appropriate support for Industrial Technology from the personnel holding leadership positions in the departments and colleges where Industrial Technology is administratively located.**

Three programs housed in the TM department are Industrial Technology programs. All TM faculty, the chair, associate dean and dean are committed to proper and successful Industrial Technology programs.

6.8 Facilities and Equipment

6.8.1 Adequacy of Facilities and Equipment: **Physical facilities and equipment, which are suitable to serve the goals and objectives of the program(s), shall be available for each program option. Where facilities and equipment appear to be minimal to support a quality program(s), comparisons with support levels for other relevant programs at the institution will be made by the visiting team.**

The lab facilities for the Packaging Technology program are high quality and current with the industry. Within the past six years, the Packaging program has received approximately $300,000 worth of equipment and software donations from industry partners. Further industry donations will be sought for future additional equipment and funding needs that arise.

6.8.2 Support for Facilities and Equipment: **Facility and equipment needs shall be reflected in the long range goals and objectives for the program(s), and sources of potential funding shall be identified.**

Since the yearly portion of the ISU equipment and maintenance budgets for the Packaging program has been cut along with that of all other programs, it has been necessary to obtain alternate funding and donations for equipment, software, and maintenance needs. Fortunately, the packaging industry and packaging professional groups have been very supportive and generous to the Packaging program. Additional funding also comes from consulting activities conducted through the Indiana Packaging R & D Center that operates out of the Packaging lab.

6.8.3 Appropriateness of Equipment: **Equipment shall be appropriate to reflect contemporary industry.**

The equipment in the Packaging Lab is very serviceable, and is the same or very similar to equipment used in the packaging industry.

6.9 Computer Systems

6.9.1 Availability of Computer Systems: **Appropriate computer systems shall be available to students and faculty to cover appropriate functions**

and applications in each program area. These systems may be on or off-site and centralized or decentralized as long as the systems are accessible to students and faculty by means of remote terminals and/or input-output devices.

The COT and the University have numerous computer labs. Some labs are open 24 hours, others for extended periods at night and on the weekends. The University computer system is accessible from off-campus locations via dial-in procedure. Additionally, many students utilize computers and the internet access available in their homes, places of employment, and/or local libraries (city and other public institutions). All campus buildings, including COT buildings have wireless internet connection available for students to use with personal notebook computers. Every campus dormitory room has a connection to the campus backbone which allows access to the internet and the campus "image" which contains universally used programs such as MS Office, Internet Explorer, GroupWise Mail, SPSS, and many other programs.

6.9.2 Utilization of Computer Systems: **Evidence shall be available which indicates students and faculty are making adequate and appropriate use of computer systems.**

Most courses in the Packaging program, as with all programs in the College of Technology, require use of computers to complete assignments. The use of computers is inherent in many courses, e.g. CAD, CAM, CIM, etc. Computers are used during scheduled and open lab hours. Most courses have writing elements, and presentations that require assignments to be word processed and/or put into Power Point. Some also require the use of Blackboard internet courseware, e-mail, or searches conducted on internet sites.

6.10 Financial Resources

6.10.1 Financial Support: **The budget for the Industrial Technology program(s) shall be adequate to support program objectives. When judging sufficiency, the visiting team may wish to make comparisons with the support levels given to other professional programs at the institution.**

In recent years, funds for all purposes have been tighter. The budget tightening has been across the board so as not to be unfair to individual programs.

6.10.2 External Financial Support: **There shall be evidence of external support for the program(s) in Industrial Technology. However, this external support shall be treated as supplementary support and be used to achieve and maintain a high level of excellence. This external support shall not be used to displace funding support normally provided by the institution.**

External financial support is regularly sought from industry partners and from individual supporters to finance activities and purchases beyond those required for normal operations.

6.11 Library Services

6.11.1 Library Resources: **The administrative unit containing the Industrial Technology program(s) and/or the institutional library shall maintain a collection of Industrial Technology literature and reference materials**

adequate to meet the curriculum and research needs of students and faculty.

Library resources are quite adequate. The COT has a library budget comparable to other units on campus. The library responds readily to requests for books and periodicals needed for COT programs. Adequate books, periodicals, and computer-based materials are available for reference and for circulation. A growing number of internet and CD resources and search aids are available on-line through the Cunningham Memorial website.

6.11.2 Utilization of Library Resources: **Evidence shall be available which indicates that students and faculty are making adequate and appropriate use of library resources.**

Faculty and students utilize library resources on a routine basis. Students are making adequate and appropriate use of the Library. Most courses include technical reports, term papers, and other class presentations where the Library houses the necessary information.

Evidence of these requirements may be found in the syllabi found in the course resource notebooks.

The faculty have identified no accurate techniques to measure the extent to which faculty are making adequate and appropriate use of library resources.

6.12 Support Personnel

Support Personnel: Personnel such as teaching assistants, student work-study assistants, secretaries and service technicians shall be adequate to support program objectives.

The TM department has one full-time secretary, several graduate assistants, and student workers. Student workers are used in support of labs. Graduate assistants are used to assist faculty with labwork, research, and teaching. The COT has a technician for mechanical issues and a technician for computer issues.

6.13 Placement Services

6.13.1 Placement Services: **Appropriate services shall be available to assist with the placement of program graduates. Placement of graduates shall be tracked and the effectiveness of the services shall be evaluated by the administrative unit containing the Industrial Technology program(s).**

The University has placement service available, through the ISU Career Center, to all students and recent graduates. College of Technology graduates consistently lead the University in placement rates and starting salaries. Placement of graduates is tracked by the Career Center. College of Technology faculty/programs work closely with the Career Center to help students pursue their career goals.

6.13.2 Cooperative Education: **If cooperative education is either a required or an elective part of the program, then appropriate services shall be provided to assist with the placement and supervision of cooperative education students.**

Indiana State University has an excellent cooperative education program coordinated by the ISU Career Center. Cooperative education is required in the Packaging Technology degree program using the TMGT 351 course.

6.14 Industrial Advisory Committee(s)

6.14.1 Program Advisory Committee(s): **An industrial advisory committee shall assist in the validation of program content. If more than one major program or program option is available, then appropriately qualified industrial representatives shall be added to the committee or more than one committee shall be maintained. Evidence shall be presented to indicate the: (a) procedures used in selecting members, (b) length of appointment, (c) organization of the committee, (d) committee responsibilities, (e) frequency of meetings, and (f) methods of conducting business.**

The bylaws of the Packaging Technology Advisory Committee elaborate on items (a) – (f).

6.14.2 Advisory Committee Meetings: **The industrial advisory committee(s) shall meet at least once each year, and appropriate minutes shall be kept of these meetings showing agenda items, actions taken, and recommendations made.**

The Packaging Advisory Committee meets at least once each year.

6.15 Educational Innovation

6.15.1 Educational Innovation: **There shall be evidence that innovation furthering program objectives is being carried out in the administrative unit housing the Industrial Technology program. This includes developing and testing new learning approaches and technologies and disseminating the results.**

New approaches are being tried including distance learning through the internet, summer workshops, and working cooperatively with industry partners on projects. Currently, three required packaging courses, and several related required courses are available as semester-based internet courses using Blackboard courseware. Some non-traditional students are enrolled in the program and taking all courses via the internet. Summer workshops have been offered to allow non-traditional students to take traditional courses in a compressed format. Students regularly work with various companies on industry projects, benefiting both students and the companies that participate.

6.16 Assessment

Assessment Plan and Integration: An assessment plan shall be comprised of, but not limited to, the following for each program: (1) program mission statement, (2) program outcomes/student competencies, (3) evidence that the program

incorporates these outcomes/student competencies, (4) assessment measures used to evaluate student mastery of the student competencies stated, (5) compilation of the results of the assessment measures, and (6) evidence that these results are used to improve the program.

(1) Program Mission Statement

The ISU Packaging program provides hands-on experiences with community and industry partners to foster creativity and ethics in both individual and team situations to prepare students as professionals in the engineering and design of packaging systems.

(2) Program Outcomes/student competencies

Program Outcome # 1: The student will demonstrate mastery of the knowledge and tools of the packaging profession.

Program Outcome # 2: The student will be able to apply technical knowledge in conducting experiments to solve problems.

Program Outcome # 3: The student will use creativity in designs and applications for experiments to resolve problems.

Program Outcome # 4: The student will function in teams to solve problems.

Program Outcome # 5: The student will present research findings in oral and written form.

(3) Evidence that the program incorporates these outcomes/student competencies

COURSE #	A demonstrate mastery of the knowledge and tools of the packaging profession	B apply technical knowledge in conducting experiments to solve problems	C use creativity in designs and applications for experiments to resolve problems	D function in teams to solve problems	E present research findings in oral and written form
PKG 180	Introduced	I	I	I	
MET 103	Practiced	I	I		
PKG 280	I	I			I
PKG 380	P	P			P
PKG 381					P
PKG 482	P	P	P	P	P
PKG 484	P	P	P	P	P
PKG 486	Reinforced	R	R	R	R

PKG 489	R	R	R		R
MFG 370	P	P	P		P
MFG 371	P	P	P		P
TMGT 351	R	R	R	R	R
TMGT 471	P	R	R	R	R
TMGT 473	R	R	P		R
TMGT 478	R	R	R	R	R
TMGT 492		R	R	P	R
TMGT 497			R	R	R

(4) assessment measures used to evaluate student mastery of the student competencies stated

Stakeholder Involvement

Stakeholders: (Rating – 5 implemented, evaluated and at least one cycle of improvement)

1. Students
2. Graduates
3. Employers
4. Other professionals

Primary Stakeholders are involved in identifying/affirming program educational objectives: (Rating – 5 implemented, evaluated and at least one cycle of improvement)

1. Students fill out SIRs for each course
2. Graduates are surveyed
3. Employers are represented through the Advisory Board and internship evaluations
4. Other professionals are represented in the ATMAE accreditation

Primary Stakeholders are involved in periodic evaluation of educational objectives: (Rating – 5 implemented, evaluated and at least one cycle of improvement)

1. Students fill out SIRs for each course
2. Graduates are surveyed periodically
3. Employers are represented through the Advisory Board and internship evaluations
4. Other professionals are represented in the ATMAE accreditation

Sustained partnerships with stakeholders are developed: (Rating – 5 implemented, evaluated and at least one cycle of improvement)

1. The packaging advisory board has been active since 1974
2. The packaging program has been accredited by ATMAE/NAIT for at least 25 years

Program Educational Objectives

Objectives are defined: (Rating 3 – In place and implemented)

9. Perform a variety of technical activities the student is likely to manage.

10. Communicate effectively in the packaging production/engineering/management environment.

11. Solve packaging problems or control the environment.

12. Make packaging related decisions.

13. Allocate resources effectively.

14. Operate well in team environments, whether as leader or team member.

15. Operate well in an unsupervised environment.

16. Integrate ethics in all dealings.

Number of objectives are manageable: (Rating 3 – In place and implemented)
Eight objectives is a very reasonable and manageable number.

Objectives are aligned with department/program mission statement: (Rating 3 – In place and implemented)
These objectives are aligned with the intent of the mission statements

Objectives are periodically assessed to determine achievement: (Rating 2 – Beginning stage of implementation)
Assessment of these objectives has not yet been completed.

Objectives are periodically evaluated for currency: (Rating 2 – Beginning stage of implementation)
While it is believed that all the objectives are current, a formal evaluation has not yet been completed.

(5) compilation of the results of the assessment measures

Student Learning Outcomes

Student learning outcomes are identified: (Rating 3 – In place and implemented)
1. Master knowledge and tools of the technology management profession
2. Apply technical knowledge in conducting experiments to solve problems
3. Use creativity in designs and applications for experiments to resolve problems
4. Function in teams to solve problems
5. Present research findings in oral and written form

Number of outcomes manageable: (Rating 3 – In place and implemented)
Five outcomes is a very reasonable and manageable number.

Outcomes are publicly documented: (Rating 2 – Beginning stage of implementation)
These outcomes will be included in future documentation.

Outcomes are linked to educational objectives: (Rating 3 – In place and implemented)
These outcomes were written to fit well with the educational objectives of this program.

Outcomes are defined by a manageable number of measurable performance indicators (performance criteria): (Rating 2 – Beginning stage of implementation) Measureable performance indicators are being refined.

Measurable Performance Criteria

Student learning outcome 1:

Master knowledge and tools of Packaging profession

1. Student can pass standard exit exam
2. Student can develop a packaging system given a product

Student learning outcome 2:

Apply technical knowledge in conducting experiments to solve problems

1. Scientific method and standard test procedures are used
2. Test plan correct for the situation

Student learning outcome 3:

Use creativity in designs and applications for experiments to resolve problems

1. New ideas are developed
2. Concepts are evaluated

Student learning outcome 4:

Function effectively in teams to solve problems

1. Team produces quality results
2. Team members favorable in evaluation

Student learning outcome 5:

Present research findings in oral and written form

1. Oral skills are clear and effective
2. Written skills are clear and effective

Student Learning Outcomes Aligned With Educational Practices

Desired outcomes are mapped to curricular practices and/or strategic (e.g., courses/teaching methodology, internship): (Rating 2 – Beginning stage of implementation)

Practices/strategies are systematically evaluated using outcomes assessment data: (Rating 1 – Beginning stage of development) The data are not yet available

Where necessary, educational practices are modified based on evaluation of assessment data: (Rating 1 – Beginning stage of development) The data are not yet available

Assessment Processes

Assessment is on-going and systematic at the program level: (Rating 2 – Beginning stage of implementation) The data are not yet available

Multiple methods are used to measure each outcome: (Rating 2 – Beginning stage of implementation) Multiple methods are in use

Both direct and indirect measures of student learning are used to measure outcomes: (Rating 2 – Beginning stage of implementation) Both direct and indirect measures are being used

Assessment processes are reviewed for effectiveness and efficiency: (Rating 2 – Beginning stage of implementation) The data are not yet available for review

When needed, assessment methods are modified based on evaluation processes: (Rating 2 – Beginning stage of implementation) Assessment methods will be modified as evaluation indicates it is necessary

Evaluation

Assessment data are systematically reviewed: (Rating 2 – Beginning stage of implementation) Assessment data are not yet complete

Evaluation of results is done by those who can effect change: (Rating 2 – Beginning stage of implementation) Evaluation of results is done by program leaders

Evaluation of assessment data is linked to curricular practices/strategies: (Rating 2 – Beginning stage of implementation)

Evaluation leads to decision making/action: (Rating 2 – Beginning stage of implementation)

(6) evidence that these results are used to improve the program.

BS in Packaging

Matrix of Program Outcomes and Assessment Methods				
	Exam[i]	Follow-up Survey[ii]	Survey of Graduating Seniors	Portfolio[iii]
#1 Perform a variety of technical activities the student is likely to manage.		X	X	X[iv]
#2 Communicate effectively in the packaging production/engineering/management environment.		X	X	X[v]
#3 Solve packaging problems or control the environment.	X	X	X	
#4 Make packaging related decisions.	X	X	X	
#5 Allocate resources effectively.	X	X	X	
#6 Operate well in team environments, whether as leader or team member.		X	X	
#7 Operate well in an unsupervised environment.		X	X	
#8 Integrate ethics in all dealings.		X	X	

[i] Professional exam to be taken in senior year. The intention is to use the IoPP CPIT exam, the ISTA CPLP exam, and/or the ATMAE exam.

[ii] Follow-up survey of alums and their supervisors. The intent is to do this no later than every 5 years (the period specified by most accrediting associations). Currently, the program is accredited by ATMAE, which requires outcomes assessment.

[iii] The intent is to keep a range of student's graded work (a) of a written report required in the production planning course and (b) of experiential laboratory assignments (when the student is not a transfer student).

[iv] This will be evidenced by the student having completed an internship in a packaging environment.

[v] TMGT 471 Production Planning and Control.

Standards for Accreditation
Baccalaureate Degree Programs

Technology Management
Department

Technology Management
B.S.

6. Standards for Accreditation – Baccalaureate Degree Programs

The objective of accreditation is to ensure that programs in Industrial Technology which are accredited meet or exceed established standards. Consideration will be given to both the qualitative and quantitative criteria set forth in these standards.

6.1 Preparation of Self-Study Report

Self-Analysis: The Self-Study Report shall follow the guidelines and be completed by a representative portion of the institution's administrative staff, teaching faculty, and students.

Guided by College of Technology faculty and administrators who have participated in the accreditation process at other institutions of higher education, and by a review of the 2004 reaccreditation material, the faculty of the Department of Technology Management planned a course of action to complete the 2010 reaccreditation material.

Those listed below participated in the preparation of the reaccreditation materials.

Dr. Brad Sims, Dean, College of Technology
Dr. Jeff McNabb, Associate Dean, College of Technology
Dr. James Smallwood, Chair, Department of Technology Management
Dr. Marion Schafer, Associate Professor, Department of Technology Management
John Jukes, Student, Department of Technology Management
Other faculty, staff, and students contributed materials as well.
Office of Vice President of Academic Affairs
Office of Vice President of Administrative Affairs
Office of Vice President of Development and Public Affairs

Documents not included in the reaccreditation report are available in the Office of the Dean and/or the Department Chair.

6.2 Philosophy and Objectives

6.2.1 Mission: The department, college, and institutional missions shall be compatible with the approved definition of Industrial Technology.

Within the concept of a university where truth and knowledge are pursued, preserved, and transmitted so that enlightenment may guide the human experience, Indiana State University seeks to fulfill its particular mission.

The University endeavors to provide educational opportunities to all qualified applicants for admission to its several and various undergraduate and graduate programs, in the fulfillment of its role and mission as a general, multi-purpose university. One of the major purposes of the institution is to offer each and every student as broad an opportunity for study and the acquisition of knowledge in the many fields, areas, and disciplines offered by the University as his or her ability, interest, and talent will allow. This purpose includes the imparting to the student of knowledge by an informed, expert faculty and the development of an understanding and appreciation of the role and responsibility of a learned and educated individual in our society. The University serves the academic, intellectual, cultural, and vocational needs of students who possess a wide range of academic preparation, ambitions, goals, and intellectual development.

Technology Management Program
The ISU Technology Management program provides hands-on experiences with community and industry partners to foster creativity and ethics in both individual and team situations to prepare students as professionals in the engineering and management of technology systems.

Technology Management Department
Preamble
The Department of Technology Management consists of the following programs:

- Technology Management
- Construction Management
- Packaging
- Advanced Manufacturing Management
- Human Resource Development
- Career and Technical Education
- Technology and Engineering Education
- Industrial Technology

Mission
Our mission is to instill knowledge and skills from our undergraduate and graduate program areas through experiential learning that enable our graduates to become leaders in education and industry.
Vision
Our department will have the lead programs in the nation to advance teaching, scholarship, research, and innovation in the fields of technology management, education, and training.

College of Technology
The College of Technology will provide exemplary undergraduate and graduate programs, generate solutions and knowledge through research, and serve the technology needs of the State, the nation, and the international community.

Indiana State University Mission Statement
Indiana State University, a doctoral research university, combines a tradition of strong undergraduate and graduate education with a focus on community and public service. We integrate teaching, research, and creative activity in an engaging, challenging, and supportive learning environment to prepare productive citizens for Indiana and the world.

6.2.2 Program Definition: The program of study definition and purpose shall be compatible with the approved definition of Industrial Technology.

The Technology Management program prepares students for careers as technical managers in a variety of fields in technology. The program emphasizes an understanding of the technology utilized in manufacturing and other industrial processes and compliments this technical understanding with practice using the managerial skills necessary in the modern work environment.

6.2.3 Program Acceptance: Each program of study shall be understood and accepted by appropriate individuals and representative groups within the internal university community and the external business and industrial community.

The Technology Management program has a positive working relationship with many other departments and colleges in the University, as well as with many companies in the Terre Haute area.

The program utilizes the College of Arts and Sciences for physics, mathematics, chemistry, and economics; the College of Business for accounting, and business management; the College of Health and Human Performance for safety management; Department of Electronics, Computer and Mechanical Engineering Technology for DC fundamentals, automation, fluid power and computer aided design classes.

Our graduates are employed by local companies as well as nationally known companies. Many companies continue to develop relationships with our program by making financial or equipment donations. Often, alumni are invited guest speakers in our classes. Example of these companies include the following:

Great Dane Trailer
Tredegar, Inc.
Aisin Brake
SONY - Digital Audio Disc Corporation

6.2.4 Program Goals: Each program of study shall have: (1) clearly written short and long range goals and objectives, which are consistent with the program mission statements; and (2) plans for achieving them.

The Technology Management program places an emphasis on each student developing an understanding of the basic technology utilized in manufacturing and blending this understanding with managerial skills necessary for success in today's work environment.

Short-range goals:

a. Find ways to promote experiential learning in courses.

b. Develop a plan to recruit new students into the program.

c. Review articulation agreements with community colleges,

Long-range goals:

a. Develop new articulation partnerships with more community colleges.

b. Update and enhance distance offerings of hands-on laboratory courses.

c. Seek the support of industry for expanded opportunities in cooperative education/internships.

The short-range goals and long-range goals will be pursued using the following techniques:

Short-range goals:

a. Experiential learning will be promoted by working with faculty to include experiential learning projects in their courses.

b. Recruiting plans will be developed in cooperation with university admissions, the department, and the COT Associate Dean's office.

c. Articulation agreements will be reviewed by technology management faculty and the Associate Dean's office to assure that changes due to the new foundational studies program and any other changes at ISU or the partner institution are still meeting the spirit of the agreements.

Long-range goals:

a. As the program is refined, the program faculty will reach out to new community college partners to develop articulation agreements that will allow degree completion for transfer students.

b. Faculty will enlist the help of university information technology personnel to develop new methods of delivering hands-on laboratory courses through distance methods in order to better provide the coursework needed to serve the future needs of technology managers.

c. Faculty will enlist the help of program alumni and industry partners to develop internship opportunities for students in the technology management program.

6.3 Program of Study

6.3.1 Program Name: Each program of study and/or program option shall have appropriate titles consistent with the approved ATMAE definition of Industrial Technology.

Technology Management

6.3.2 Program Level: The program of study shall lead to the baccalaureate degree, and not less than the junior and senior years of baccalaureate level study shall be offered by the institution seeking accreditation. Appropriate lower division requirements may be offered by the same institution or may be transferred from other institutions such as community colleges and technical institutes.

The Technology Management program is a program of study that leads to a baccalaureate degree. All levels of the program from freshman to senior are offered. Appropriate lower division requirements can be transferred into the program from community colleges and technical institutions.

6.3.3 Program Definition: The program of study may have more than one option, specialization, or concentration; but specific course requirements for each option shall be clearly specified, and the requirements for all program options shall meet or exceed ATMAE standards.

The program of study has an 18-hour block, set aside for a minor, a concentration, or group of courses taken from the College of Technology.

6.3.4 Program Emphasis: Primary emphasis in the program of study shall reflect the current technology and management of industry.

The primary emphasis of the Technology Management program reflects the current technology and management of industry. This is evidenced in the laboratory exercises and teaching methodologies. The faculty, through professional organizations, remains cognizant of current issues and practices in modern technologies and management techniques.

6.3.5 Foundation Requirements: Programs shall be a minimum of 120 semester hours (or equivalent) and must meet the minimum foundation requirements shown in Table 6.1. Programs may exceed the maximum foundation requirements specified in each area, but appropriate justification shall be provided for each program and/or program option that exceeds the maximum limits. A specific list of courses and credit hours that are being counted toward each category shall be included in the Self-Study Report.

Indiana State University requires all students who expect to graduate to complete a minimum of 124 semester hours

Table 6.1 B. S. Degree in **Technology Management**

Course Name	Course #	ISU REQ.	ATMAE REQ.
General Education		**35-44**	**18-36**
English Composition	ENG 101 & 105 or ENG 107	3 - 6	
Technical Writing	ENG 305 T	3	
Communication	COM 101	3	
Physical Education	PE 101 & 101 L	2	
Social/Behavioral Studies	Approved List	6	
Literary/Arts/Philosophical Studies	Approved List	6	
Historical Studies	Approved List	3	
Multicultural Studies	Approved List	6	
Foreign Language	H.S. credit or Approved List	0 - 6	
General Education Capstone	Approved List	3	
Mathematics		**9**	**6 - 18**
College Algebra & Trig	MATH 115	3	
Information Technology Literacy	TMGT 195	3	
Economic Analysis	MET 405	3	
Physical Sciences		**8**	**6 - 18**
Physics	PHYS 105	3	
Physics Lab	PHYS 105 L	1	
Chemistry	CHEM 100	3	
Chemistry Lab	CHEM 100 L	1	
Or Physics	PHYS 106		
Physics Lab	PHYS 106 L		
Management /Professional		**27**	**12 - 24**
Industrial Health & Safety	HLTH 212	3	
Industrial Accident Prevention	HLTH 318	3	
Professional Internship	TMGT 351	3	
Workplace Law for the Tech Mgr	TMGT 429	3	
Production Planning & Control	TMGT 471	3	
Quality Control of Industrial Products	TMGT 473	3	
Industrial Organizations & Functions	TMGT 478	3	
Or Industrial Computer Sys Mgmt	ECT 437		
Industrial Supervision	TMGT 492	3	
Creativity & Ideation Techniques	TMGT 491	3	
Or Problem Solving Techniques	TMGT 497		
Technical		**27**	**24 – 36**
Electronic Fundamentals	ECT 160	3	
Introduction to Technical Graphics	MET 103	3	
Fundamentals of Machine Tool Proc	MFG 370	3	
Or Mfg Processes & Materials	MFG 371		
Or Plastics Technology	MFG 372		
Technical Minor or Concentration pus Technical Electives		18	
Electives		**9 - 18**	**0 – 18**
Grand Total		124	120

6.3.6 Course Sequencing: There shall be evidence of appropriate sequencing of course work in each program of study to ensure that advanced level courses build upon concepts covered in beginning level course work.

The course number system indicates when the student should take the course. Courses that have a number with the first digit of one are freshman level courses. Courses with a first digit of two are sophomore level courses, etc. Faculty expect that concepts from lower division courses are understood by students. The following suggested course sequencing sheet is provided to students in the program. Advisors emphasize to students the importance of taking courses in the appropriate order.

Table 6.2 B. S. Degree in **Technology Management**

FALL		SPRING	
Semester I		Semester II	
ENG 101	3	ENG 105	3
COMM 101	3	CHEM 100 & 100L	4
MATH 115	3	ECT 160	3
PE 101 & L	2	SBS:F	3
MET 103	3	LAPS:F	3
TMGT 195	3		
	17 hrs		16 hrs
Semester III		Semester IV	
Foreign Lang 101	3	Foreign Language 102	3
HLTH 212	3	HS	3
MCS:USD	3	MFG 370 or 371 or 372	3
Physics 105 & 105 L	4	Elective	3
Elective	3	Elective	3
	16 hrs		15 hrs
Semester V		Semester VI	
ENG 305T	3	LAPS:E	3
SBS:E	3	TMGT 351	3
MCS:IC	3	HLTH 318	3
Tech Minor or Concentration	3	Tech Minor or Concentration	3
Tech Minor or Concentration	3	Tech Minor or Concentration	3
	15 hrs		15 hrs
Semester VII		Semester VIII	
GEN ED Capstone	3	TMGT 492	3
MET 405	3	TMGT 491 or 497	3
TMGT 429	3	Tech Minor or Concentration	3
TMGT 471	3	Tech Minor or Concentration	3
TMGT 473	3	TMGT 478	3
	15 hrs		15 hrs

Table 6.3 B. S. Degree in **Technology Management transfer with A.A.S.**

FALL		SPRING	
Semester V		Semester VI	
ENG 305T	3	LAPS:E	3
SBS:E	3	TMGT 351	3
MCS:IC	3	HLTH 318	3
Tech Minor or Concentration	3	Tech Minor or Concentration	3
Tech Minor or Concentration	3	Tech Minor or Concentration	3
	15 hrs		15 hrs
Semester VII		Semester VIII	
GEN ED Capstone	3	TMGT 492	3
MET 405	3	TMGT 491 or 497	3
TMGT 429	3	Tech Minor or Concentration	3
TMGT 471	3	Tech Minor or Concentration	3
TMGT 473	3	TMGT 478	3
Tech Minor or Concentration	3		
	18 hrs		15 hrs

Table 6.4 B. S. Degree in **Technology Management transfer with A.S.**

FALL		SPRING	
Semester V		Semester VI	
ENG 305T	3	LAPS:E	3
SBS:E	3	TMGT 351	3
MCS:IC	3	HLTH 318	3
Tech Minor or Concentration	3	Tech Minor or Concentration	3
Tech Minor or Concentration	3	Tech Minor or Concentration	3
	15 hrs		15 hrs
Semester VII		Semester VIII	
GEN ED Capstone	3	TMGT 492	3
MET 405	3	TMGT 491 or 497	3
TMGT 429	3	Tech Minor or Concentration	3
TMGT 471	3	Tech Minor or Concentration	3
TMGT 473	3	TMGT 478	3
Tech Minor or Concentration	3		
	18 hrs		15 hrs

6.3.7 Application of Mathematics and Science: Appropriate applications of the principles of mathematics and science shall be evident in technical and management course work.

MFG 370: Apply mathematics to determine metal removal rates, power requirements, feeds, speeds, depth of cut, tool angles, measurements and tolerances.

MFG 371: Apply mathematics and science when determining stress-strain calculations, chemistry of metals, metallurgy, bending, forming, and heat treatment.
MFG 372: Apply mathematics and science when determining weight/volume calculations, understanding polymerization and heat transfer.
TMGT 471: Mathematical computations are used to determine schedules and line balancing requirements.
TMGT 473: Requires application of statistical sampling techniques.
TMGT 478: Applications of mathematics and science as necessary for implementation of processes required to complete projects in the capstone course.
ECT 160 and MET 103 are courses where principles of mathematics and science are applied.

6.3.8 **Computer Applications: The program of study shall include instruction on computer application software, and the use of computers for information retrieval and problem solving.**

The program of study includes instruction on computer application software, and the use of computers for information retrieval and problem solving. The following are examples:

MET 103: Computer aided design fundamentals
TMGT 195: Intro to Computer applications. Satisfies the University requirement for IT Literacy. Must be taken in the freshman year, prior to receiving 32 credit hours.
MFG 371: NC and CNC programming oxy-fuel/plasma cutter
TMGT 471: Use of production scheduling applications
TMGT 478: Computerized GANT charts for planning and scheduling; computerized plant layouts; computer generated forms; computer generated drawings; electronically distributed content information.

6.3.9 Communications: Oral presentations and technical report writing shall be evident in both technical and management course requirements.

The General Education curricula focus specifically on communications in the COM 101 course, and includes oral and written work in all courses counted as general education. The ENG 305T is tailored to the needs of the technology students, and emphasis is places on writing technical reports.

The integration of oral presentations and technical report writing is evident in many of the Manufacturing Technology courses as described below.

TMGT 131: In 2001 the curriculum of the introduction to technology course TMGT 131, was revitalized with a focus on the eight dimensions identified as most important in the professional development of the technology student. One of those dimensions was Communication. To this end, students are required to make several technical presentations, are required to use Power Point to enhance the professionalism of their presentation, and are required to accompany their oral presentation with a written technical report. The presentations are video taped and each student is given a CD of his or her presentations. These presentations can then be uploaded to each students' electronic portfolio as a record of their ability to demonstrate communication skills when delivering a technical report.

TMGT 478: Although the catalogue name for this course is Industrial Organization and Function, it is known by everyone as SIMCO, because it simulates a Manufacturing company. Each semester students assume roles as members of the organization in an attempt to make products to specifications within a budget and to a schedule. Students are placed in interest groups and investigate the functions of an organization, such as the design function, the manufacturing function, the quality function, etc, and make formal technical presentations to the rest of the class. This then becomes the basis for their expertise and their placement in the manufacturing function of the class. The formal technical papers each student writes as part of their presentation, become the resource and the knowledge base for the class. Therefore, each student is dependent on each other student for information and understanding of the functions of the organization. It could be considered a capstone technical writing and presentation experience in the capstone course. The students are each given written and verbal feedback regarding both oral presentation skills and their technical writing skills. The presentations are video taped, and each student is required to view his or her performance and submit a written evaluation of what they did well and what they could do differently to improve.

TMGT 492: As a final project in some 492 classes, students are required to form “Consulting Teams” and work together to make recommendations to a company concerning technical and management concerns. Students practice their team work abilities while planning, practicing, and presenting their conclusions. Each consulting team is required to make a professional presentation using Power Point or other presentation applications. A final written technical report is required of this project.

TMGT 497: The purpose of the class is to give students experience using team problem solving techniques. The class is structured so each student has opportunities to work, first with a partner, then with a team, to investigate and prepare presentations to the rest of the class. The students learn not only problem solving techniques, but how to work in groups and teams, how to make presentations, and how to write technical reports describing the process and their results.

Further evidence of oral presentation and technical report writing can be found in the course resource notebooks.

6.3.10 Industrial Experience: Each program of study shall include appropriate industrial experiences such as industrial tours, work-study options/cooperative education, or senior seminars focusing on problem-solving activities related to industry. Industrial experiences shall be designed to provide an understanding of the industrial environment and what industry expects of students upon employment.

Industrial Tours: Many classes take field trips to local industries to provide the students with exposure to the broad continuum of experiences available to them in the industrial setting. Some examples include:

TMGT 131: Digital Audio Disc Corporation; Bemis Corporation;

Industry Speakers: Many classes invite industry representatives as guest speakers. Often when this occurs, the professor hosting the speaker opens the invitation to the whole College of Technology, so the message can be received by as many students as possible.

Professional Internship Experiences: Industrial experience described to the students as, “One of the most important experiences you can have as a student.” In the TMGT 131 class, students who have completed a cooperative education experience are invited to speak to the class and to describe the value of their experience to the incoming freshmen. The Career Center willingly sends a representative to any class to describe the process involved in registering for a cooperative education experience. Each student in the TMGT 131 class is required to complete the forms required for the cooperative education experience. Furthermore, the Career Center stations a representative in the lobby of the new technology building for four to six hours for one week in the beginning of each semester to register students for co-op experiences. The most recent advertisement is the kiosk in the atrium of the technology building. This kiosk gives information, testimonials, and examples of students who have had a cooperative education experience.

TMGT 351: Every student in the Technology Management major is informed by their advisor that up to six hours of college credit can be earned by enrolling in an approved cooperative education experience and TMGT 351. The student is required to keep a daily journal, write a mid-term and final technical report of their experiences, and the professor of record visits the student's supervisor to insure all goals are being met.

6.3.11 Competency Identification: Student competencies shall be identified for each Program of study, including all options, which are relevant to the employment opportunities available to graduates.

1. Perform a variety of technical activities the student is likely to manage.
2. Communicate effectively in the production/engineering/management environment.
3. Solve technical problems or control the environment.
4. Make technology related decisions.
5. Allocate resources effectively.
6. Operate well in team environments, whether as leader or team member.
7. Operate well in an unsupervised environment.
8. Integrate ethics in all dealings.

6.3.12 Competency Validation: Validation of program of study outcomes/student competencies shall be an on-going process and shall be accomplished through a combination of external experts, industrial advisory committee(s), and follow-up studies of program graduates. Documentation of this validation shall be provided in the Self-Study Report.

Internal Competency Validation:

a. The student's advisor meets with the student to review the goals and expectations and outlines a plan of study to be followed.

b. First year review: For those students who begin the program as freshmen, during the first year, the student is expected to have successfully completed the introductory course TMGT 131, to have fulfilled the requirements for IT literacy (TMGT 195) as well as the first sequence in the requirement for math literacy (MATH 115). The student must maintain a 2.0 GPA.

c. Second year review: For those students who begin the program as freshmen, the student must maintain a GPA of 2.0 or better in program courses.

d. Third year review: For all students, including transfer students, the student must maintain a GPA of 2.0 or better in program courses, plus HLTH 318, and ENG 305T.

e. Fourth year review: Successful completion of the capstone course TMGT 478, Industrial Organization and Functions, exit interview conducted by Advisor. Student is given the opportunity to identify the strengths and areas of needed improvement in the program.

Post Graduation Assessment:

a. Alumni survey: A survey instrument is sent to graduates asking them to evaluate the level of preparation their program gave them.

b. Employer survey: A survey instrument is sent to employers of program graduates asking them to rate the level of satisfaction with the level of skill of recent graduates.

c. Graduate Placement: The University Career Center gathers data regarding placement and salary ranges.

d. Industrial Advisory Board: The Board meets with the TMGT faculty once each semester to give their perspective and point of view regarding program vitality and currency.

6.3.13 Program Development Revision and Evaluation: Program of study development, revision and evaluation shall involve currently enrolled students, faculty, program graduates, and representative employers.

The Technology Management program was revised in 2007. At that time, the program name was changed from Industrial Technology Management to Technology Management. At that time several course prefixes were changed due to a reorganization of the College department structure. The types of courses and basic structure, however, remained basically the same. These changes reflected the recommendations of the Advisory Committee, in response to a survey of past graduates and industry professionals.

The Department of Technology Management employs a four step process in the planning and development of new curriculum areas. The initial step in the process is a review of current literature and existing programs similar in nature across the nation. This review or “needs analysis” is completed by interested faculty members within the Department.

If the initial investigation suggests that a curricular area is warranted, then the second step is for the formation of a formal committee to develop an initial curriculum proposal. During this step, committee members do additional research, both literature and industrial-based, to ascertain the needs of current industry.

Upon completion of the initial curriculum proposal, step three involves a review of the proposal by both industrial consultants and also industrial advisory committees. At this point, the proposal is put into final form for the fourth step in the process.

Step four consists of the required procedures for new curriculum approval at both the University and State level. This involves approval by the College of Technology’s Curriculum and Academic Affairs Committee and the Faculty Council. Upon approval at the school level, the proposal is forwarded to the University Curriculum and Academic Affairs Committee, then to the Faculty Senate.

Please refer to the Curriculum Approval Procedures Manual (CAPS) for a complete explanation of the curriculum process.

Programs in the TMGT Department are continually evaluated for relevancy and rigor, to ensure that they meet the needs of students and employers. Programs are evaluated by currently enrolled students through senior exit interviews and surveys as well as general discussion. Individuals responsible for instruction provide feedback for a program based on their research, contacts at conferences, and discussions with employers. Program graduates provide input through surveys.

If major revision becomes necessary, the procedure described for program development is followed.

6.3.14 Transfer Course Work: Institution and/or department policies shall be used to evaluate course work transferred from other institutions. All programs/options, including those with a significant amount of transfer course work, must meet the minimum credit hour foundation course requirements (Table 6.1) in each category.

A growing percentage of the College of Technology student body are transfer students from other four-year institutions, Vincennes University, Ivy Tech Comm. College, and two-year colleges from other states. An initial transfer evaluation (on the basis of instructional accreditation and satisfactory grades) is provided by the Office of Admissions. Department chairs and TMGT faculty then further evaluate the credit for possible acceptance in the program for which the student has applied. Credit is then posted to the student's permanent transcript. Formal agreements with Ivy Tech Comm. College and other schools are continuously being updated.

6.3.15 Upper Division Course Work: Students shall successfully complete a minimum of 15 semester hours of junior and/or senior level major courses at the institution seeking program accreditation.

The University requires a minimum of 124 hours of credit, 30 hours of resident credit, a minimum cumulative grade point average of 2.0 on a 4.0 scale, completion of a minimum of 50 hours at the 300-400 level, and completion of the General Education Program.

The Technology Management program requires the completion of 12 specific courses or 36 hours of 300 – 400 level course work. The additional required 300-400 level course work is taken in the technical minor/concentration/electives category.

6.3.16 Program Publicity – Adequate and Accurate Public Disclosure: Institutions shall broadly and accurately publicize, particularly to prospective students: (a) industrial technology program goals and objectives, (b) preadmission testing or evaluation requirements and standards, (c) assessment measures used to advance students through the program(s), and (e) fees and other charges.

University Effort. A major part of the University recruitment program is organized and administered by the Office of Admissions. Specific goals of this office include:

a. Present information about the University in a manner that will assist prospective students and their parents in making appropriate choices as to which college or university to attend.

b. Develop techniques and programs that will motivate students to seek additional information about the University.

c. Organize and conduct activities that will present the University in the most favorable way to prospective students and feeder school personnel.

d. Organize and conduct activities that will increase the number of new students enrolling at the University.

e. Work cooperatively with other University staff members to ensure maximum efficiency of the recruitment and application processing activities.

The Office of Admissions meets these goals through the following activities.

a. Direct mailing to prospective students

b. On-campus days, interviews, and campus tours

c. New Student Orientation

d. Freshmen follow-up

e. College fairs

f. Student-parent receptions

g. High school visits

h. Special alumni events

i. Phone call program

j. Distribution of posters

College Activities. One of the major functions of the Office of the Associate Dean in the College of Technology is to coordinate undergraduate recruitment activities for the CoT. The Associate Dean oversees the Technology Student Services Center that has the responsibility to conduct recruiting activities. Some of the regular recruitment efforts include:

a. School representative to the Office of Admissions

b. Development and dissemination of brochures

b. Coordinate recruiting activities such Tech Trek, Major's Fair, College Tech Prep, and Hands-on-High Tech

d. Development of all special recruitment programs such as Introduction Programs, College of Technology Career Fairs, etc.

Department Activities: The Department has faculty members who visit high schools for recruitment purposes. Faculty members also meet prospective students and parents when they visit campus. This usually includes tours of the facilities, program information, and initial advisement. The Department has also completed several mailings to counselors at the high school level, across the State, to inform them of the opportunities at Indiana State University. The Department also takes an active role in all school-level recruitment activities such as those listed above. Department faculty are also involved in outreach activities such as the Explorer Program that expose young students to skills and careers in the manufacturing profession.

The institution, the College of Technology, the TMGT Department and even the Technology Student Services Center all have web sites to advertise much of the Information listed in this standard.

6.3.17 Legal Authorization: Only institutions legally authorized under applicable state law to provide degree programs beyond the secondary level and that are recognized

by the appropriate national or regional accrediting agency are considered for ATMAE accreditation.

Indiana State University is a public, state-supported institution, under the general control of a board of trustees, known and designated as the Indiana State University Board of Trustees. Other state boards, offices, and agencies exercise certain statutory controls and have specified duties and responsibilities pertaining to the operation of the University. .

6.4 Instruction

6.4.1 Course Syllabi: Course syllabi must be presented which clearly describe appropriate course objectives, content, references utilized, student activities, and evaluation criteria. Representative examples of student's graded work shall be available for coursework.

Course syllabi are available for each course. Course notebooks have been prepared to clearly describe appropriate course objectives, content, references utilized, student activities, evaluation criteria and evidence showing a range of examples of students' graded work. The notebooks will be made available in the resource room.

6.4.2 Reference Materials: Appropriate reference materials such as periodicals, audio-visual materials, websites and computer application software (when appropriate) shall be utilized for each course or series of courses to supplement textbooks or course packs.

There are many areas where the program can access reference materials appropriate for individual classes. The Cunningham Memorial Library houses books, periodicals, electronic media, and an excellent reference service complete with computerized searches. Research assignments are given, for example, in TMGT 131, and TMGT 478, to mention only two, where students are required to avail themselves of the services offered at the library. There exists a Library Committee in the College of Technology and each year faculty are given the opportunity to request books and periodicals to be purchased and available for student use in the library.

The Office of Information Technology supports multimedia services for all faculty as needed in instructional settings.

Each room in the Myers Technology Building is equipped with state of the art media projection systems. Professors often access the web during class to supplement the information being presented. A variety of appropriate periodicals are available in classrooms for student use.

6.4.3 Program Balance: Appropriate laboratory activity shall be included in the program(s) and a reasonable balance must be maintained in course work between the practical application of "how" and the theoretical/conceptual emphasis of "why".

By definition, the student of industrial technology is one who has a theoretical understanding balanced by "hands-on application." Because the faculty is committed to this balance, classes have theoretical instruction balanced by laboratory demonstrations and student participation. Theoretical underpinnings and laboratory instruction are delivered by the professor of the course. The grading system in each of the classes reflects this same balance between theory and application. Grades are determined by assessment of the theoretical knowledge by examination as well as demonstration of application in laboratory exercises. No single element is more important than the other.

Thus, through instruction and grading practices the message is clear that theory and application are seamlessly integrated and skill with both makes the technologist a valuable resource.

6.4.4 Problem-Solving Activities: Emphasis in instruction shall be focused on problem-solving activities which reflect contemporary industrial applications.

The employers who hire our students tell us that the ability to solve problems is one of the most valued traits in the college graduate. Obviously, laboratory experiments are natural opportunities to apply the ability to solve problems, and more than 50% of the course work towards the degree in Manufacturing Technology has a laboratory component. However, each class offers students opportunities to apply their problem solving skills. There are many instances and examples that could be cited, following are some examples:

TMGT 131: Students identify areas of needed improvement based on the completion of the LASSI inventory. The LASSI has identified a potential problem area, and students are then instructed to discover the systems in place at ISU to help them solve their problem. Students are placed in teams of three, they discover resources, then report to the class the results. The steps of the problem solving process are explained and students are given a “real world” opportunity to implement the process.

TMGT 478: Students are given the problem of manufacturing a specific number of products, within a budget, in a narrow time frame. The students are also tasked with designing an original product which would be marketable to a target population.

TMGT 497: Students are taught, in an interactive format, a specific problem solving method. The class is required to apply the newly learned method to solve a “real world” problem identified at ISU.

Examples of problem solving activities can be found in the course notebooks.

6.4.5 Supervision of Instruction: Appropriate supervision of instruction shall be evident throughout the program.

Faculty members in the Department have been selected and appointed to their positions after careful scrutiny and verification that they possess excellent qualifications for the position. These include both professional and technical qualifications. Careful evaluation of their instruction is conducted by the chairperson and a committee of their peers during their probationary period prior to being granted tenure. Following the granting of tenure, instruction is evaluated less formally except in cases where the faculty member applies for promotion or “above standard” pay increases. In those instances, rather detailed documentation of teaching performance is required.

6.4.6 Scheduling of Instruction: The organization and scheduling of instruction shall allow adequate time for completion of appropriate homework assignments and laboratory problem-solving activities.

Many of the required courses are offered every semester, however, some courses are offered once a year. Students are able to schedule their courses in the suggested sequence and meet the requirements of any prerequisites. By distributing courses throughout the week, students have ample time to complete homework and other “out-of-class” assignments. Most laboratory assignments are scheduled for class time as very few labs are “open labs”. Professors are aware of the restrictions on student time and are generally conscientious about setting realistic deadlines for any assignments, especially laboratory assignments. Evening classes are offered as necessary. Distance courses are offered to accommodate our distance students in certain programs.

Faculty teaching assignments depend on the departmental schedule requirements, the nature of the courses taught, the combination of undergraduate and graduate courses, and, to a limited extent, non-teaching assignments. The normal teaching load is nine to twelve credit hours of course work per semester. Contact hours for a course load would vary according to what type of course is being taught, i.e., one hour contact per one hour lecture and more contact for a laboratory. Consideration is also given to the number of preparations required of a faculty member. These weights are carefully observed in making faculty teaching assignments.

6.5 Faculty

6.5.1 Full-Time Faculty: Each program of study option shall have an adequate number of full-time faculty.

Currently, the TM program is taught by faculty from several different programs since there are no specific courses unique to the technology management program.

6.5.2 Minimum Faculty Qualifications: The review of program faculty qualifications shall include current faculty resumes providing clear evidence documenting the extent and currency of: (a) academic preparation, (b) industrial experience at the management/supervisory levels, (c) applied industrial experience related to the program content area(s), (d) current certifications/licensure related to the program content area(s), (e) membership and participation in appropriate professional organizations, and (f) scholarly activities. The minimum academic qualifications for regular tenure track, or full-time, faculty members shall be a graduate degree in a discipline closely related to the instructional assignment.

Resumes of the regular full-time faculty teaching in the Technology Management program are available. The current minimum academic qualification for a tenure track faculty member is a terminal degree in a discipline closely related to the faculty member’s instructional assignment, although there are a few faculty with master’s degrees who are tenured. Varying additional hours of graduate work are required for hiring at academic ranks above the instructor level with the requirement of an earned doctorate for the associate professor and professor rank. Tenure-track faculty are appointed with the expectation that a pre-tenure probationary period will be served.

6.5.3 Academic Preparation of Faculty: A minimum of fifty percent of the regular tenure track, or full-time faculty members assigned to teach in the program of study content area(s) shall have an earned doctorate or appropriately defined terminal degree. Exceptions may be granted to this standard if the institution has a program in place that will bring the faculty demographics into compliance within a reasonable period of time.

At the present time there are 3.5 full-time faculty in the TM Department teaching one or more courses in the TM program. The TM Department chair has the following responsibility: .5 chair, .5 faculty. Two of the faculty hold earned doctorates and one has completed all the course work for the doctorate.

6.5.4 Selection and Appointment Policies: Policies and/or procedures utilized in the selection and appointment of faculty shall be clearly specified and shall be conducive to the maintenance of high quality instruction.

Appointment to the Indiana State University faculty is by the Indiana State University Board of Trustees on the recommendation of the President of the University. The usual procedures for selecting candidates for faculty positions is 1) determine a need, 2) develop a staffing plan, 3) get approval from Academic Affairs, 4) advertise the position, 5) interview potential candidates, and 6) hire an individual.

6.5.5 Tenure and Reappointment Policies: Faculty tenure and/or reappointment policies and procedures shall be comparable to other professional program areas in the institution. Requirements in the areas of teaching, service, and scholarly activity shall be clearly specified for faculty in Industrial Technology.

Faculty tenure and reappointment policies and procedures in the Technology Management Department are comparable to other professional program areas in the institution. Requirements for teaching, service and scholarly activity are clearly specified for all COT faculty and can be reviewed in the COT Promotion and Tenure Standards document.

6.5.6 Faculty Loads: Faculty teaching, advising, and service loads shall be comparable to the faculty in other professional program areas at the institution. Consideration shall be given in faculty teaching load assignments to high contact hours resulting from laboratory teaching assignments.

The University Handbook identifies a normal teaching load as 12 semester credit hours of course work per semester or 24 semester credit hours per academic year.

Teaching loads within the College of Technology depend on the departmental schedule requirements, the nature of the courses taught, and any non-teaching assignments. Graduate courses are weighted more heavily than undergraduate courses. A faculty member teaching a graduate course may have his/her teaching load reduced to nine credit hours.

Faculty service loads are comparable to the faculty in other professional program areas at the institution. TM faculty perform institutional, professional and community service in varying degrees. The service component is only one area upon which faculty are evaluated for reappointment, tenure and promotion. Faculty understand there needs to be a good balance between teaching, service, and scholarly activity. With each year's evaluation for reappointment, TM faculty are reminded to work toward activities in all three areas.

The advising of students is divided equally among the faculty teaching in the TM program. It is understood that advising, when done properly, takes a considerable amount of time. The routine scheduling of classes was shifted a few years ago to the Associate Dean's Office. Currently, Ms. Jo Anne Seybold is providing assistance to some of the TM students regarding routine scheduling of classes.

6.6 Students

6.6.1 Admission and Retention Standards: Admission and retention standards shall be used to ensure that students enrolled are of high quality. These standards shall compare favorably with the institutional standards. Sources of information may include admission test scores, secondary school rankings, grade point averages, course syllabi, course examinations, written assignments, and oral presentations.

Indiana State University, in affirming its commitment to excellence, recognizes the value of a student population reflecting academic achievement, cultural diversity, and special talent. The University's admissions policy allows for the individual consideration of each applicant, and helps it service a student population with these characteristics.

The primary criterion for admission is evidence that a candidate is prepared to succeed in a degree program, given the University's limited resources for special assistance.

Admission standards are stated in terms of traditional school and college grading systems. For applicants whose records include either a high proportion of non-traditional grades, or a subject pattern which departs markedly from that normally associated with university study, additional evidence of academic potential in support of their applications, such as entrance examinations, interviews, and letters of recommendation, may be requested. The admission of applicants who are older than the traditional college age will be determined individually with special attention given to employment experience and motivation.

Individuals may seek exceptions to any of the requirements by petitioning the Admissions Committee to consider additional factors that may indicate college potential. A limited number of students may be admitted on condition that they agree to follow a prescribed course of study and advisement.

6.6.2 Scholastic Success of Students: Students in Industrial Technology shall have scholastic success comparable to those in other professional curricula in the institution. Grading practices in Industrial Technology courses shall be comparable to other departments and/or programs in the institution.

Students graduating from the College of Technology, and particularly the TM Department, have scholastic success comparable to those in other curricula in the institution.

6.6.3 Placement of Graduates: The initial placement, job titles, job descriptions, and salaries of graduates shall be consistent with the program(s) goals and objectives. Industry's reaction to graduates as employees must be favorable. Follow-up studies of graduates shall be conducted every two to five years. Summary statistics relating to follow-up studies of graduates shall be made available to the visiting team. These statistics shall include placement rates as well as salary levels of program graduates.

The initial placement of graduates of the TM program have enjoyed the same favorable reception by industry as graduates of similar programs around the country.

The ultimate goal of the program is to prepare our graduates with the proper skills to be successful in their career. The TM faculty work closely with the advisory board and other technology professionals to help ensure that the TM program will prepare students to gain initial employment and then advance in their career.

6.6.4 Deleted

6.6.5 Student Evaluation of Program(s): Evaluations of the Industrial Technology program(s) shall be made by its graduates on a regular basis (two to five years). Reactions and recommendations shall be considered in program revisions.

Students in the TM program have a few opportunities to evaluate the program. Each student will have an exit interview just prior to graduation. Students also complete a senior survey with the Career Center. Every few years, survey letters are sent to alumni and employees to further evaluate programs in the TM Department.

6.6.6 Student Enrollment: Enrollment shall be adequate in each program area to operate the program(s) efficiently and effectively. The level of available financial and facility resources shall be considered as a constraint on the maximum number of qualified students to be admitted to the program(s). Enrollment trends shall be tracked, and factors affecting enrollment patterns shall be identified and analyzed. Enrollment projections shall be made which relate closely to short and long-range goals as well as financial and physical resource needs.

Enrollments (both undergraduate and graduate) in the College of Technology have remained steady since 1998. Enrollments in the TM program have been growing significantly since modifying the program and developing articulation agreements with other schools.

6.6.7 Advisory and Counseling Services: Adequate and timely advising and counseling services shall be available for students.

All students who have not declared a major area of study (non-preference students) and all non-degree students are advised in the Student Academic Services Center. The Center serves as the designated "school" of enrollment for these students until an official major has been declared.

The purposes of the Student Academic Services Center are: (1) to help freshmen adjust more easily to the academic processes of the University; (2) to assist in selecting academic majors, in choosing wisely the specific courses needed to attain these goals; (3) to coordinate the participation of faculty in the advisement of students; and (4) to function as a resource center for materials and information concerning undergraduate curricula and general education requirements.

Primarily, the Student Academic Services Center serves freshmen and sophomores. Students are provided an opportunity to discuss academic concerns in confidence with counselors, and arrangements are made for students to confer with faculty members concerning career opportunities in various academic areas.

When a student chooses a major area of study, his/her records are transferred to the chosen College and department. A faculty advisor is then assigned to the student.

Faculty Academic Advising

When the student has chosen an area of specialization, he/she is referred to a regular faculty member who serves as the academic advisor. Data including the student's personal biography, high school rank, and rating on the freshman orientation and achievement examinations are supplied to the advisor. The advisor will assist the student in planning the use of his/her time in acquiring good study methods and in referring the student to special services on campus as the need arises.

The advisor, in cooperation with various University agencies, will assist the student in scheduling his/her successive programs of study. At the first mid-semester, the end of each semester thereafter, and such other times as advising sessions are needed, the academic advisor will confer with the student regarding the progress in relationship to his/her own natural level of learning and to the academic standards of the University.

Faculty in the Department of Technology Management advise students who are enrolled in either the TM program.

Student Participation in Program Planning

Each student enrolled in the University is expected to read carefully and to understand the contents of the University Catalog that are applicable. This includes the awareness of the University general policies and regulations for academic achievement necessary for continued enrollment as well as for graduation, in addition to those regulations identified by Student Services relating to his/her social and campus conduct.

The students are also responsible for familiarizing themselves with any requirements special to the academic discipline of their choice which must be a condition of their qualifying for graduation.

Each student should assume at the earliest moment possible the initiative for preparing the semester schedule of classes. The academic advisor is available to offer suggestions and to verify the accuracy of course choices in meeting curricular patterns, but the primary responsibility for knowing the requirement of the academic program and proceeding to satisfy those requirements in an orderly and sequential manner remains with the student.

6.6.8 Ethical Practices: Ethical practices shall be fostered, including reasonable student refund policies and nondiscriminatory practices in admissions and student employment.

Indiana State University is unequivocally pledged to principles of nondiscrimination, assuming fair and equitable treatment of all persons. The University has given assurance of compliance with national, state and local civil rights legislation and enactments.

Indiana State University reaffirms its present policy of nondiscrimination and equal employment opportunity with respect to recruitment, hiring, training, promotion, and treatment of persons. The organizations, services, and programs under the legal control of the Trustees of Indiana State University shall be maintained on a nondiscriminatory basis in regard to race, sex, religion, handicap, veteran status, age, or national origin at all times.

Indiana State University will continue to take positive actions to ensure against discrimination directed to any persons. All members of the faculty and staff are expected to give full support to the University's commitment to equal opportunity and affirmative action.

The tuition refund policy and withdrawal policy can be found in the Undergraduate Catalog.

6.7 Administration

6.7.1 Program Administration: Programs in Industrial Technology are expected to have an identifiable, qualified individual with direct responsibility for program coordination and curriculum development. This individual should be a full-time employee of the institution.

The Technology Management program is lead by three professors in the Technology Management Department. The coordinator position is conferred by faculty consensus upon the faculty member best capable of providing leadership for the program. The faculty of the department have the primary authority and responsibility for curriculum development.

6.7.2 Administration Leadership: Individuals assigned to administer Industrial

Technology programs must demonstrate effective leadership and a high level of support for Industrial Technology

The Department chair serves as the head coach and cheerleader for the department. The chair is the spokesperson for the department and is the primary liaison between the department and the rest of the University community. The chair is responsible for reporting and record keeping requirements. For most activities, such as curriculum decisions, faculty evaluations, and program administration, the chair as one entity and the rest of the departmental faculty as another share equal authority. In these matters, the chair is required to seek faculty input. The chair has discretionary authority concerning only budgeting and scheduling. The Dean of the College of Technology has been very supportive of all programs housed within the College. The respect the College of Technology has achieved within the University, within the community, and within the region, in part, can be attributed to the past three Dean's.

6.7.3 Administrative Support: There must be appropriate support for Industrial Technology from the personnel holding leadership positions in the departments and colleges where Industrial Technology is administratively located.

The Chair and the Dean support the concept of shared participation which has been utilized in student recruitment, curricular matters, instructional evaluation and service and scholarly activities. Committees are utilized to develop policies the Chair may use in regard to personnel matters, budget development, supply and equipment expenditures, repairs and curriculum matters.

Both of the Deans and the TM Department Chair support the Industrial Technology programs. All of these individuals have been long-time members of ATMAE (NAIT). Most of these individuals attend the yearly ATMAE/NAIT Conference and a few are actively involved in the organization.

6.8 Facilities and Equipment

6.8.1 Adequacy of Facilities and Equipment: Physical facilities and equipment, which are suitable to serve the goals and objectives of the program(s), shall be available for each program option. Where facilities and equipment appear to be minimal to support a quality program(s), comparisons with support levels for other professional programs at the institution will be made by the visiting team.

The $18.5 million, 120,000 sq.ft. Myers Technology Center, opened in 1998, provides a 21st century learning environment.

At the present time there are four major lab areas associated with the TM program. They are (1) Machine Tool Processing Lab, (2) Manufacturing Lab, (3) Packaging Lab, and (4) SIMCO lab.

6.8.2 Support for Facilities and Equipment: Facility and equipment needs shall be reflected in the long range goals and objectives for the program(s), and option(s) and sources of potential funding shall be identified.

One of the long-range goals is to continue to update equipment and enhance laboratories in the TM program.

The TM Department receives a budget for equipment each year. These monies are then distributed to the various programs by a process whereby individual faculty submit requests to a departmental committee. The committee reviews the requests and submits a list of recommended purchases to the Department Chair for purchase. The system is deemed fair and equitable and the available monies adequate to maintain program integrity.

Additional support for the programs through donations of equipment and supplies from outside sources is constantly being sought and has been very successful.

6.8.3 Appropriateness of Equipment: Equipment shall be appropriate to reflect contemporary industry. Student use of equipment reflecting current technology practices shall be evident.

An underlying philosophy held by the faculty involved in the technology management program has been to secure equipment that is representative of that used by industry. Whenever this is not possible, table top models or units are considered for purchase. Essentially all equipment is used by the students in laboratory situations.

6.9 Computer Systems

6.9.1 Availability of Computer Systems: Appropriate and current computer systems and software shall be available to both students and faculty. These systems must cover appropriate functions and applications in each program area. These systems may be on or off-site as long as the systems are accessible to students and faculty.

Campus wide, there are several thousand computers in approximately 400 laboratory settings. The COT has hundreds of computers. One such lab, the Student Computing Center, is open 24 hours a day, has 100 computers and several laser printers available for student use, and always has a computer consultant available to help students with concerns or problems.

6.9.2 Utilization of Computer Systems: Evidence shall be available which indicates that students and faculty are making significant use of computer systems related to program curricula.

Evidence indicating that students and faculty are making adequate and appropriate use of computer systems begins with on-line registration and is evident through many class assignments and ends with the on-line designation of grades. ISU has enacted an interactive computer system called: MYISU. Students determine what classes are available, register for classes, drop and add, find out their grades, and communicate with their professors and fellow students through use of the Portal.

Faculty use computer systems for advisement by downloading Degree Audit Reports, for reporting attendance by electronically inputting absences after the sixth and tenth weeks of the semester, and for electronically reporting grades at mid-term and end of term. Faculty use the computing systems to email, make assignments, and send electronic attachments to all class members, thus eliminating the need to make hard copy and distribute during class.

6.10 Financial Resources

6.10.1 Financial Support: The budget for the Industrial Technology program(s) shall be adequate to support program objectives. When judging sufficiency, the visiting team shall make comparisons with the support levels given to other professional programs at the institution.

Each year the Department received an operating budget based on the previous year's expenditures. Over the years, the operating budget hasn't changed much until the most recent budget crises where the department lost some supply funds. Generally, if operating expenses exceed the budget, a request is made to the Dean for financial support. This rarely happens as the chair and faculty work to stay within the budget.

In addition to the operating budget, equipment budgets are also given to each department. The allocation of these equipment budgets is based on the laboratory needs of each department. Each department also receives a portion of the Distance Delivery dollars that are generated by distance courses. The TM department currently receives approximately $13,000/year that can be used to support distance financial endeavors.

Faculty salaries are determined upon initial appointment. After initial appointment salary increases are based on standard across the board raises or sometimes upon below standard increases, standard increases, or above standard increases. The level of increase which each faculty may receive is based on their level of activity in the areas of Teaching Effectiveness, Service, and Scholarly Activities.

Faculty also receive increases in base pay upon earning advanced degrees and also in the case of promotion to higher ranks.

Control of expenditures is solely within the Department. An initial allocation of operational funding is given to each program in the form of a supply and a student wages account. All equipment purchases are approved by a departmental finance committee which ranks and approves requests for capital equipment purchases.

6.10.2 External Financial Support: There shall be evidence of external support for the programs(s) in Industrial Technology. However, this external support shall be treated as supplementary support and is to be used to achieve and maintain a high level of program excellence. This external support shall not be used to displace funding support normally provided by the institution.

External financial support is regularly sought from industry partners and from individual supporters to finance activities and purchases beyond those required for normal operations.

6.11 Library Services

6.11.1 Library and Internet Resources: The administrative unit containing the Industrial Technology program(s) and/or the institutional library shall have access to technology resources, literature and reference materials adequate to meet the curriculum and research needs of students and faculty

Library resources are quite adequate. The COT has a library budget comparable to other units on campus. The library responds readily to requests for books and periodicals needed for COT programs. Adequate books, periodicals, and computer-based materials are available for reference and for circulation. A growing number of internet and CD resources and search aids are available on-line through the Cunningham Memorial website.

6.11.2 Utilization of Library and Internet Resources: Evidence shall be available which indicates that students and faculty are making adequate and appropriate use of library and reference resources.

Students are making adequate and appropriate use of the Library. Most courses include technical reports, term papers, and other class presentations where the Library houses the necessary information.

Evidence of these requirements may be found in the syllabi found in the course resource notebooks.

The faculty have identified no accurate techniques to measure the extent to which faculty are making adequate and appropriate use of library resources.

6.12 Support Personnel

Support Personnel: Personnel such as teaching assistants, student workers, office professionals, and laboratory technicians shall be adequate to support program objectives.

The following personnel provide support for the TM Program:

1. Administrative Assistant – The Department has one full-time Administrative Assistant. She must handle the work from all members of the Technology Management Department.

2. Technicians – The College of Technology has an electronics technician and a mechanical technician available to assist faculty with projects and repairs.

3. Graduate Assistants – The TM programs have seven graduate assistants presently assigned who are being utilized as teaching assistants. The Department also has one Ph.D. fellow working with the Department faculty.

4. Student Workers – Student workers provide support for all TM programs. Students are used to help organize, clean and set up the labs, and assist the Lab coordinators. Money is available in the operating budget to hire Student workers.

6.13 Placement Services

6.13.1 Placement Services: Appropriate services shall be available to assist with the placement of program graduates. Placement of graduates shall be tracked and the effectiveness of placement services shall be evaluated by the administrative unit containing the Industrial Technology program(s).

Although the Career Center helps students find suitable summer and part-time employment, the focus of its activities is on placement of seniors, graduates, and alumni. Career Center services are viewed as an integral part of the academic program of any student to fulfill the University's educational objectives.

6.13.2 Cooperative Education/Internship: If cooperative education or internship is either a required or an elective part of the program, then appropriate services shall be provided to assist with the placement and supervision of cooperative education students.

Cooperative education/Internship is required in the TM program. As stated earlier in this document, students receive credit for co-op through a course numbered TMGT 351 in their major. Some students take repeated co-op positions and can receive TMGT 351 credit for a total of six semester hours.

Employers are contacted about their possible interest in co-op through several activities. Faculty make many contacts with industry professionals and the Career Center sponsors career fairs for companies interested in co-op students.

Students are made aware of co-op opportunities through a variety of activities. Career Center personnel make presentations in many College of Technology classes. Students also attend meetings of professional organizations, and participate in many other student-centered activities including IOPP meetings, SME meetings, Women in Technology Meetings, the Career Fair, and other activities.

6.14 Industrial Advisory Committee(s)

6.14.1 Program Advisory Committee(s): An industrial advisory committee shall assist in the validation of program content. If more than one program of study or program option is available, then appropriately qualified industrial representatives shall be added to the committee or more than one committee shall be maintained. Policies shall be presented to indicate the: (a) procedures used in selecting members, (b) length of appointment, (c) organization of the committee, (d) committee responsibilities, (e) frequency of meetings, and (f) methods of conducting business.

The industry advisory committee assists the Technology Management and the Advanced Manufacturing Management programs in many ways. They help with validation of content, provide their expertise and that of the companies they represent and make suggestions that will help improve the program.

Since there are many similarities between the Technology Management program and the Advanced Manufacturing Management program, one industrial advisory committee is utilized for both programs. After the last NAIT re-accreditation in 2004 a constitution and by-laws document were created to guide the activities of the industrial advisory board. It addresses all of the items in this standard and is included here for the visiting team to review.

CHARTER CONSTITUTION AND BY-LAWS

Advisory Board for the Manufacturing Programs
at
Indiana State University

Approved: April 20, 2006
Revised June 10, 2008

Preamble

We, the members of the Advisory Board for the Manufacturing Programs at Indiana State University, do hereby adopt and establish the following Constitution and By-Laws.

Name

This organization shall be known as the Advisory Board for the Manufacturing Programs at Indiana State University (or briefly, the Advisory Board).

Purpose

The purpose of the Advisory Board shall be to advise, support, and promote the Manufacturing Programs (MP) at Indiana State University so that the student's learning experience upon graduation will more effectively support the practical development of future leaders in the manufacturing industry.

Other objectives of the Advisory Board shall be to:

- **Provide regular critiques of the Program's curriculum.**
- **Suggest course offerings that would benefit MP students.**
- **Provide strategic planning assistance to help meet future needs of graduates and the manufacturing industry.**
- **Provide input to the MP graduate programs.**
- **Assist in the establishment of MP certificate programs.**
- **Assist in providing cooperative education/internship experiences for students, placement of MP graduates, and professional development for faculty.**
- **Support fund-raising.**

Membership

The number of Advisory Board members will be a minimum of eight (8) and a maximum of twenty (20) plus ex officio (nonvoting) members:

- **Dean of the College of Technology.**
- **Chair of the Department of Technology Management (TM).**
- **Manufacturing Programs (MP) faculty.**

Procedures used in selecting members:

- **Advisory Board members shall be selected from professions and trades related to the manufacturing industry.**
- **The Advisory Board members shall be nominated by the MP faculty to the Chair of the TM Department. The Chair shall schedule a meeting of the MP faculty to make a final decision.**
- **Each appointment to the Advisory Board shall be for three (3) years, except when the appointment is to fill an unexpired term.**
- **Approximately two-thirds of the members will be retained each year with none serving more than three (3) successive years, unless reappointed by the Manufacturing Programs faculty.**
- **The term of a new Board member shall begin on January 1.**

Any member may resign his or her membership in the Advisory Board by submitting a signed resignation to the chairperson of the TM Department.

Any member missing two consecutive meetings without due cause shall be considered uninterested and eliminated from membership.

Board Policies

The Advisory Board for the Manufacturing Programs is based upon the principles of equality of all its members regardless of sex, race, creed, or color.

All members shall strive to fulfill in good faith the objectives of the Advisory Board and the obligations assumed by them in accordance with this constitution.

Finances

The necessary expenses of this organization shall be paid from the operating expenses of the TM Department.

No dues shall be required of any Advisory Board members.

Amendments

Amendments to the Constitution or By-Laws shall be ratified by three-fourths affirmative vote of the active members.

BY-LAWS

Officers

The Advisory Board shall have two officers—President and President-Elect. The Chair of the TM Department shall serve in an advisory role with duties listed below. Elections will be held once a year during the spring meeting. Nominations can be taken from the floor. Officers shall serve for a term of one (1) year.

The duties of the President shall be as follows:

Provide a focus for the membership and preside at each meeting.

Coordinate all administrative responsibilities of the Advisory Board.

Schedule meetings.

Prepare agendas.

The President-Elect shall assist the President as necessary and prepare to serve as the next President.

The Chair of the TM Department shall assist the President as follows:

Serve as the liaison between the Advisory Board and the Manufacturing Programs faculty.

Write and distribute meeting minutes.

Prepare, update, and distribute a Board directory.

Coordinate meetings and prepare agendas.

Assist in the selection of new members.

Board Committees

The President shall appoint committees as deemed necessary.

Board Meetings

The Advisory Board shall meet at least once a year.

Special meetings of the Board may be called by the President as deemed necessary.

A quorum shall consist of one half of the active members of the Board. If there shall be less than a quorum present, those present may either adjourn or act on the matters before it, subject to ratification at the next meeting which constitutes a quorum.

(End of Document)

6.14.2 Advisory Committee Meetings: The Industrial advisory committee(s) shall meet at least once each year, and minutes shall be kept of these meetings showing agenda items, actions taken, and recommendations made.

The IAC has been very helpful in making suggestions that have benefited the Manufacturing programs.

Following are two examples of minutes from IAC meetings. Some of the recommendations made and actions taken are evidenced in the minutes.

Technology Management Department
Advanced Manufacturing Management program (BS)
Technology Management (BS)
Industrial Technology Program (MS)
Minutes of Advisory Board Meeting
March 27, 2008

ATTENDEES:

Bob Brown	Tri Aerospace	Gordon Minty	ISU
John DiCenso	Raybestos Power Train	Wes Richardson	Quality Council/IN
Beth Fauber	ISU	Jim Smallwood	ISU
Tad Foster	ISU	Mark Deady	Aisin Brake
David Lynch	PDF Controls	Marvin Miller	Unison Engine
Jeff McNabb	ISU	Mike Johnson	Novelis

I. Welcome and Introductions

II. Agenda Additions

III. Approval of Minutes (April 12, 2007) – Approved as submitted.

IV. Dean's Report, Dr. W. Tad Foster – Dean Foster spoke to the following issues:
1. Project with Landstone (Compression and Absorption)
2. COT Reorganization
3. Enrollments (undergrad and grad)
4. Project Lead the Way

V. Verify Address, Phone, E-Mail

VI. Discussion Items (New Business)

A. General Announcements
1. Ivy Tech – Articulation agreements will be updated and signed in April.
2. Meeting canceled last fall due to so many conflicts.
3. How you have helped the ISU faculty and programs.

B. Election of President & President-Elect – Elected for the 2008-2009 year were: President – Wes Richardson; President-Elect – John DiCenso.

C. COT Reorganization – J. Smallwood just added to what the Dean spoke about the reorganization by relating how the changes would affect the Board.

D. TM Dept. Programs – J. Smallwood distributed information about all programs in the new TM department.

E. Curriculum Update – B. Fauber and G. Minty discussed the changes that were made to the manufacturing programs. Information was shared (checksheets, suggested 4 yr. course sequence, etc..)

F. NAIT Reaccreditation – Wes Richardson requested this be added to the agenda. There was discussion about the next team visit and what we needed to do now to get prepared.

G. Action Items from last meeting:
1) Bob Brown gave the WVAMC video to Sajid but somehow it didn't get to J. Smallwood. We will follow up to see what happened.
2) There was some discussion on how to market manufacturing programs through the WVAMC and WIB. More discussion on this topic at a future meeting.

H. Actions Items for Next Meeting (Fall 2008):

1) **Send** constitution and by-laws to Mark Deady.
Person in Charge: Jim Smallwood
2) **Send** an updated list of the activities to the advisory board.
Person in Charge: Jim Smallwood
3) **Contact** Archie Kappel and Jim Kern to see if they want to continue on the advisory board**. Person in Charge**: Jim Smallwood
4) **Update** the Constitution and By-Laws to reflect the new TM department**.**
Person in Charge: Jim Smallwood.

Meeting adjourned.

Technology Management Department
Advanced Manufacturing Management program (BS)
Technology Management (BS)
Industrial Technology Program (MS)
Minutes of Advisory Board Meeting
October 30, 2008

ATTENDEES:

Bob Brown Tri Aerospace
John DiCenso RayBestos PowerTrain
Beth Fauber ISU
Ann Case Tredegar
Mike Hayden ISU
Gordon Minty ISU
Wes Richardson Quality Council/IN
Jim Smallwood ISU
Jeff McNabb ISU

I. Welcome and Introductions

II. Agenda Additions

III. Approval of Minutes (March 27, 2008) – Approved as submitted.

IV. Dean's Report, Dr. Jeff McNabb – Dr. McNabb spoke to the following issues:
1. Enrollment and Retention
2. Searches in the COT
3. NAIT
4. Project Lead the Way
5. Capital Campaign
6. Tech Trek

V. Verify Address, Phone, E-Mail

VI. Discussion Items (New Business)
A. General Announcements
1. Action Items completed from last spring.
2. Dean's Search committee is being assembled.
3. Dr. Smallwood will be on Sabbatical Leave in the spring.
4. New faculty in TMGT dept.

B. NAIT re-accreditation – The NAIT visiting team will come in Spring, 2010 to review programs for re-accreditation. There was discussion on what needs to be done to get prepared for their visit.

C. Student Learning Outcomes – There was discussion on the Student Learning Outcomes for the Advanced Manufacturing Mgt. program. The advisory board provided some input and is being asked to provide additional feedback to Professor Fauber.

D. Mission and Vision – The TM dept. is currently working on the mission and vision statements for the new department. The advisory board provided some input.

E. Strategic Planning - Strategic planning is underway for the manufacturing related programs. The advisory board is being asked to provide input.

F. Action Items from last meeting: Dr. Smallwood completed the four action items from the spring advisory board meeting.

G. Actions Items for Next Meeting (Spring, 2009):

1) Provide input to Professor Fauber on a) Mission and Vision, b) Student Learning Outcomes for the AMM program, c) Strategic Plan.
Person in Charge: All Advisory Board Members and ISU faculty.

Meeting adjourned.

6.15 Educational Innovation

Educational Innovation: There shall be evidence that program objectives are based upon long-range planning related to the industries being served. Program content must be current in both content and delivery of instruction.

Input is gathered from the Industrial Advisory Council and other industry professionals through professional association meetings, internships, field-trips, projects and many other techniques. Through all of these efforts the faculty have a good understanding of current manufacturing practices, both technical and management. The program objectives in the TM program are constantly reviewed for relevance. As you will see in standard 6.16 the faculty have established an assessment plan for the program that will review all of the outcomes/student competencies twice over a six year period. This long range plan will allow us the opportunity to confirm what we do in the TM program or to make decisions about curricular changes where necessary.

Teaching methods are changing as faculty identify and develop the best method to use in meeting objectives of each course. Several Department members have completed Distance Delivery training and are transforming classes to be offered via distance education methodologies or improving classes which are currently offered through distance measures. Several faculty use the course management software Blackboard to supplement their on-campus courses. Some faculty use a combination of delivery which includes in-class and synchronous distance education by using the Eluminate and Tegrity software. This is something new for us since ISU is slowly getting away from the old IHETS system. Several faculty in the department have attended training sessions on both of these software and delivery techniques. The TM faculty have made a good effort to stay current in learning the different options available for delivery of instruction.

Results of these innovations and new technologies are disseminated in published papers and conference presentations.

6.16 Assessment

Assessment Plan and Integration: An assessment plan shall be comprised of, but not limited to, the following for each program: (1) program mission statement, (2) program outcomes/student competencies, (3) evidence that the program incorporates these outcomes/student competencies, (4) assessment measures used to evaluate student mastery of the student competencies stated, (5) compilation of the results of the assessment measures, and (6) evidence that these results are used to improve the program.

(1) Program Mission Statement

The Technology Management degree program at Indiana State University strives to provide graduates who are both knowledgeable and experienced in the processes and technologies of current industry operations and the management of the technology workforce. Teaching is integrated with experiential learning in a challenging environment to prepare technology management professionals for Indiana and the world.

(2) Program Outcomes/student competencies

Program Outcome # 1: The student will demonstrate mastery of the knowledge and tools of the technology management profession.

Program Outcome # 2: The student will be able to apply technical knowledge in conducting experiments to solve problems.

Program Outcome # 3: The student will use creativity in designs and applications for experiments to resolve problems.

Program Outcome # 4: The student will function in teams to solve problems.

Program Outcome # 5: The student will present research findings in oral and written form.

(3) Evidence that the program incorporates these outcomes/student competencies

COURSE #	A demonstrate mastery of the knowledge and tools of the technology management profession	B apply technical knowledge in conducting experiments to solve problems	C use creativity in designs and applications for experiments to resolve problems	D function in teams to solve problems	E present research findings in oral and written form
TMGT 131	Introduced			I	I
MET 103	Practiced	I	I		
ECT 160	I	I			
MFG 370	P	P	P		P
MFG 371	P	P	P		P

TMGT 351	Reinforced	R	R	R	R
TMGT 471	P	R	R	R	R
TMGT 473	R	R	P		R
TMGT 478	R	R	R	R	R
TMGT 492		R	R	P	R
TMGT 497			R	R	R
HLTH 318				I	

(4) assessment measures used to evaluate student mastery of the student competencies stated

Stakeholder Involvement

Stakeholders: (Rating – 2 beginning stage of implementation)

1. Students
2. Graduates
3. Employers
4. Other professionals

Primary Stakeholders are involved in identifying/affirming program educational objectives: (Rating – 2 beginning stage of implementation)

1. Students fill out SIRs for each course
2. Graduates are surveyed
3. Employers are represented through the Advisory Board and internship evaluations
4. Other professionals are represented in the ATMAE accreditation

Primary Stakeholders are involved in periodic evaluation of educational objectives: (Rating – 2 beginning stage of implementation)

1. Students fill out SIRs for each course
2. Graduates are surveyed periodically
3. Employers are represented through the Advisory Board and internship evaluations
4. Other professionals are represented in the ATMAE accreditation

Sustained partnerships with stakeholders are developed: (Rating – 5 implemented, evaluated and at least one cycle of improvement)

1. The Technology Management program has utilized the department advisory board, but is in the process of developing a programmatic advisory board.
2. The Technology Management program through its predecessor program (Industrial Technology) has been accredited by ATMAE/NAIT for at least 5 years

.

(5) compilation of the results of the assessment measures

Student Learning Outcomes

Student learning outcomes are identified: (Rating 3 – In place and implemented)

1. Master knowledge and tools of the technology management profession
2. Apply technical knowledge in conducting experiments to solve problems

3. Use creativity in designs and applications for experiments to resolve problems
4. Function in teams to solve problems
5. Present research findings in oral and written form

Number of outcomes manageable: (Rating 3 – In place and implemented)
Five outcomes is a very reasonable and manageable number.

Outcomes are publicly documented: (Rating 2 – Beginning stage of implementation)
These outcomes will be included in future documentation.

Outcomes are linked to educational objectives: (Rating 3 – In place and implemented)
These outcomes were written to fit well with the educational objectives of this program.

Outcomes are defined by a manageable number of measurable performance indicators (performance criteria): (Rating 2 – Beginning stage of implementation) Measureable performance indicators are being refined.

Measurable Performance Criteria

Student learning outcome 1:
Master knowledge and tools of Technology Management profession
1. Student can pass standard exit exam
2. Student can manage a given technological system

Student learning outcome 2:
Apply technical knowledge in conducting experiments to solve problems
1. Scientific method and standard test procedures are used
2. Test plan correct for the situation

Student learning outcome 3:
Use creativity in designs and applications for experiments to resolve problems
1. New ideas are developed
2. Concepts are evaluated

Student learning outcome 4:
Function effectively in teams to solve problems
1. Team produces quality results
2. Team members favorable in evaluation

Student learning outcome 5:
Present research findings in oral and written form
1. Oral skills are clear and effective
2. Written skills are clear and effective

Student Learning Outcomes Aligned With Educational Practices

Desired outcomes are mapped to curricular practices and/or strategic (e.g., courses/teaching methodology, internship): (Rating 2 – Beginning stage of implementation)

Practices/strategies are systematically evaluated using outcomes assessment data: (Rating 1 – Beginning stage of development) The data are not yet available

Where necessary, educational practices are modified based on evaluation of assessment data: (Rating 1 – Beginning stage of development) The data are not yet available

Assessment Processes

Assessment is on-going and systematic at the program level: (Rating 2 – Beginning stage of implementation) The data are not yet available

Multiple methods are used to measure each outcome: (Rating 2 – Beginning stage of implementation)
Multiple methods are in use

Both direct and indirect measures of student learning are used to measure outcomes: (Rating 2 – Beginning stage of implementation) Both direct and indirect measures are being used

Assessment processes are reviewed for effectiveness and efficiency: (Rating 2 – Beginning stage of implementation) The data are not yet available for review

When needed, assessment methods are modified based on evaluation processes: (Rating 2 – Beginning stage of implementation) Assessment methods will be modified as evaluation indicates it is necessary

Evaluation

Assessment data are systematically reviewed: (Rating 2 – Beginning stage of implementation) Assessment data are not yet complete

Evaluation of results is done by those who can effect change: (Rating 2 – Beginning stage of implementation) Evaluation of results is done by program leaders

Evaluation of assessment data is linked to curricular practices/strategies: (Rating 2 – Beginning stage of implementation)

Evaluation leads to decision making/action: (Rating 2 – Beginning stage of implementation)

(6) evidence that these results are used to improve the program.

BS in Technology Management

Matrix of Program Outcomes and Assessment Methods				
	Exam[i]	Follow-up Survey[ii]	Survey of Graduating Seniors	Portfolio[iii]
#1 Perform a variety of technical activities the student is likely to manage.		X	X	X[iv]
#2 Communicate effectively in the production/engineering/management environment.		X	X	X[v]
#3 Solve technical problems or control the environment.	X	X	X	X[4]
#4 Make technology related decisions.	X	X	X	X[4]
#5 Allocate resources effectively.	X	X	X	
#6 Operate well in team environments, whether as		X	X	X[4]

leader or team member.				
#7 Operate well in an unsupervised environment.		X	X	X[4]
#8 Integrate ethics in all dealings.		X	X	

[i] Professional exam to be taken in senior year. The intention is to use the or the ATMAE exam or another appropriate professional exam.

[ii] Follow-up survey of alums and their supervisors. The intent is to do this no later than every 5 years (the period specified by most accrediting associations). Currently, the program is accredited by ATMAE, which requires outcomes assessment.

[iii] The intent is to keep a range of student's graded work (a) of a written report required in the production planning course and (b) of experiential laboratory assignments (when the student is not a transfer student).

[iv] This will be evidenced by the student having completed an internship in a packaging environment.

[v] TMGT 471 Production Planning and Control.

Bachelor of Science Degree in

Safety Management

Self Study for Reaccreditation With

The Association for Technology Management and Applied Engineering (ATMAE)

February 25, 2010

This document is prepared using the new Outcomes Model for accreditation.

7.1 Program Title, Mission, and General Outcomes: The program/option title, definition and mission shall be compatible with the ATMAE definition of Industrial Technology.

Program Title

The baccalaureate program title is Safety Management.

Mission: The department, college, and institution missions shall be compatible with the approved definition of Industrial Technology.

College of Nursing, Health, and Human Services Mission Statement

> The College is dedicated to fostering student excellence and developing productive citizens who function as skilled professionals. Further, we champion teaching, research, creative activities, community involvement through health initiatives, and life-long learning.

College of Nursing, Health, and Human Services Vision

> The College will be recognized as a leader in providing qualified health and human service professionals who serve diverse populations through education, scholarship, innovation, service, and community engagement.

Department of Health, Safety, and Environmental Health Sciences Mission

> The mission of Department of Health, Safety, and Environmental Health Sciences is to advance understanding about human health and well being through research, instruction and service.
>
> The central concerns of Department faculty and students are to prevent unhealthy and dangerous conditions from harming people, correct these situations where they exist, and to help people adopt healthy behaviors.
>
> Our over-reaching goals are to prevent premature death and disability and promote productive, high-quality lives.

Safety Management Mission

The mission of the Safety Management Bachelor of Science program is to provide students with technical skills necessary for careers as safety professionals in industries including construction, manufacturing, transportation, mining, and regulation.

The mission of the Occupational Safety Management Master of Science program is to provide safety professionals with an avenue to broaden their skills into managerial positions within the Environmental Health and Safety field through distance education.

Safety Management Vision

The Safety Management Bachelor of Science program will be recognized as a national leader in the preparation of students as safety professionals in industries including construction, manufacturing, transportation, and regulation.

The Occupational Safety Management Master of Science program will provide opportunities for safety professionals to pursue an advanced degree through a nationally accredited program.

General Outcomes

General outcomes shall be established for each program/option that provide a framework for the development of specific measurable competencies. Validation of the general outcomes shall be accomplished through a combination of external experts, an industrial advisory committee, and, after the program is in operation, follow-up studies of graduates.

Indiana state University's office of Curriculum, Instruction, Research, and Teaching (CIRT) began offering workshops in the Fall 2007 semester to faculty for the purpose of initiating outcomes based evaluations. Drs. Campbell and Bermudez participated in these workshops and developed a list of stated outcomes for the program. That list of outcomes was reviewed by the program faculty and minor modifications were made, including adding one additional outcome for the Masters program. The Safety Management advisory committee was presented with the list of outcomes prior to their meeting held during the Spring 2008 semester. The committee members present voted unanimously to approve the outcomes. (See attached minutes of advisory committee meetings.)

7.2 Competency Identification and Validation

Measurable competencies shall be identified and validated for each program/option. These competencies must closely relate to the general outcomes established for the program/option and validation shall be accomplished through a combination of external experts, an industrial advisory committee and, after the program is in operation, follow-up studies of program graduates.

The best tool for evaluating the success of our program is to track success of graduates who attempt the widely accepted certification of the Board of Certified Safety Professionals. Certification requires passing a series of two examinations, the Safety Fundamentals Exam and the Comprehensive Practice Exam. Both of these exams cover four established domains:

Domain 1—Safety, Health and Environmental Management

Domain 2—Safety, Health and Environmental Engineering

Domain 3—Safety, Health and Environmental Information Management and Communications

Domain 4—Professional Conduct and Ethics

According to the BCSP Examination Guide,

> "BCSP performs periodic validation studies to determine the domains, responsibilities, knowledge, and skills exhibited by safety professionals. Surveys ask practitioners to rate domains and responsibilities for importance, time spent on them in practice, and the criticality should someone fail to know them. Analyses of survey results form the primary basis for deciding on distributions of subjects on examinations. Because surveys are conducted periodically to revalidate knowledge used in practice, the distributions on the Safety Fundamentals Examination will change from time to time."

Outcomes established for the Safety Management program, and the BCSP domains to which they closely relate, are listed below.

1. Identify, describe, and classify common hazards (workplace and general) --*Domain 1*
2. Assess and explain risk and the different perception of risk by individuals and segments of the population—*Domains 1,3,4*
3. Prepare safety and health education and training materials—*Domain 3*
4. Determine the proper method of managing workforce acceptance of safety procedures, training, and engineering—*Domain 1,2*
5. Select the proper collection, reporting, and summarization methods for incident reporting—*Domain 1*
6. Prioritize and recommend the proper action level (design, safety device, warning device, training, or PPE) and control technique for loss exposure (engineering control, administrative control, or PPE) to prevent injuries and property losses—*Domain 1,2*
7. Gain the necessary quantitative and analytical skills to manage a safety department regarding the economical, financial and decision making aspects of safety management.—*Domain 1,2,3,4*
8. (Masters only) Demonstrate adherence to professional and ethical standards, and become an advocate for positive change in the Safety Profession through development of standards, increasing knowledge base and participating in the appropriate professional activities.—*Domain 3,4*

Certification exam results from BCSP are detailed in Section 7.17 of this document. The identified safety management program outcomes have been developed by the faculty with assistance from and approval by the Safety Management Advisory committee.

7.4 Identification of Competency Measures

Assessment measures shall exist for each of the measurable competencies identified for the program/option.

Electronic copy of these documents are available as well as hard copy located in the appendices to this document.

7.5 Program Structure and Course Sequencing

The Indiana State University general studies requirements are excerpted from the 2009-2010 university undergraduate catalog. Students majoring in Safety Management meet the Quantitative Literacy requirement and exceed the Scientific and Mathematical Studies requirement just by fulfilling the course requirements for their major. A minimum of 124 credits is required for graduation. This sections includes the university general education requirements, Table 7.1—Program of Study, Safety Management Curriculum sheet (Table 7-2), and 4-year plans of study for students with a Safety Management major only, Safety Management major with Construction minor, Safety Management major with Insurance minor, and Safety Management major with Environmental Health minor (Tables 7-3a-d).

University General Education Program

Through its Basic Studies and Liberal Studies requirements, the General Education Program prepares students to become active professionals and productive citizens. The Basic Studies requirements promote refinement of communication, quantitative literacy, and information technology skills; encourage the study of a foreign language; and advocate physical fitness for life. The Liberal Studies requirements encourage students to understand the value of a traditional university education in the arts, humanities, and sciences and to explore the relation of a liberal education to any major course of study. All approved Liberal Studies courses promote the four common goals of the General Education Program:

1. **Critical Thinking:** To develop students' capacities for independent thinking, critical analysis, and reasoned inquiry.
2. **Communication Skills:** To enhance students' writing, speaking, reading, and listening abilities.
3. **Issues of Value and Belief:** To enhance students' capacities for making informed and reasonable choices.
4. **Lifelong Learning:** To help students develop the knowledge and intellectual skills that encourage participatory citizenship, acknowledge the value of learning, and facilitate adaptation to change.

The six Basic Studies areas of the General Education Program prepare students to succeed in their majors and in their professional and personal lives by emphasizing writing; speaking; quantitative and computer skills; broadening perspectives through the study of a foreign language; and promoting fitness through a physical education requirement. Required courses in Basic Studies, like those in the Liberal Studies core areas, enhance the critical thinking and broad communication skills that predict success in academic work and develop professional flexibility, preparing ISU graduates for a competitive professional job market or advanced graduate work. Requirements in each of the Basic Studies areas follow.

Quantitative Literacy Requirement. Students may satisfy the Quantitative Literacy requirement by obtaining a passing score on the Quantitative Literacy Exemption Test or by earning a passing grade in one of the following courses: Mathematics 102, 115, or a higher-numbered mathematics course (except Mathematics 205 or 305), or a college level statistics course. A college level statistics course is defined as a course that includes as a prerequisite either Mathematics 111 (or a higher level/higher numbered mathematics course) or a placement examination result indicating an equivalent background in mathematics. As of the current date, statistics courses that meet the Quantitative Literacy requirement are: Business 205, Economics 370, Biology 485, and Mathematics 241. Any other statistics course satisfies this requirement if it requires one of the preceding statistics courses or Mathematics 111 (or higher) as a prerequisite ***and*** *the department provides a course syllabus and official documentation of the change to the General Education Office*. In addition, college algebra courses that transfer to ISU as Mathematics 018 will satisfy the Quantitative Literacy requirement. This revision of the Quantitative Literacy requirement is effective immediately. For more information, see the Quantitative Literacy section of the General Education Web site, http://www.indstate.edu/gened.

Foreign Languages. Students must complete 101 and 102, in a single language of their choice, unless they have completed the equivalent of two years (four semesters) of a single language at the high school level with an average grade of C or better. International students whose first language is not English are exempt from this requirement. Students entering ISU with an associate's degree or higher degree from an institution other than ISU may be exempted from this requirement by the recommendation of the program in which they enroll at ISU.

Students who are not exempt from the requirement are advised for placement into the appropriate language class (101 or 102) according to their record of high school language study.

Students who have already satisfied the language requirement are eligible to earn free credit by examination for language completed in high school if they take the Foreign Language Placement Examination administered by the Department of Languages, Literatures, and Linguistics and complete a language class offered by that department. Contact the Department of Languages, Literatures, and Linguistics for details.

Information Technology Literacy for Students Entering Summer 2003 or Later.
Information technology literacy is expected to be demonstrated by all students within the first

32 hours of course work at ISU by obtaining a passing score on the Information Technology Literacy Exemption Test (offered by the University Testing Office, 237-7666), completing a major for which the requirement is met through course work required for the major program, or successfully completing one of the following approved information technology literacy courses:

Physical Education 101 and 101L are required of all students. Majors in elementary education take Physical Education 348, while majors in kindergarten-primary education and early childhood education take Physical Education 463 to satisfy this requirement.

Course work in the five Liberal Studies core areas emphasizes intellectual development, career preparation, and lifelong learning by further empowering students to make critical judgments within specialized areas of knowledge while promoting engagement with scientific reasoning, development of historical perspective, appreciation of philosophical and aesthetic traditions, and sensitivity to cultural diversity both globally and within the United States. The General Education Capstone requirement functions to connect these general education goals to students' majors, acknowledging that the values central to a general and liberal education are also essential to students' professional growth and career goals.

Multicultural Studies: One U.S. Diversity Course (MCS: USD) and One International Cultures Course (MCS: IC). United States diversity and international cultures courses expose students to cultural diversity and sensitize them to complex power relations among cultural groups, especially those relations that result in prejudice, discrimination, and oppression. These courses also develop students' awareness of the aspirations of traditionally underrepresented groups who seek to redefine contemporary social and political realities. The study of cultures, one's own and others, helps students to reflect upon and critically evaluate their own cultural backgrounds.

General Education Capstone Requirement for Students Entering Summer 2003 or Later: One Approved General Education Capstone Course (CAP) in Liberal Studies or the Major. The capstone course brings coherence to the liberal studies experience by asking students to reflect on their liberal studies course work, guiding them to synthesize the seemingly disparate liberal studies core areas into a more cohesive whole, and encouraging them to relate their liberal studies experiences to their work in their major and to their personal and professional goals. Before enrolling in a General Education Capstone course, students must have earned 78 hours of college credit and completed seven of the nine required Liberal Studies core area requirements. All approved General Education Capstone courses are either open to majors or open only to students earning a major or minor in the discipline offering the course. Students should consult their advisors to determine whether they are required by their major or minor to enroll in a particular General Education Capstone course.

Students who entered Indiana State University prior to summer 2003 may enroll in approved General Education Capstone courses and receive Liberal Studies Elective credit in Scientific and Mathematical Studies, Social and Behavioral Studies, or Literary, Artistic, and Philosophical Studies if they have:

1. Completed seven of the nine Liberal Studies core area requirements,
2. Earned at least 78 hours of college credit, and
3. Submitted and received approval of an appropriate petition.

7.5.2 Safety Management B.S. Program Requirements

Table 7.1 – Program of Study for Safety Management B.S.

General Education

Eng 101—Freshmen Writing I	3 cr.
Eng 105—Freshmen Writing II	3 cr.
Eng 305—Advanced Expository Writing	3 cr.
Comm 101—Introduction to Speech Communication	3 cr.
PE 101/101L---Fitness for Life (plus lab)	2 cr.
Social and Behavioral Studies	6 cr.
Literary, Artistic, and Philosophical Studies	6 cr.
Historical Studies	3 cr.
TOTAL GENERAL EDUCATION	**29 cr. (minimum)**

Mathematics

Math 115—College Algebra and Trigonometry*	3 cr.
HLTH 340—Health Biostatistics	3 cr.
TOTAL MATHEMATICS	**6 cr. (minimum)**

*Student may substitute MATH 111 (Intermediate Algebra—3 cr.) and MATH 112 (Trigonometry—2 cr.) for MATH 115

Physical Sciences

CHEM 103—Elementary Chemistry	3 cr.
CHEM 103L—Elementary Chemistry Lab	1 cr.
CHEM 104—Elementary Organic and Biochemistry	3 cr.
CHEM 104L—Elem. Organic and Biochemistry Lab	1 cr.
PHYS 105—General Physics I	3 cr.
PHYS 105L—General Physics I Lab	1 cr.
TOTAL PHYSICAL SCIENCES	**12 cr. (minimum)**

Management

HLTH 212—Intro to Industrial Health & Safety Mgmt.	3 cr.
HLTH 416—Admin. of Industrial Health/Safety programs	3 cr.
MGT 301—Survey of Management	3 cr.
TMGT 492—Industrial Supervision	3 cr.
<OR>	
MGT 400—Survey of Human Resource Management	3 cr.
TOTAL MANAGEMENT	**12 cr. (minimum)**

Technical

HLTH 314—Industrial Health and Safety Legislation	3 cr.
HLTH 315—Industrial Hygiene I	3 cr.
HLTH 315L—Industrial Hygiene I Lab	2 cr.
HLTH 318—Industrial Accident Prevention I	3 cr.
HLTH 319—Industrial Accident Prevention II	3 cr.

HLTH 328—Fire Protection Systems/Techniques	3 cr.
HLTH 335—Industrial Hygiene II	3 cr.
HLTH 335L—Industrial Hygiene II Lab	2 cr.
HLTH 411—Analysis Techniques in Ind. Health & Safety	3 cr.
HLTH 423—Current Issues/Training Concepts in Industrial Health and Safety	3 cr.
HLTH 429—Hazardous Substances and Waste Materials	3 cr.
HLTH 460—Human Factors/Ergonomics	3 cr.
TOTAL TECHNICAL	**34 cr.**

Electives

TOTAL ELECTIVES	**31 cr. (maximum)**
TOTAL GRADUATION CREDITS	**124 cr. (minimum)**

TABLE 7-2. Safety Management Curriculum Sheet

COLLEGE OF NURSING, HEALTH AND HUMAN SERVICES
DEPARTMENT OF HEALTH, SAFETY, AND ENVIRONMENTAL HEALTH SCIENCES

SAFETY MANAGEMENT MAJOR (68 credit hours) Curriculum Sheet

NAME ________________ **STUDENT ID #** ____________________

FOUNDATION COURSES (15 credit hours)					
Course	**Number**	**Hours**	**Course Title**	**Semester Completed**	**Grade**
CHEM	103	3	Elementary Chemistry		
CHEM	103L	1	Elementary Chemistry Lab		
CHEM	104	3	Elementary Organic & Biochemistry		
CHEM	104L	1	Elementary Organic & Biochemistry Lab		
PHYS	105	3	General Physics I		
PHYS	105L	1	General Physics I Lab		
MATH	115	3	College Algebra & Trigonometry		

BASIC FOUNDATION COURSES (6 credit hours)					
MGT	301	3	Survey of Management		
MGT or MCT	400 492	3	Survey of Human Resource Management Industrial Supervision		

REQUIRED COURSES IN HEALTH, SAFETY, & ENVIRONMENTAL HEALTH SCIENCES (47 HOURS)					
HLTH	212	3	Introduction to Industrial Health & Safety		
HLTH	314	3	Industrial Health & Safety Legislation		
HLTH	315	3	Industrial Hygiene I		
HLTH	315L	2	Industrial Hygiene I Lab		
HLTH	318	3	Industrial Accident Prevention I		
HLTH	319	3	Industrial Accident Prevention II		
HLTH	328	3	Fire Protection Systems/Techniques		
HLTH	335	3	Industrial Hygiene II		
HLTH	335L	2	Industrial Hygiene II Lab		
HLTH	340	3	Health Biostatistics		
HLTH	411	3	Analysis Techniques in Industrial Health & Safety		
HLTH	416	3	Administration of Industrial Health & Safety Programs		
HLTH	423	3	Current Issues & Training Concepts in Industrial Health & Safety		
HLTH	429	3	Hazardous Substances & Waste Materials		
HLTH	460	3	Human Factors/Ergonomics		
HLTH	492	4	Professional Field Practice Internship in Safety Management		
Total Major Hours		**68**			

TABLE 7-3a. 4-Year Plan of Study for Safety Management major

Year	Course Number		Fall Semester	Credit Hr.		
Freshman	ENG	101	Freshman Writing I	3		
	COM M	101	Introduction to Speech Communication	3		
	MATH	115 or 111/112	College Algebra and Trigonometry	3		
	HLTH	111	Personal Health and Wellness	3		
	PE	101	Fitness for Life	2	**Term Total**	**17**
			Information Technology Literacy	3	**Cumulative Total**	**17**
	Course Number		**Spring Semester**	**Credit Hr.**		
	ENG	105	Freshman Writing II	3		
	HLTH	427	Applied Physics	3		
	HLTH	427L	Applied Physics Lab	1		
			History	3		
			Social/Behavior	3	**Total**	**16**
			Elective	3	**Cumulative Total**	**33**
Saphamore	**Course Number**		**Fall Semester**	**Credit Hr.**		
	HLTH	212	Introduction to Industrial health and Safety	3		
	CHEM	103	Elementary Chemistry	3		
	CHEM	103L	Elementary Chemistry Lab	1		
			Multicultural	3		
			LAPS	3	**Total**	**16**
			Elective	3	**Cumulative Total**	**49**
	Course Number		**Spring Semester**	**Credit Hr.**		
	HLTH	314	Industrial Health Safety Legislation	3		

	Course Number		Course	Credit Hr.		
	CHEM	104	Elementary Organic and Biochemistry	3		
	CHEM	104L	Elementary Organic and Biochemistry Lab	1		
			Multicultural	3		
			LAPS	3	**Total**	**13**
					Cumulative Total	**62**
Junior	**Course Number**		**Fall Semester**	**Credit Hr.**		
	HLTH	318	Industrial Accident Prevention I	3		
	HLTH	315	Industrial Hygiene I	3		
	HLTH	315L	Industrial Hygiene I Lab	2		
	ENG	305T	Technical Writing	3		
	MGT	301	Survey of Management	3	**Total**	**17**
	HLTH	340	Health Biostatistics	3	**Cumulative Total**	**79**
	Course Number		**Spring Semester**	**Credit Hr.**		
	HLTH	319	Industrial Accident Prevention II	3		
	HLTH	335	Industrial Hygiene II	3		
	HLTH	335L	Industrial Hygiene II Lab	2		
	HLTH	328	Fire Protection Systems/techniques	3		
			Elective	3	**Total**	**14**
					Cumulative Total	**93**
Senior	**Course Number**		**Fall Semester**	**Credit Hr.**		
	HLTH	429	Hazardous Substances and Waste Materials	3		
	TMGT	492	Industrial Supervision	3		
	HLTH	460	Human Factors/Ergonomics	3		
	HLTH	470 or 423	Current Issues and Training Concepts in Industrial Health and Safety	3		
			General Education Capstone	3	**Total**	**15**
					Cumulative Total	**108**

Course Number		Spring Semester	Credit Hr.		
HLTH	411	Analysis Techniques in Industrial Health and Safety	3		
HLTH	416 or 417	Administration of Industrial Health and Safety Programs	3		
		Elective	3		
		Elective	3		
				Total	**12**
				Cumulative Total	**120**

Course Number		Summer Semester	Credit Hr.		
HLTH	492	Internship	4	**Total**	**4**
				Cumulative Total	**124**

TABLE 7-3b. 4-Year Plan of Study for Safety Management major with Construction minor

	Course Number		Fall Semester	Credit Hr.		
Freshman	ENG	101	Freshman Writing I	3		
	MATH	115 or 111/112	College Algebra and Trigonometry	3		
	HLTH	111	Personal Health and Wellness	3		
	PE	101	Fitness for Life	2		
			Information Technology Literacy	3	**Term Total**	**14**
					Cumulative Total	**14**
	Course Number		**Spring Semester**	**Credit Hr.**		
	ENG	105	Freshman Writing II	3		
	HLTH	427	Applied Physics	3		
	HLTH	427L	Applied Physics Lab	1		
	COM M	101	Introduction to Speech Communication	3		
			History	3	**Total**	**16**

			Multicultural	3	**Cumulative Total**	**30**
Saphamore	**Course Number**		**Fall Semester**	**Credit Hr.**		
	HLTH	212	Introduction to Industrial health and Safety	3		
	CHEM	103	Elementary Chemistry	3		
	CHEM	103L	Elementary Chemistry Lab	1		
			Foreign Language - or - Elective	3		
			LAPS	3	**Total**	**16**
			Social/Behavior	3	**Cumulative Total**	**46**
	Course Number		**Spring Semester**	**Credit Hr.**		
	HLTH	314 (or MCT 310)	Industrial Health Safety Legislation	3		
	CHEM	104	Elementary Organic and Biochemistry	3		
	CHEM	104L	Elementary Organic and Biochemistry Lab	1		
			Multicultural	3		
			LAPS	3	**Total**	**16**
			Foreign Language - or - Elective	3	**Cumulative Total**	**62**
Junior	**Course Number**		**Fall Semester**	**Credit Hr.**		
	HLTH	318	Industrial Accident Prevention I	3		
	HLTH	315	Industrial Hygiene I	3		
	HLTH	315L	Industrial Hygiene I Lab	2		
	ENG	305T	Technical Writing	3		
	HLTH	340	Health Biostatistics	3	**Total**	**17**
			Elective - or - MCT 111	3	**Cumulative Total**	**79**
	Course Number		**Spring Semester**	**Credit Hr.**		
	HLTH	319	Industrial Accident Prevention II	3		
	HLTH	335	Industrial Hygiene II	3		

	Course Number		Course	Credit Hr.		
	HLTH	335L	Industrial Hygiene II Lab	2		
	HLTH	328	Fire Protection Systems/techniques	3		
	MGT	301	Survey of Management	3	**Total**	**17**
			Elective - or - MCT 214 Plan Interpretation and Quantity Take-Off	3	**Cumulative Total**	**96**
Senior	**Course Number**		**Fall Semester**	**Credit Hr.**		
	HLTH	429	Hazardous Substances and Waste Materials	3		
	HLTH	411	Analytical Techniques in Industrial Health and Safety	3		
	HLTH	460	Human Factors/Ergonomics	3		
	HLTH	470 or 423	Current Issues and Training Concepts in Industrial Health and Safety	3		
			Elective - or - MCT 201	3	**Total**	**15**
					Cumulative Total	**111**
	Course Number		**Spring Semester**	**Credit Hr.**		
	MCT	492	Industrial Supervision	3		
	HLTH	416 or 475	Administration of Industrial Health and Safety Programs	3		
			Elective - or - MCT 414	3		
			Elective	3		
					Total	**12**
					Cumulative Total	**123**
	Course Number		**Summer Semester**	**Credit Hr.**		
	HLTH	492	Internship	4	**Total**	**4**
					Cumulative Total	**127**

TABLE 7-3c. 4-Year Plan of Study for Safety Management major with Environmental Health minor

	Course Number		Fall Semester	Credit Hr.		
Freshman	ENG	101	Freshman Writing I	3		
	COM M	101	Introduction to Speech Communication	3		
	MATH	115 or 111/112	College Algebra and Trigonometry	3		
	HLTH	111	Personal Health and Wellness	3		
	PE	101	Fitness for Life	2	**Term Total**	**17**
			Information Technology Literacy	3	**Cumulative Total**	**17**
	Course Number		**Spring Semester**	**Credit Hr.**		
	ENG	105	Freshman Writing II	3		
	HLTH	427	Applied Physics	3		
	HLTH	427L	Applied Physics Lab	1		
			History	3		
			Social/Behavior	3	**Total**	**16**
			Elective	3	**Cumulative Total**	**33**
Saphamore	**Course Number**		**Fall Semester**	**Credit Hr.**		
	HLTH	212	Introduction to Industrial health and Safety	3		
	CHEM	103	Elementary Chemistry	3		
	CHEM	103L	Elementary Chemistry Lab	1		
			Multicultural	3		
	HLTH	210	Principles of Environmental Health	3	**Total**	**13**
					Cumulative Total	**46**
	Course Number		**Spring Semester**	**Credit Hr.**		

	HLTH	314	Industrial Health Safety Legislation	3		
	CHEM	104	Elementary Organic and Biochemistry	3		
	CHEM	104L	Elementary Organic and Biochemistry Lab	1		
			Multicultural	3		
			LAPS	3	**Total**	**13**
					Cumulative Total	**59**
Junior	**Course Number**		**Fall Semester**	**Credit Hr.**		
	HLTH	318	Industrial Accident Prevention I	3		
	HLTH	315	Industrial Hygiene I	3		
	HLTH	315L	Industrial Hygiene I Lab	2		
	ENG	305T	Technical Writing	3		
	MGT	301	Survey of Management	3	**Total**	**17**
	HLTH	340	Health Biostatistics	3	**Cumulative Total**	**76**
	Course Number		**Spring Semester**	**Credit Hr.**		
	HLTH	319	Industrial Accident Prevention II	3		
	HLTH	335	Industrial Hygiene II	3		
	HLTH	335L	Industrial Hygiene II Lab	2		
	HLTH	328	Fire Protection Systems/techniques	3		
			LAPS	3	**Total**	**17**
	HLTH	352	Environmental Law and Administration	3	**Cumulative Total**	**93**
Senior	**Course Number**		**Fall Semester**	**Credit Hr.**		
	HLTH	429	Hazardous Substances and Waste Materials	3		
	TMGT	492	Industrial Supervision	3		
	HLTH	460	Human Factors/Ergonomics	3		
	HLTH	470 or 423	Current Issues and Training Concepts in Industrial Health and Safety	3		
					Total	**12**

				Cumulative Total	105
Course Number		Spring Semester	Credit Hr.		
HLTH	411	Analysis Techniques in Industrial Health and Safety	3		
HLTH	416 or 417	Administration of Industrial Health and Safety Programs	3		
		Elective	3		
HLTH	437	Pollution Prevention and Control Technology	3		
		General Education Capstone	3	Total	15
				Cumulative Total	120
Course Number		Summer Semester	Credit Hr.		
HLTH	492	Internship	4	Total	4
				Cumulative Total	124

TABLE 7-3d. 4-Year Plan of Study for Safety Management major with Insurance minor

Freshman	Course Number		Fall Semester	Credit Hr.		
	ENG	101	Freshman Writing I	3		
	MATH	115 or 111/112	College Algebra and Trigonometry	3		
	HLTH	111	Personal Health and Wellness	3		
	PE	101	Fitness for Life	2		
			Information Technology Literacy	3	Term Total	14
					Cumulative Total	14
	Course Number		Spring Semester	Credit Hr.		
	ENG	105	Freshman Writing II	3		
	HLTH	427	Applied Physics	3		
	HLTH	427L	Applied Physics Lab	1		

	COM M	101	Introduction to Speech Communication	3		
			History	3	Total	16
			Multicultural	3	Cumulative Total	30
Saphamore	**Course Number**		**Fall Semester**	**Credit Hr.**		
	HLTH	212	Introduction to Industrial health and Safety	3		
	CHEM	103	Elementary Chemistry	3		
	CHEM	103L	Elementary Chemistry Lab	1		
			Foreign Language - or - Elective	3		
			LAPS	3	**Total**	**16**
			Social/Behavior	3	**Cumulative Total**	**46**
	Course Number		**Spring Semester**	**Credit Hr.**		
	HLTH	314 (or MCT 310)	Industrial Health Safety Legislation	3		
	CHEM	104	Elementary Organic and Biochemistry	3		
	CHEM	104L	Elementary Organic and Biochemistry Lab	1		
			Multicultural	3		
			LAPS	3	**Total**	**16**
			Foreign Language - or - Elective	3	**Cumulative Total**	**62**
Junior	**Course Number**		**Fall Semester**	**Credit Hr.**		
	HLTH	318	Industrial Accident Prevention I	3		
	HLTH	315	Industrial Hygiene I	3		
	HLTH	315L	Industrial Hygiene I Lab	2		
	ENG	305T	Technical Writing	3		
	HLTH	340	Health Biostatistics	3	**Total**	**17**
			Elective - or - INS 340	3	**Cumulative Total**	**79**
	Course Number		**Spring Semester**	**Credit**		

	Course Number		Course	Credit Hr.		
				Hr.		
	HLTH	319	Industrial Accident Prevention II	3		
	HLTH	335	Industrial Hygiene II	3		
	HLTH	335L	Industrial Hygiene II Lab	2		
	HLTH	328	Fire Protection Systems/techniques	3		
	MGT	301	Survey of Management	3	**Total**	**17**
			Elective - or - INS 341	3	**Cumulative Total**	**96**
Senior	**Course Number**		**Fall Semester**	**Credit Hr.**		
	HLTH	429	Hazardous Substances and Waste Materials	3		
	HLTH	411	Analytical Techniques in Industrial Health and Safety	3		
	HLTH	460	Human Factors/Ergonomics	3		
	HLTH	470 or 423	Current Issues and Training Concepts in Industrial Health and Safety	3		
			Elective - or - INS 342	3	**Total**	**15**
					Cumulative Total	**111**
	Course Number		**Spring Semester**	**Credit Hr.**		
	MCT	492	Industrial Supervision	3		
	HLTH	416 or 475	Administration of Industrial Health and Safety Programs	3		
			Elective - or - INS 343	3		
			Elective - or - INS 344	3		
					Total	**12**
					Cumulative Total	**123**
	Course Number		**Summer Semester**	**Credit Hr.**		
	HLTH	492	Internship	4	**Total**	**4**
					Cumulative Total	**127**

Course Sequencing

There shall be evidence of appropriate sequencing of course work in the major to ensure that advanced level courses build upon concepts covered in beginning level course work.

Bachelor's program--Due to the fact that advanced-level courses build upon concepts in beginning-level course work, the curriculum structure is specific: all 100-level courses are intended for entry-level students (currently none are offered); the 200-level courses are for students in the second year of their program; 300-level courses are for third-year students, and 400-level courses are for seniors.

Undergraduate Course Sequencing Line Chart
The Major Courses are in bold and the pre- or co-requisites are in ( )

212 – **314** (212) – **315/L** (CHEM 103/L) – **318** (212 + 314) – **328** (CHEM 103/L + 212 + 314) – **335/L** (315/L) – **340** – **411** (319 + 335 + 429 + 460) – **416** (319 + 335 + 429 + MGT 400 or MCT 492) - **423** (319 + 335) – **429** – **460** (319 + 315/L + 335 + MGT 301 + MGT 400 or MCT 492) – **492**

Application of Mathematics and Science

Appropriate applications of the principles of mathematics and science shall be evident in technical course work.

Bachelor's program--Students are required to successfully complete two semesters of chemistry, one semester of physics, college algebra and trigonometry, biostatistics, system safety, and two semesters of industrial hygiene. These courses provide students with a broad scientific and mathematical foundation.

A minimum of five laboratory courses are required for a degree in safety management (i.e., two chemistry (CHEM 103L Elementary Chemistry, and 104L Elementary Organic Chemistry), one physics (PHYS 105/L General Physics I), two industrial hygiene (HLTH 315/L and 335/L). Students learn to accurately measure and assess particulates, vapors, and gases in work zones and to design ventilation systems for the removal of such contaminants. Students learn to use descriptive and inferential statistics to interpret injury and exposure data. Students use system safety models such as Preliminary Hazard Analysis, Fault Tree Analysis, Job Safety Analysis, domino theories, Failure Modes and Effects Analysis (FMEA), and the Technique for Human Error Rate Prediction (THERP). Each student must complete the Survey of Management course and either the Survey of Human Resource Management or Industrial Supervision course.

Computer Applications

The major shall include instruction on computer applications and the use of computers for information retrieval and problem solving.

Computer technology is an integral component of nearly all the departmental courses but specifically HLTH 112 (Computer literary). Computers are looked upon as significant “tools” to accomplish the tasks associated with all the different phases of contemporary industrial and business applications as practiced today. Student assignments require the student to use word processing packages. Further, students are required to prepare short and long research papers and provide oral reports using, MS PowerPoint® presentations.

Note: Additional information is found in the course folders.

Communications

Oral presentations and technical report writing shall be evident in course requirements.

Oral presentations and research papers are a significant part of the requirements for all General Education courses.

Most courses in the Safety Management Program require students to prepare technical reports or research papers. Many of the classes require the student to present orally reports using MS PowerPoint® to aid in the presentation. In addition, students in their junior and senior years of study are required to complete group projects, which incorporate oral presentations and final written reports.

Every effort is made to prepare the students to enter professional employment in industry, business, or government organizations able to communicate orally and in writing. Students who are found to have writing deficiencies are directed to University Writing Laboratory to alleviate such deficiency.

All students are required to complete three writing composition courses (ENG 101, 105, and 305 or 305T) and one communication course (COMM 101).

Industrial Experiences

The major shall include appropriate industrial experiences such as industrial tours, work-study options and cooperative education, or senior seminars focusing on problem-solving activities related to industrial situations. The industrial experiences shall be designed to

provide an understanding of the industrial environment and what industry expects of students upon employment.

Students are given considerable exposure to the industry setting through field trips to industrial organizations and companies during several of the scheduled required classes. Local companies work with faculty to have students in classes such as Administration of Health and Safety Programs develop safety manuals and training materials for their companies' use. Students have completed projects for the following companies during the past three years:
TMG Building Services, Inc.
NRK Electrical Contractors, Inc.
Certainteed, Inc.
Bemis, Inc.

Examples of projects completed by the students are included with the course outcomes evidence. Further, each student is required to complete a 400 hours internship in either an industrial or business setting. Students gain employment experience with companies including ALCOA, Flat Iron Construction, Marathon Petroleum LLP, White Construction, Vectren, Duke Energy, International Warehouse, Toyota, Bemis, and many other local and national companies.

7.6 Student Admission and Retention Standards

University Admission Requirements

Undergraduate Degree

a. Beginning Freshman

(l) Submit a completed application for admission which includes a high school transcript verifying high school graduation;

(2) Submit official Scholastic Aptitude Test (SAT) or American College Testing Program (ACT) scores;

(3) Pay the application fee of $l0 at time of applying;

(4) Be of acceptable moral character

(5) Be willing to abide by the rules of the University.

b. Transfers to undergraduate program from other units of your institution:

Student must have a grade point average of 2.00 before transferring into the Department of Health and Safety.

c. Transfer students are eligible for admission to the University if they have a "C" accumulative average and are in good standing academically and socially at their college or university of last enrollment. Any student who transfers in good standing from an accredited college or university and submits a completed application for admission including a high school transcript certifying graduation from and accredited secondary school or equivalency and including an official transcript of all previous college work from each institution attended, will be designated a transfer student.

d. Special Students - Undergraduate:

Indiana high school graduates

(l) Unconditional admission is awarded to students who rank in the upper 50 percent of their class and are graduates of a state commissioned or accredited high school.

(2) Conditional (probationary) admission may be granted for those who rank in the lower 50 percent of their class.

NOTE: Students who rank in the lower 30 percent of their class or students who have not participated in a traditional college bound high school curriculum, will be refused admission unless standardized test scores and interviews indicate a potential for academic success. A student who is granted a conditional (probationary) admission must participate in programs administered by the Academic Enrichment and Learning Skills Center. A student who does not meet the University retention standards at the end of the first year of enrollment will be academically dismissed.

Out-of-state high school graduates

(l) Unconditional admission is awarded to students who rank in the upper half of their class and are graduates of a state commissioned or accredited high school.

(2) Admission may be denied to those who rank in the lower 50 per cent of their graduating class.

NOTE: At the discretion of the Admissions Committee, the out-of-state student who ranks in the lower 50 per cent of their graduating class may be asked to enroll in certain special classes or activities.

University Retention Standards

A student must maintain a "C" (2.00) cumulative grade point average to be considered in good academic standing by the University. Other standards for academic retention are as follows:

If a student's cumulative grade point average is less than 2.00, the student will be placed on academic probation.

A student who has a 2.00 or higher cumulative grade point average will receive an academic warning for any semester in which his semester grade point average is below 2.00.

Students whose academic performances fall into the following categories will be dismissed for academic reasons:

Freshman (students who have attempted 3l or fewer semester hours) who are on probation and earn a semester grade point average of l.7 or less;

Sophomores (students who have attempted between 32 and 62 semester hours) who are on probation and earn a semester grade point average less than 2.00;

Juniors and Seniors (students who have attempted 63 or more semester hours) who are on probation and have either a cumulative grade point average less than 2.00 or earn a semester grade point average less than 2.20.

Each student will have at least one semester of probation before dismissal is required.

It should be pointed out that some programs may have requirements above the minimum University retention standards.

During a semester of academic probation, a student will not be permitted to take more than l3 credit hours without the written approval of his/her academic dean. Students on academic probation will receive mid-term grades so they are aware of possible academic difficulties early in the semester. Freshmen who are on academic probation are strongly encouraged to repeat courses in which "F" grades were received during the next semester (or the next time the course is offered).

If at any time during the first l2 semester hours of enrollment a student's cumulative grade point average is less that l.00, a conference with his/her academic dean will be required prior to continued enrollment. The grade report will provide the message. "Approval of academic dean required for continued enrollment." The academic dean may consult a number of individuals - instructors, residence hall director, academic adviser, Student Life staff - before enrollment for another semester is approved.

After Academic Dismissal. A student dismissed because of poor scholarship may apply for readmission if eligible to do under the provisions of the retention standards in the Student Handbook.

If dismissed at the end of the fall semester, the student may not apply for readmission in the next semester. If dismissed at the end of the spring semester, he/she may, under certain conditions, apply for readmission in the summer session which follows.

A dismissed student cannot claim the right to re-enroll. The academic dean determines whether an academically dismissed student may return. A student who has been dismissed for academic reasons may apply for readmission through the Director of Admissions. If a student is readmitted, he/she will enroll on academic probation and have one semester to meet the required grade point average.

A student dismissed for academic reasons AND for another reason, such as improper conduct, may not apply to the academic dean for readmission until the Dean of Student Life has approved the student's return to the University.

No student may be readmitted if dismissed a third time.

Safety Management Admission and Retention Requirements

ISU Catalog Copy

Admission and Retention

There are three levels of review for selective admission, retention, and graduation from the Safety Management Program.

Tentative Admission to Safety Management Program

Unconditionally admitted new freshmen or current students with a minimum cumulative grade point average (GPA) of 2.0 must: complete satisfactorily all foundation courses; complete Health and Safety 314, 340 with a grade of C or better, and establish an Indiana State University minimum cumulative GPA of 2.25.

Candidate for Graduation

Applicants for graduation must complete all University graduation requirements stated elsewhere in the ISU Catalogue (on-line) and simultaneously file an application for graduation review with the Safety Management Program. Safety Management candidates for graduation must:

1. Present a minimal ISU cumulative GPA of 2.25.
2. Present a minimum Indiana State University GPA of 2.5 in all Safety Management Courses. At least 24 semester hours of the major must be completed at Indiana State University.
3. Receive no less than a grade of "C" in each Safety Management course.
4. Satisfactory complete supervised Safety Management internship experience (Health and Safety 492).
5. Complete remainder of major course requirements (Management 400 or Manufacturing and Construction technology 492; and Health and Safety 335 and 335L, 416, 423, 429, and 460.)

Comparison to Other University Programs

The Indiana State University graduation standard is a 2.0 GPA. The School of Education requires a 2.5 GPA for graduation. A number of programs in the College of Arts and Sciences require the students to maintain a 2.25 GPA within the major but not as a cumulative GPA. The School of Nursing requires a 3.0 GPA within the major but cumulatively. The Safety Management Programs 2.25 GPA is above the University standard.

The only programs with higher quality standards for admission and retention are the College of Education.

7.7 Student Enrollment

There shall be evidence of an adequate number of program majors to sustain the program, and to operate if efficiently and effectively. Program enrollment shall be tracked and verified.

Per official university records via the office of the Associate Dean for Student Affairs of the College of Nursing, Health, and Human Services, enrollment figures for the undergraduate and graduate programs in Safety Management since 2003 are:

SAFETY MANAGEMENT COUNTS by Semester 2003-2009		
Term		
	Undergraduate Major	Graduate Major
Spring 2003	75	27
Fall 2003	71	23
Spring 2004	80	27
Fall 2004	86	26
Spring 2005	82	22

Fall 2005	70	18
Spring 2006	72	19
Fall 2006	66	19
Spring 2007	65	13
Fall 2007	66	14
Spring 2008	62	16
Fall 2008	62	23
Spring 2009	64	28
Fall 2009	74	29

From 2003-2009 a total of 146 Bachelor's degrees were awarded in Safety Management. The average GPA of undergraduate Safety Management students during that time frame was 2.94/4.00.

7.8 Administrative Support & Faculty Qualifications: There must be evidence of appropriate administrative support from the institution for the Technology, Management, and Applied Engineering program/option including appropriately qualified administrators, an adequate number of full time faculty members and budgets sufficient to support program/option goals. Full time faculty assigned to teach courses in the Technology, Management, and Applied Engineering program/option must be appropriately qualified.

Administrative support: The College of Nursing, Health, and Human Services is committed to the Safety Management Program. The College believes that the program has tremendous potential and will continue to be a leader in the Health and Safety field.

7.9 Facilities, Equipment, and Technical Support

Adequacy of Facilities and Equipment

Facilities and equipment, including the technical personnel support necessary for maintenance, shall be adequate to support program/option goals. Evidence shall be presented showing the availability of computer equipment and software programs to cover functions and applications in each program area. Facility and equipment needs shall be included in the long range goals for the program.

Relevant Classrooms, Laboratories, Libraries, and Information Infrastructures

The facilities for the Safety Management program are housed within The Health and Human Services Building located on campus. Each full-time faculty member in the School has a private office measuring 96 sq ft. Six classrooms with seating for 45-55 students each are equipped with state-of-the art computerized audio visual support. A shared computer cluster room is available for all students (717 sq ft) There is a dedicated lab/chemical storage room (1,071sq ft). All faculty members receive a laptop computer with optional additional screen, keyboard and mouse to prepare their teaching and research materials.

Excellent library and other computer support are also available. The library on-campus has a vast collection of applicable journals and reference books and access to numerous databases (accessible from on campus or off-campus internet connections). There are two computer rooms available in the “Health and Human Services building, one available for all students, having 20 workstations. All students are required to own a laptop computer upon their admission to Indiana State University. The University supports a Student Computing Complex, available 24 hours. (See D.5)

Relevant Equipment and Supplies

The Industrial Hygiene laboratory is equipped with a variety of modern health and safety field sampling/assessment instruments, analytical equipment, personal protective equipment and associated supplies that are accessible to students and faculty.

Presently the faculty offices are housed in the Department of Health, Safety, and Environmental Health Sciences. Each faculty member has a private office. The faculty shares two full-time clerical support positions. The office suite includes a conference room, department library, additional office for adjunct faculty and TAs, office supply room, filing room and duplication room.

Technical Support

Indiana State University’s office of Information Technology provides a full time computer technician for the College of Nursing, Health, and Human Services. Faculty who experience problems with their university-leased computers report the issues to the IT Help Desk. The Help Desk forwards the request to the technician in the college and she investigates the problem. The availability of a technician within the college gives faculty and students a personal solution to their information technology problems.

7.9.1 Support for Facilities and Equipment

Facility and equipment needs shall be reflected in the long-range goals and objectives for the program, and sources of potential funding shall be identified.

The Safety Management Program has prepared, and submitted to the Dean, the laboratory needs over the next five years. The long-term needs submitted were: (a) continual upgrading/replacement of equipment; (b) purchase of new equipment, specifically a digital odeometer (RA500) with software,

The faculty of the Safety Management program prepare an annual list of equipment and submit to the head of the department in order to (a) continually upgrade and replace the old equipment, and (b) purchase new equipment for expansion of the Industrial Hygiene laboratory.

Description of Process to Determine the Budget for the Program

Currently, budgets are delivered to the College and the Departments in late April or May. No input from Department chairs or Deans is solicited prior to the delivery of the budget sheets from the Budget Officer. There has been no increase in Supply and Expenses line items in any academic department at the University for at least the last five years.

There are budget hearings in the spring for the Deans and Vice Presidents. Up to this point, there has been no change in supplies and equipment due to budget hearings.

Adequacy of Institutional Support, Financial Resources and Constructive Leadership Necessary to Achieve Program Objectives

The institution has consistently provided some financial support for the Safety Management program. The Dean of College of Nursing, Health and Human Services has allocated a portion of the College's University equipment allocation to the unit. Furthermore, in-kind gifts from business and industry have supplemented the program's equipment needs. Even with these bases of support, much of the laboratory equipment is outdated and represents older technology than that generally in use in industry today. Aside from industrial hygiene equipment, the program lacks resources to acquire equipment to provide experiential learning opportunities in construction, welding, electrical, mining, robotics, and manufacturing safety, Much of this equipment is available to faculty and students in the College of Technology and is a major reason that a formal request to move our programs to that college has been initated.

Adequacy of Faculty Professional Development and How it is Planned and Funded

Operating funds in the Departments have been available for faculty members to seek professional development. Part of this is covered in the department's budget line item "travel". Money is also available from a department's designated account, which secures income from the Driver's Education fees, and the Dean's operating and designated funds. Current university budget constraints may affect availability of funds for faculty development.

Description of Plan and Sufficiency of Resources to Acquire, Maintain, and Operate Facilities and Equipment Required to Achieve Program Objectives

The program is need of modern equipment for teaching in our labs. In recent years local companies have donated some equipment to the program, but most of this is equipment that they are updating. Current budgets severely limit access to purchases of major equipment.

Appropriateness of Equipment
Equipment shall be appropriate to reflect contemporary industry.

Department of Health, Safety and Environmental Health Sciences Laboratory Equipment

The equipment currently in use is appropriate to reflect contemporary industry.

Chromatograph

Gas Chromatograph (FID, ECD)
HPLC (P200 Gradient pump,
UV100 detector, SP4600 Integrator)

Spectrophotometer

UV-Vis Spectrophotometer
Flourescent Spectrophotometer
Atomic Absorption Spectrophotometer
Vis Spectrophotometer

Other equipment

Audiometer
Laminar Flow Hood
HazMat Kit
Light Meter
Geiger Counter
Counter Top Refrigerator
Freezer
Refrigerator
Analytical Balance
Microscope
Two Dell Computers
Gillian 5-pack Pump Kits
Gillian Gilabrator and Universal Pump Calibrator
Alnor Velometer
WIBGET Heat Stress Monitor
Quest Noise Dosimeter and Calibrator
Quest Sound Level Meters with Octave Filter Set
Bubble meters (home-made)
Light Meter
Draeger Pump

1- Audiometers

2- Audiometry booth
3- Quest tech noise dosimeters
4- Quest tech sound level meters
5- Gillian electric air sampling pumps with chargers and filters
6- Manual gas detecting pumps and tubes
7- Personal gas detectors (MSA Personal H2S Detector)
8- Respirable dust air sampling Cyclones
9- Gaiger Counters and the Radioactive Samples
10- Thermometers
11- Metrosonic Wet/Dry Bulb Thermometer
12- Respirator Qualitative Fit Test Kit
13- Respirator Quantitative Fit Test Kit (Portacount)
14- Fire fighting/protection educational kit and related videos
15- Gas Alert Micro 5 (5 gas detector)
16- Test Gas – Neotronics (Cylinders for calibration)
17- Analog and Digital Scales (all types and sizes)
18- Indiana Bell BioPak 60 SCBA Rexnord
19- Personal Protective Equipments (all types and sizes) – Such as ear plugs/muffs + Respirators + Eye protections + etc
20- La Motte Water Pollution Detection Outfit
21- La Motte Air Pollution Detection Outfit
22- Kurz Flow Calibrator
23- Quest Tech Multi Log Gas Detectors
24- Indiana Bell Respirator equipment
25- Alnor Velometer
26- International Instruments Digital Manometer
27- Indiana Bell – Elsa 5 min survival kit
28- Amprob – Current Tracer
29- Narda Gaussmeter
30- Narda Microwave Survey Meter
31- Simpson Microwave Leakage tester
32- Wibget Heat Stress Monitor
33- Asbestos test kit
34- Clor-D-tect kits
35- Hood and Ventilation Demonstration Set
36- Sound Analysis System
37- United Detection – Light Meter
38- Oxygen Level Meter
39- Flow Rate Meter
40- Explosive Meter
41- Exotex Multi Gas Meter
42- Gastechtor Multi Gas Meter

7.10 Program Goals

Each major program shall have current short and long-range goals and objectives and plans for achieving them.

Long Term Goal #1	Continuous evaluation and improvement of program curriculum.
Short Term Goa1 1	Incorporate optional construction and environmental health components to the program.
Objective 1	Partnering with the Environmental Health program within our own department, a minor in Environmental Health has been established.
Tactic	The first Safety Management graduates with a minor in Environmental Health graduated in May 2006. Currently there are 7 students who have declared an Environmental Health minor.
Objective 2	Partnering with the Department of Technology Management's Construction Management program, a minor in Construction Management has been established.
Tactic	The Construction Management minor consists of 22 semester credit hours, but Safety Management majors already have 10 of those hours in their curriculum. With 4 additional courses, Safety Management majors are able to complete this minor.
Short Term Goal 2	Relocation of Safety Management program to the College of Technology
Objective 1	Submit proposal to relocate program to dean of College of Nursing, Health, and Human Services
Tactic	Proposal submitted as of October 2009
Objective 2	Participation with College of Technology restructuring plans beginning December 2009.
Tactic	Representatives of program faculty will participate in planning sessions.
Short Term Goal 3	Continued contact with and support from Safety Management Advisory groups.
Objective 1	At least annual face-to face meeting with local advisory group.
Tactic	Continue to schedule and conduct advisory group meetings at least annually.
Short Term Goal 4	Improved communications with program graduates
Objective	Develop system for flow of information between program faculty and graduates.
Tactic	Development of web site for graduates to update personal contact information and to provide them with program news
Long Term Goal #2	Recruitment and retention of larger enrollments while seeking students with higher academic credentials.
Short Term Goa1 1	Employ aggressive approach to recruitment of high school juniors and seniors.
Objective 1	Contact area high schools to schedule classroom visits in advanced science and math courses.
Tactic 1	High school principals will be contacted initially to gain access to teachers of advanced science and math classes. The mean SAT Math score of current program students is 468 and general math skills of most ISU students are weak.
Tactic 2	Develop 30 minute presentation highlighting career opportunities in safety management, including first-hand testimonials.
Objective 2	Repeated contact between faculty and prospective students.
Tactic	Create email listserve of prospective students identified through classroom visits and send series of messages promoting program and ISU.

Long Term Goal #3	Promote and foster faculty professional development.
Short Term Goal #1	Each faculty member in program should pursue professional certification through Board of Certified Safety Professionals.
Objective	Provide financial support to faculty to enroll in CSP preparation course and to sit for certification exams.
Tactic	Department and college will share costs of certification exams.
Short Term Goal #2	Each faculty member in program will actively participate annually in national or international professional conferences, including session presentations and moderating.
Objective	Provide travel expenses for minimum of one national or international professional meeting per year for each program faculty member.
Tactic	Supplement department travel budget ($400 per faculty member annually) with foundation funds or other department resources.
Long Term Goal #4	Improve department funding levels for recruitment, educational tools for augmentations of classroom instruction, scholarships, and faculty professional development.
Short Term Goal 1	ISU is currently in the public phase of a development campaign to raise some $85 million.
Objective	Provide assertive effort to assist campaign at program and department levels.
Tactic	Request contributions from program alumni and corporate partners.

7.11 Program/Option Operation

Evidence shall be presented showing the adequacy of instruction including: (a) motivation and counseling of students; (b) scheduling of instruction; (c) quality of instruction; (d) observance of safety standards; (e) availability of resource materials; (f) teaching and measurement of competencies (specific measurable compentencies shall be identified for each course along with the assessment measures used to determine student mastery of the competencies); (g) supervison of instruction; (h) placement services available to graduates.

The full time, tenured and tenure track faculty on the Safety Management program is responsible for the advisement, motivation and counseling of the students in the program. As soon as a student declares the Safety Management major, a faculty member from the program is assigned to him/her as an advisor. Each student is required to meet with his/her advisor at least once each semester for course scheduling, advisement and career exploration. As part of the advisement process each student must complete an anonymous advisor evaluation form (See attached Advisor evaluation form). These evaluations provide faculty with feedback about their overall quality of advisement. It is expected that each faculty use the students' feedback to improve their advisement practices and address any student concerns.

It is the responsibility of the faculty to monitor instruction, along with the program coordinator and department chairperson. The faculty approved (1991) an evaluation document that identifies procedures for evaluating teaching effectiveness. The department follows the guidelines in the Evaluation Methods and Documentation of Teaching Effectiveness as approved by the Faculty Senate. Full-time tenured and tenure-track professors teach all the courses within the Safety Management Program. Graduate students are not assigned to teach classes. The schedule of instruction is established each semester by the department chairperson.

Each professor is responsible for the organization and content presentation necessary to meet the objectives and goals for the particular courses in the curriculum for which they have been assigned. The Program's faculty is experienced, full-time faculty. It is assumed, their organization and scheduling of instruction does allow adequate time for completion of appropriate homework assignments and laboratory problem-solving activities.
Schedules are developed with consideration of program and students' needs. Every possible effort is made to meet the program requirements and the published sequence of courses required for students to complete the program in four years. Quality of instruction is evaluated by the chairperson, faculty members on the Department's Faculty Affairs Committee (FAC), and by the students. Every year each tenure-track faculty is evaluated on their teaching performance by the chairperson and one or two members of the FAC (see attached Teaching Evaluation form). In addition, every faculty member is required to administer the Student Instructional Report II (SIRs) (see attached SIRs) for each course at the end of each semester. Students have the opportunity to give anonymous feedback about the quality of instruction to their professor. In addition, the Promotion-Tenure (PT) document from the Department of Health, Safety and Environmental Health Sciences as well as the PT document for the College of Nursing, Health and Human Services recommend that each faculty do a self evaluation of their teaching and quality of instruction.

Resources for teaching, equipment and laboratory needs are distributed by the Dean of the College each year according to each department's request. Access to teaching resources are easy available in the department, including personal computers, printing materials, scanning and photocopy equipment. Each classroom is equipped with computer systems which include projectors and DVD players.. Recently the Department provided each faculty with an external hard drive backup system, and access to portable/removable power point controls. To supplement the cost of laboratory equipment the university approved a laboratory fee of $25.00 per student registered in the laboratory classes.

The faculty of the Safety Management Program is responsible for collecting evidence that demonstrates the student mastery of specific program learning outcomes. The faculty had identified seven major learning outcomes for the Safety Management Program. In addition, each learning outcome had been associated with each required course in the program to indicate whether the outcome is intended to be met at a basic (B), intermediate (I), or advanced (A) level(see attached Learning Outcomes). Each course has specific learning objectives listed on its syllabus. The faculty, through different teaching and evaluation strategies such as paper, oral presentations, group work-discussions, exams, assignments and quizzes, determines student mastery of the competencies and assigns the final grade.

The Safety Management Program requires an Internship or Practicum Experience for each student. The Internship prepares the students for employment upon graduation. The internship placement is set up in such a way that it serves as a practice to apply for jobs upon graduation. The majority of the students use the Internship experience as their starting point for job placement. Students are encouraged to participate in every career fair that the university organizes. Faculty members advise and circulate employment opportunities to students. In addition, the ISU Career Center provides a great service to the students in terms of resume preparation, practice interviews and employment opportunities.

7.12 Graduate Satisfaction with Program/Option

Graduate evaluations of the program/option shall be made on a regular basis (every two to five years). These evaluations shall include attitudes related to the importance of general outcomes and specific compentecies identified for the program/option. Summary data shall be available for graduate evaluations of the program/option.

The alumni survey was sent electronically to 40 recent program graduates. Four (10%) of the email addresses were invalid. A total of 17 of the remaining 36 surveys were completed (47.2%). Although the survey was sent to bachelor's recipients, two of the respondents had also received master's degrees from ISU.
Using a 4 point Likert-style response survey rating from strongly disagree to strongly agree, each respondent was asked to evaluate the effectiveness of the program for each of the stated outcomes.

1. Identify, describe, and classify common hazards (workplace and general).
   Strongly agree—9
   Agree—7
   Disagree—1
   Strongly disagree—0

2. Asses and explain risk and the different perception of risk by individuals and segments of the population.
   Strongly agree—8
   Agree—7
   Disagree—2
   Strongly disagree—0

3. Prepare safety and health training materials.
   Strongly agree—10
   Agree—6
   Disagree—1
   Strongly disagree—0

4. Determine the proper method of managing workforce acceptance of safety procedures, training, and engineering.
   Strongly agree—9
   Agree—6
   Disagree—1
   Strongly disagree—0
   Missing—1

5. Select the proper collection, reporting, and summarization methods for incident reporting.
   Strongly agree—9
   Agree—6
   Disagree—2
   Strongly disagree—0

6. Prioritize and recommend the proper action level (design, safety device, warning device, triaining, or PPE) and control technique for loss exposure (engineering control, administrative control, or PPE) to prevent injuries and property losses.

Strongly agree—7
Agree—9
Disagree—1
Strongly disagree—0

7. Gain the necessary quantitative and analytical skills to manage a safety department regarding the economical, financial, and decision making aspects of safet management.
   Strongly agree—8
   Agree—6
   Disagree—3
   Strongly disagree—0

8. (Masters degree only) Demonstrate adherence to professional and thical standards, and become an advocate for positive change in the safety profession through development of standards, increasing knowledge base and participating in the appropriate professional activities.
   Strongly agree—7
   Agree—4
   Disagree—0
   Strongly disagree--0
   Does not apply—2
   Missing--4

These results indicate that the vast majority of our graduates believe the program is achieving its stated outcomes. Since the program has just adopted these outcomes within the last year, there is no historical data for comparison. These data will be saved for future comparisons and shared with our advisory committee. It is possible that some of the stated outcomes may be modified after more complete analysis by the program faculty and the advisory committee.

7.13 Employment of Graduates

Placement, job titles, and salaries of graduates shall be tracked on a regular basis (two to five years). The jobs held by graduates shall be consistent with program/option goals. Summary data shall be available for the employment of graduates.

Based on results of the survey of graduates, 14 of the 17 respondents were currently employed within the safety industry and the following job titles were obtained: director, manager, associate, representative, others. Industries in which graduates reported employment included construction, manufacturing,consulting, general business, and education.
Primary job responsibilities included industrial hygiene (29%), risk management (35%), construction safety (64.7%), emergency management/preparedness (29.4%), accident/incident investigation (52.9%), hazardous materials (23.5%), environmental regulations (11.8%), general OSHA (52.9%), Safety Training/education (64.7%), seccurity (5.9%). The survey allowed respondents to select multiple answers for primary responsibilities. Most alumni listed secondary work responsibilities as well.
Respondents were asked to report a salary range for their current position. Those results were:

<$40,000	1

$40,001-55,000	8
$55,001-70,000	2
$70,001-100,000	2
>$100,000	1
Missing	3

These reported salaries are for graduates with less than six years experience.

7.14 Job advancement of Graduates

The advancement of graduates within organizations shall be tracked on a regular basis (two to five years) to ensure promotion to positions of increasing responsibility. Summary data shall be available for the job advancement of graduates.

Job Advancement

To demonstrate the employment of senior students and job advancement of alumni, two different data sets were acquired from alumni association and career center at Indiana State University. Both data sets had their own deficiency, *i.e.* they were not completely current and up to date and part of the information were missing. Nevertheless, the following information were extracted from data sets and summarized. Table 1 shows the latest information about the positions that alumni of safety management occupy and table 2 shows the industry section that they are involved.

Table 1

Position level	Number of alumni
Management	5
Supervisory	1
Consultant/adviser	4
Others	4
Not Specified	108
Total	***122***

Table 2

Industry Section	Number of alumni
Manufacturing	4
Education	3
Entertainment & Recreation	2
Consulting	2
Insurance	1
Energy	1
Others	4
Not Specified	105
Total	***122***

During the past six years (since the last accreditation visit) senior students have used different services provided by career center toward their employment. Table 3 shows the number of firms participated in career fairs separated by industry section. Employment opportunities for students vary from government agencies to insurance or manufacturing section. The total number of participating companies has increase since 2005 until 2009, during which the numbers fell possibly due to slow economic situation.

The same trend can be seen in table 4 which demonstrates the number of recruiters visiting the ISU campus for interviewing students for employment or internship. Meanwhile the number of students' visits to career center in order to take advantage of their services has increased since 2005, probably because of increase in number of students in safety management program.

Table 3

Industry section in career fairs	2005	2006	2007	2008	2009
Manufacturing/Industry	15	20	26	19	11
Military/Law Enforcement	11	23	21	20	23
Insurance	21	37	39	62	39
Government	7	9	9	11	15
Education	3	96	65	55	44
Others	44	133	133	122	97
Total	***101***	***318***	***293***	***289***	***229***

Table 4

Industry section interviewing	2006	2007	2008	2009	Unspecified date
Manufacturing/Industry	7	6	6	1	22
Construction	9	1	1	0	1
Insurance	19	6	11	4	6
Retail/Sale	10	8	6	1	7
Others	15	16	12	3	36
Total	***60***	***37***	***36***	***9***	***72***

Table 5

Career center services	2005	2006	2007	2008	2009
Career Counseling/Planning	0	2	3	1	0
Intern/Co-op/Summer Job	0	1	0	0	2
Job Search Assistance	0	1	0	1	2
Practice Interview	0	1	4	1	2
Resume/Cover Letter	2	5	16	11	7
Student	11	13	14	19	19

Employment Visit					
Networking & Etiquette Workshop	4	3	5	3	4
Others	2	1	1	0	3
Total	***19***	***27***	***43***	***36***	***39***

Due to lack of data, it is not possible to make a conclusive statement about the job advancement of safety management students and alumni. But it is obvious that safety management graduates are demanded in wide range of industries and they have the potentials to advance to management level of their organization.

7.15 Employer Satisfaction with Job Performance

Employer satisfaction with the job performance of graduates shall be tracked on a regular basis (two to five years) including employer attitudes related to the importance of the specific competencies identified in the program. Summary data shall be available showing employer satisfaction with the job performance of graduates.

Information received from Internship Evaluation Forms (collected from the supervisors of interning students) is shared directly with each student after they have completed their internship. If the supervisor identified any areas of concern, the student is advised to take steps to correct the concern if they have coursework remaining to complete. These corrective measures might include encouragement to take additional coursework in technical writing, risk management, or perhaps a foreign language.

The information is also summarized and used to advise pre-internship students about the expectations of their potential supervisors as they select courses to complete their studies. A direct result of this feedback from employers is that Safety Management students are now encouraged to take a course titled, “Work, Employment, and Society” as their General Education Capstone to gain a better understanding of the different employment relationships there are at various levels in a variety of industries.

At this time no survey of employers has been conducted. Each graduating senior is required to complete an internship of not less than 400 hours, and employers complete a performance evaluation for each student. Following is an example of the Internship Evaluation Form with averaged grades for each point. The means for the grades are based on a 4.0 point GPA scale and include a total of n=30 evaluations from intern employers during 2008 and 2009.

Based on these evaluations, the strengths of the program are many. Students were nearly all given an A for their ability to work with people. The lowest grades were given for Basic Knowledge of the Safety Field and Technical Performance in the Field. These categories reflect a need for additional experiental learning opportunities. Students need to literally get their hands on many of the tools and equipment that will be in use in their places of employment. Those experiential opportunities are difficult for faculty to provide in our current academic setting, and, along with requests from current students and alumni, a primary basis for our request to relocate our program to the College of Technology.

INDIANA STATE UNIVERSITY

DEPARTMENT OF HEALTH, SAFETY, AND
ENVIRONMENTAL HEALTH SCIENCES
Terre Haute, Indiana 47809

INTERNSHIP EVALUATION FORM

Student's Name ______________________ Supervisor ______________
Organization ______________________ Location ______________

WORK PERFORMANCE	GRADE*	COMMENTS
Basic knowledge of professional field	3.48	
Quality of work performed	3.80	
Quantity of work	3.77	
Promptness	3.86	
Ability to Make Decisions	3.65	
Initiative and Dependability	3.79	
Ability to Work With People	3.97	
Enthusiasm for Work	3.73	
Ability to Write Letters, Reports, Memos	3.72	
Ability to Make Inspections	3.73	
Technical Performance in Field	3.54	
Organizational Ability in Planning Work	3.67	
Other	4.00	

* A = Excellent; B = Very Good; C = Satisfactory; D = Poor

RECOMMENDED FINAL GRADE FOR THE INTERNSHIP WORK PERFORMANCE 3.89

SUPERVISOR'S COMMENTS:

____
____
____
____

SIGNATURE OF SUPERVISOR ______________________ DATE ______________

Most of the employers included comments about their student intern. Following is a listing of those additional comments. These comments have not been screened and are presented exactly as they appeared on the evaluation forms.

Student was great to work with. He beat every goal we set for him and completed every task well ahead of schedule. Needed very little supervision to complete work, but knew when to ask questions.

Student did a great job with the safety during the outage.

Student became good at seeking out and completing work assignments. Field and office work was completed in a timely manner.

I have been very pleased with student's performance during the internship. He has learned and performed to level not expected when he was brought on-board.

The overall contribution student made to the safety area was documentable. We enjoyed hosting him and will miss his inspections, knowledge, and passion for safety management.

Student was a great asset to our company this summer. He dug right in and had many aspects of the position to learn. Some were hands-on and some was computer work.

Enjoyed working with student. Recommend him for future work.

Student is wise beyond his years and beyond formal education and he was a valuable "member" of my department; much more so than other interns I've worked with. His ability to relate to other people and build strong, credible rappot will serve him well in his new job and thereafter.

Student was a pleasure to work with, renews my faith in the younger workforce that had seemed to be declining. In my opinion, she has no limits and shows every sign of being very successful in the future. It is difficult to impress me; she did.

Student did everything I asked of him and was always ready for a new challenge. I believe he will make an excellent safety professional.

Our internships require the student to be proactive in completing their field and office work without supervision. Student did OK in this regard, but never progressed to a point that he was taking charge of the situation.

Student is a hard worker and is very knowledgeable about safety management. He will be an asset to any employer.

Over all student performed very well while on site and was provided with a variety of tasks. He interacted well with various levels in the organization and took great initiative in his assignments. We were very pleased with his performance and through out EHS development program have offered a position when he graduates.

Student's strongest assets are his enthusiasm and ability to work with people. He is working hard to learn his job. He is liked by all of the field employees.

I am very pleased with student's overall performance. He is a dependable individual that will make an excellent safety professional. I am fortunate to have been able to work with him. Our organization is so pleased with his performance, that we have hired him full-time as a safety professional.

It was a pleasure working with student. He has the enthusiasm and drive to become a great EHS professional. He will be missed.

Excellent Employee

Student was a joy to have.

Student was a pleasure to work with. Being her second year with Enbridge, her growth and confidence was evident. Each year she took on more responsibility with less oversight.

Whatever field student decides to go into he will succeed. He has been very detailed in his performance and I have entrusted him with several jobs that could cost miners lives if not done correctly.

Student has been punctual, dependable, enthusiastic towards his work and has had a positive attitude.

Student has been a pleasure to have with us.

Student was always wanting to learn more. Always willing to try anything. He was a very positive person, very enthusiastic. He will make a great employee or supervisor in his future.

Student was our basic safety liaison in an on-site safety situation. He performed well in this role. He really just needs some more field time to hone his skills.

Student exceeded our expectations. He was very involved with upper management projects, communication, and contributed to enhance our culture regarding safety.

Student has been punctual, dependable, positive, and eager to learn. In addition, student has conducted himself in a mature and professional manner.

Student wanted to be given tasks or jobs instead of trying to stay busy or ask what to do. His work in the field was good. You could tell he would rather be anywhere else. He also played with his IPOD a lot.

7.16 Graduate Success in Advanced Program

If a goal of the program/option is to prepare students for advanced studies, then the success in the advanced study programs shall be tracked and confirmed. Summary data shall be available showing success in advanced programs.

While not stated as one of our outcomes, we do encourage many of our undergraduate majors to pursue advanced degrees. According to university records, since 2003, 18 B.S. program graduates have entered into our masters program and since 2003 a total of 11 undergraduate alumni have earned their masters degrees in our graduate program. We currently have no record of B.S. program graduates pursuing advanced degrees from other institutions.

7.17 Student Success in Passing Certification Exams

The following letter was sent from the Board of Certified Safety Professionals concerning data from program graduates who have attempted the Associate Safety Practitioner (ASP) exam and the Certified Safety Professional (CSP) exam.

Dear Dr. Blyukher,

BCSP is excited to hear about the pursuance of re-accreditation for the Safety Management Program at ISU and is looking forward to working with you to provide students with the opportunity towards CSP certification through the Graduate Safety Practitioner (GSP) Program path once ABET accreditation has been achieved.

As I mentioned in my voice mail, BCSP is currently in the process of updating our database management system and transferring information from our legacy system. The problem with gathering a true reflection of the number of graduates lies in the fact that there have been multiple methods used for entering data which has changed over time. In early cases, the specific university information was not captured in the database and since has been entered in different formats so there are inconsistencies and missing data that is only available by pulling hard copy files. However, below is the information I was able to gather, albeit not the complete picture.

The numbers below are based on a graduation year of 2000 or later.

- 19 graduates have achieved the ASP designation*
- 12 graduates have achieved the CSP certification
- 9 candidates are currently eligible to sit for Safety Fundamentals (2 of which have sat for the exam previously and did not pass)
- 5 are no longer eligible due to not passing the examination within eligibility time limits

I hope this helps. Please let me know if I can be of further assistance.

Sincerely,

Christy Uden
Customer Service Manager
Board of Certified Safety Professionals
208 Burwash Ave.
Savoy, IL 61874
Main: +1-217-359-9263 Ext. 3920
Direct: +1-217-353-3920
Fax: +1-217-359-0055
Email: christy@bcsp.org

*Since receiving this letter , one additional graduate has passed the ASP exam.

7.18 Advisory Council Approval of Overall Program

The Safety Management advisory board consists of professionals from a variety of industries that meet at least once per academic year, usually during the spring semester, to review the current curriculum and proposed modifications. In general, board terms are three years, and renewable. In some instances, members may not complete a three year term and are replaced. The current board members include:

Larry Meddles—Gartland Foundry
Mike Howard—Rose Hulman Institute of Technology
Bill Oliver—AET, Inc.
Paul Woerz—Alcoa
Larry Newport—Keramida
Ted Buck—Bell South
Kelly Lemons—TBM Building Services
Phil Hatfield—Safety Management Group

Minutes of the most recent meeting follow. Minutes of previous meetings may be found in appendices

Minutes

The Safety Management Advisory Group

October 5, 2009

Present: Larry Meddles, chair, Mike Howard, Kelly Coy, Larry Newport, Bill Oliver, Yasenka Peterson, Bill Campbell, Farman Moayed, Ernie Sheldon, Shiaw-fen Ferng, Eliezer Bermudez, Boris Blyukher.

Meeting was called to order by Chairman Larry Meddles at 3:30 pm. Dr. Moayed moved to approve minutes of April 9, 2009 meeting. Dr. Ferng seconded and motion passed unanimously. Bill Oliver moved that the faculty move forward with re-accreditation of the undergraduate program and initial accreditation of the graduate program through the Association for Technology Management and Applied Engineering (ATMAE). Mike Howard seconded and the motion passed unanimously. The process is being led by Dr. Brad Lawson in the College of Technology. Dr. Lawson is a charter member of ATMAE (formerly NAIT) and very experienced in accreditation procedures. A timeline for completion of the accreditation self studies was discussed and the faculty noted that their target date for completion is mid December, although Dr. Lawson's target date is late January. The accreditation team visit will occur in late March or early April 2010.

Drs. Blyukher, Sheldon, Campbell, and Moayed met with Dean Sims, Associate Dean McNabb, and all three department chairs from the College of Technology on October 2 to explore the fit of the Safety Management programs within that college. A tour of the COT facilities will be given to our faculty in the near future.

Mike Howard suggested that the curriculum in the program might need to include more focus on security and biosafety. Larry Meddles noted that process safety management is not currently included in our curriculum.

Meeting was adjourned at 4:15 pm.

7.19 Outcome Measures Used to Improve Program

Evidence shall be presented showing how multiple outcome measures (Graduate Satisfaction with Program/Option, Employment of Graduates, Job Advancement of Graduates, Employer Satisfaction with Job Performance, Graduate Success in Advanced Programs, Student Success in Passing Certification Exams, and Advisory Committee Approval of Program) have been used to improve the overall program/option. Evidence that program stakeholders participate in this process must be demonstrated.

Whether an organization specializes in business, entertainment, or education, without constantly striving to improve itself, it will quickly lose its edge. The Safety Management programs at Indiana State University have evolved over many years to continue to provide the industries our graduates serve with knowledgeable personnel who understand workplace hazards, workers' behavior, and the economic consequences of injuries and occupational diseases to employers, family, and society. To maintain the reputation of a well-respected program we have utilized a variety of evaluative methods including regular meetings of our industrial advisory board, student and peer teaching evaluations, and employer feedback. Beginning two years ago we developed a list of outcome measures that we are now using to assess the effectiveness of our programs. These outcomes measures were initially written by two faculty members attending a university workshop to prepare for North Central accreditation. The decision to apply for ATMAE reaccreditation for our undergraduate program using the outcomes assessment model was based on compatibility with the university's requirements for the North Central process. When we learned that ATMAE was now accrediting masters programs using this model we decided to apply for an initial accreditation for our masters program as well.

Both our bachelors and masters program were at one time accredited with the American Society of Safety Engineers (ASSE), but those accreditations expired in 1997 after ASSE turned over its accredited programs to ABET. At that time, our programs would have required dramatic curricular changes to meet the criteria for ABET. In 2003, two of our faculty attended a NAIT accreditation workshop and it was determined that our programs fit well within the structure of NAIT. Since several programs in the College of Technology (COT) were due for reaccreditation in 2004, we were invited by COT to complete a self study and submit with their own programs for the visiting team to review that year. Upon completion of a two year follow up report, our undergraduate program was granted full accreditation. Since that time the college structure at ISU has changed. The former College of Health and Human Performance, where our program had originated, was merged with the College of Nursing to form the largest professional college on campus. We currently have filed a formal request to our dean to move the safety management programs into COT, a move we are certain would benefit our students by providing more experiential learning opportunities in their available laboratories. At this time we are awaiting his decision on our request.

The Safety Management advisory board consists of professionals from a variety of industries that meet at least once per academic year to review the current curriculum and proposed modifications. During 2009 the advisory board met twice, April 9 and October 5. The board, in conjunction with the faculty members, discussed suggested changes to various courses in the Safety Management Program following review of syllabi for the courses. These courses are: HLTH 212 – Introduction to occupational health and safety; HLTH 314 – Industrial health and safety legislation; HLTH 427 – Applied physics for health sciences; HLTH 416 – Administration of industrial health and safety programs; and HLTH 423 – Current issues and training concepts in industrial health and safety. Some of the board members' suggestions and recommendations included the covering of Hazardous Materials chapter in HLTH 212, taking the Applied physics and math courses at the start of the Safety Program, and the creation of a new course that combines HLTH 416 and HLTH 423.

Members of the advisory board have also been instrumental in facilitating internship sites for the students in the Safety Management program. In addition, the advisory board reviewed the student Learning Outcomes for the Safety Management Program. The board suggested that a learning outcome that addresses health and safety codes in the workplace should be added. They also recommended the creation of learning outcomes for the Master's program in Occupational Health and Safety.

Evidence to show the multiple outcomes measures has been presented in several of the preceding standards. In addition, the following items are included in the appendices of this document:

- Degree Audit Reporting System (DARS) sample forms for a student early in the program and for a candidate for graduation
- Student Instructional Report II (SIRII) individual blank form and instructor's summary
- Complete survey data
- Completed internship employer evaluation
- Advisor evaluation form
- Peer teaching evaluation form

Each of these evaluation tools is used by the faculty to continuously modify course goals, topics, and presentation techniques. Since our last accreditation cycle, overhead computer projection systems have been installed in every classroom used by our program. Graduate distance education courses have from satellite television courses with two way audio available only within the state boundaries of Indiana to interactive computer-based presentations viewable live from anywhere in the world. This change has resulted in graduate student applications from all across the country and a broad diversity of our graduate student demographics. As technology continues to advance, faculty will migrate toward new and creative methods of delivery including podcasts and two-way video presentations.

The Safety Management programs at Indiana State University have enjoyed a successful history and will continue to thrive and improve by adapting to the changing demands of our students and employers within the safety industry.

Master of Science Degree in

Health and Safety

Specialization in Occupational Safety Management

Self Study for Initial Accreditation With

The Association for Technology Management and Applied Engineering (ATMAE)

February 25, 2010

This document is prepared using the new Outcomes Model for accreditation.

7.1 Program Title, Mission, and General Outcomes: The program/option title, definition and mission shall be compatible with the ATMAE definition of Industrial Technology.

Program Title

The Master's Degree program title is Masters in Health and Safety with specialization in Occupational Safety Management.

Mission: The department, college, and institution missions shall be compatible with the approved definition of Industrial Technology.

College of Nursing, Health, and Human Services Mission Statement

> The College is dedicated to fostering student excellence and developing productive citizens who function as skilled professionals. Further, we champion teaching, research, creative activities, community involvement through health initiatives, and life-long learning.

College of Nursing, Health, and Human Services Vision

> The College will be recognized as a leader in providing qualified health and human service professionals who serve diverse populations through education, scholarship, innovation, service, and community engagement.

Department of Health, Safety, and Environmental Health Sciences Mission

> The mission of Department of Health, Safety, and Environmental Health Sciences is to advance understanding about human health and well being through research, instruction and service.
>
> The central concerns of Department faculty and students are to prevent unhealthy and dangerous conditions from harming people, correct these situations where they exist, and to help people adopt healthy behaviors.
>
> Our over-reaching goals are to prevent premature death and disability and promote productive, high-quality lives.

Safety Management Mission

The mission of the Safety Management Bachelor of Science program is to provide students with technical skills necessary for careers as safety professionals in industries including construction, manufacturing, transportation, mining, and regulation.

The mission of the Occupational Safety Management Master of Science program is to provide safety professionals with an avenue to broaden their skills into managerial positions within the Environmental Health and Safety field through distance education.

Safety Management Vision

The Safety Management Bachelor of Science program will be recognized as a national leader in the preparation of students as safety professionals in industries including construction, manufacturing, transportation, and regulation.

The Occupational Safety Management Master of Science program will provide opportunities for safety professionals to pursue an advanced degree through a nationally accredited program.

General Outcomes

General outcomes shall be established for each program/option that provide a framework for the development of specific measurable competencies. Validation of the general outcomes shall be accomplished through a combination of external experts, an industrial advisory committee, and, after the program is in operation, follow-up studies of graduates.

Indiana state University's office of Curriculum, Instruction, Research, and Teaching (CIRT) began offering workshops in the Fall 2007 semester to faculty for the purpose of initiating outcomes based evaluations. Drs. Campbell and Bermudez participated in these workshops and developed a list of stated outcomes for the program. That list of outcomes was reviewed by the program faculty and minor modifications were made, including adding one additional outcome for the Masters program. The Safety Management advisory committee was presented with the list of outcomes prior to their meeting held during the Fall 2009 semester. The committee members present voted unanimously to approve the outcomes. (See attached minutes of advisory committee meetings.)

7.2 Competency Identification and Validation

Measurable competencies shall be identified and validated for each program/option. These competencies must closely relate to the general outcomes established for the program/option and validation shall be accomplished through a combination of external experts, an industrial advisory committee and, after the program is in operation, follow-up studies of program graduates.

The best tool for evaluating the success of our program is to track success of graduates who attempt the widely accepted certification of the Board of Certified Safety Professionals. Certification requires passing a series of two examinations, the Safety Fundamentals Exam and the Comprehensive Practice Exam. Both of these exams cover four established domains:

Domain 1—Safety, Health and Environmental Management

Domain 2—Safety, Health and Environmental Engineering

Domain 3—Safety, Health and Environmental Information Management and Communications

Domain 4—Professional Conduct and Ethics

According to the BCSP Examination Guide,

> "BCSP performs periodic validation studies to determine the domains, responsibilities, knowledge, and skills exhibited by safety professionals. Surveys ask practitioners to rate domains and responsibilities for importance, time spent on them in practice, and the criticality should someone fail to know them. Analyses of survey results form the primary basis for deciding on distributions of subjects on examinations. Because surveys are conducted periodically to revalidate knowledge used in practice, the distributions on the Safety Fundamentals Examination will change from time to time."

Outcomes established for the Safety Management program, and the BCSP domains to which they closely relate, are listed below.

1. Identify, describe, and classify common hazards (workplace and general) --*Domain 1*
2. Assess and explain risk and the different perception of risk by individuals and segments of the population—*Domains 1,3,4*
3. Prepare safety and health education and training materials—*Domain 3*
4. Determine the proper method of managing workforce acceptance of safety procedures, training, and engineering—*Domain 1,2*
5. Select the proper collection, reporting, and summarization methods for incident reporting—*Domain 1*
6. Prioritize and recommend the proper action level (design, safety device, warning device, training, or PPE) and control technique for loss exposure (engineering control, administrative control, or PPE) to prevent injuries and property losses—*Domain 1,2*
7. Gain the necessary quantitative and analytical skills to manage a safety department regarding the economical, financial and decision making aspects of safety management.—*Domain 1,2,3,4*
8. (Masters only) Demonstrate adherence to professional and ethical standards, and become an advocate for positive change in the Safety Profession through development of standards, increasing knowledge base and participating in the appropriate professional activities.—*Domain 3,4*

Certification exam results from BCSP are detailed in Section 7.17 of this document. The identified safety management program outcomes have been developed by the faculty with assistance from and approval by the Safety Management Advisory committee.

7.4 Identification of Competency Measures

Assessment measures shall exist for each of the measurable competencies identified for the program/option.

The individual course applications for each of the identified outcomes (competencies) is available electronically and in the appendices of this document.

7.5 Program Structure and Course Sequencing

Occupational Safety Management Master's Program Structure

Master's Degree: Major programs/options shall be a minimum of 30 semester hours and shall meet thee following minimum/maximum foundation requirements:

Research	**6-12**
Communications and/or problem solving	**6-12**
Technical and/or Management	**12-18**
Electives	**0-6**

Students must successfully complete a minimum of 10 semester hours of graduate level coursework at the institution seeking accreditation.

The Master's degree in Occupational Safety Management requires a minimum of 33 semester hours including the following:

Required courses—all students must complete these courses
- HLTH 601—Research Methods in Health and Safety
- HLTH 604—Research Design and Data Analysis in Health and Safety

Major core courses—must complete at least 4 major courses
- HLTH 605—System Safety
- HLTH 606—Ergonomics/Human Factors
- HLTH 607—Transportation Safety
- HLTH 608—Safety Legislation and Litigation
- HLTH 609—Applied Communications in Health and Safety
- HLTH 610—Safety Inspections
- HLTH 626—Administration of Health and Safety Programs

Departmental Electives—must complete 1-2 courses
- HLTH 603—Individual Special Projects
- HLTH 612—Epidemiology
- HLTH 621—Topics in Health, Safety, and Environmental Health Sciences
- **Departmental Electives courses may also be selected from major courses beyond the 4 required.

Approved Non-departmental Electives—must complete 2 courses
- A variety of graduate level courses may approved depending on the student's area of interest.

Culminating Research Experience course
- HLTH 629—Culminating Experience in Health and Safety (3 credits)
- HLTH 699—Research Thesis (6 credits)

All graduate students are required to file and approved Contract of Study with the College of Graduate Studies. Any changes to the contract must be approved by the student's advisor and the College of Graduate Studies.

CONTRACT OF STUDY
MS/MA IN HEALTH AND SAFETY
DEPARTMENT OF HEALTH, SAFETY, AND ENVIRONMOENTAL HEALTH SCIENCES

NAME: STUDENT IDENTIFICATION NO.:
ADDRESS:
SPECIALIZATION: ADVISER:

PLEASE COMPLY WITH THE FOLLOWING GUIDELINES:
1. ADVISER AND STUDENT SHOULD CONSULT AND COMPLETE THE SCHEDULE OF STUDY NO LATER THAN THE FIRST TERM OF ENROLLMENT IN A DEGREE PROGRAM EITHER ON CAMPUS OR AT AN EXTENSION SITE.
2. ALL COURSES SHOULD BE LISTED BY DEPARTMENT AND NUMBER.
3. ANY CHANGE IN CURRICULUM OR COURSE ON THIS SCHEDULE OF STUDY MUST BE APPROVED BY THE ADVISER AND SCHOOL OF GRADUATE STUDIES. REQUESTS FOR SUCH CHANGES MUST BE SUBMITTED IN WRITING BY THE STUDENT TO THE ADVISER FOR APPROVAL AND FORWARDED TO THE GRADUATE SCHOOL FOR APPROVAL.
4. COURSES MORE THAN 5 YEARS OLD AT THE TIME OF DEGREE COMPLETION MAY NOT BE INCLUDED IN THE DEGREE PROGRAM

COURSE DEPT NUM	WHEN TAKEN	HOURS CREDIT	GRADE	REMARKS
MAJOR AREA—MINIMUM 12 SEM HRS				
Select four courses from the following list				
HLTH 605		3		
HLTH 606		3		
HLTH 607		3		
HLTH 608		3		
HLTH 609		3		
HLTH 610		3		
HLTH 626		3		
RESEARCH—6 SEM HRS				
HLTH 601		3		
HLTH 604		3		
CULUMINATING EXPERIENCE—3 TO 6 SEM HRS				
HLTH 629		3		
HLTH 699		6		
COURSES OUTSIDE MAJOR AREA (6 SEM HRS)				
APPROVED ELECTIVES—3 TO 6 SEM HRS				
Any courses not used in the major area above or HLTH 630 or 631, if not listed as deficiencies				
TOTAL HOURS				

THESIS (IF APPROPRIATE)
TOPIC APPROVED DATE

THESIS APPROVED DATE

THESIS COMMITTEE

CHAIRPERSON

DEFICIENCY REQUIREMENTS

CONDITIONAL ADMISSION REQUIREMENTS

OTHER REQUIREMENTS

NUMBER OF 600 LEVEL COURSES

COPIES OF THIS SCHEDULE ARE RETAINED BY THE ADVISER, THE STUDENT, THE DEPARTMENT CHAIR AND THE SCHOOL OF GRADUATE STUDIES.
CONSULT THE GRADUATE CATALOG IN EFFECT ON DATE OF ADMISSION OR RE-ADMISSION TO A DEGREE PROGRAM FOR PROGRAM REQUIREMENTS.

CONTRACT VALID ONLY WHEN SIGNED BY STUDENT, ADVISER AND GRADUATE DEAN.

GRADUATE STUDENT	GRADUATE ADVISOR	GRADUATE DEAN/ASST.DEAN
DATE	DATE	DATE

Course Sequencing

There shall be evidence of appropriate sequencing of course work in the major to ensure that advanced level courses build upon concepts covered in beginning level course work.

Master's program—Graduate students are encouraged to enroll in HLTH 601-Research Methods in Health and Safety, and HLTH 604-Research Design and Data Analysis during the first year of their program of study. When deficiency courses are assigned by the admissions committee, those courses are also to be completed within the first year of the program of study. Subsequent course scheduling is dependent upon availability of course offerings. Some graduate courses are offered annually; others are offered once every two years. Graduate students are required to complete six credit hours of approved elective courses from outside the Department of Health, Safety, and Environmental Health Science. Students are advised to enroll in one of the culminating research experience courses (HLTH 629-Culminating Experience in Health and Safety, or HLTH 699-Thesis) when they have completed all of their other coursework.

7.5.4 Application of Mathematics and Science

Appropriate applications of the principles of mathematics and science shall be evident in technical course work.

Science and math prerequisites for the Master's program include two semesters of undergraduate chemistry (or equivalent) and a minimum of College Algebra and Trigonometry. Applicants may be granted conditional admission to the program with the requirement to complete those science and math courses within one year of starting the program.

Computer Applications

The major shall include instruction on computer applications and the use of computers for information retrieval and problem solving.

Students are required to prepare professional quality papers using popular computer software. Students also learn to use computer applications such as SPSS and Excel to process and evaluate data for various courses and their final research report or thesis. Additionally, students learn to access library documents and locate references using online library resources. The ISU library staff is always available to assist distance learners with locating and acquiring access to resources for assignments or research.

Communications

Oral presentations and technical report writing shall be evident in course requirements.

Oral presentations and/or research papers are a significant part of the requirements for all safety management masters program courses
Most courses in the graduate Safety Management Program require students to prepare technical reports or research papers. Many of the classes require the student to present orally reports using MS PowerPoint® to aid in the presentation.

Every effort is made to prepare the students to enter professional employment in industry, business, or government organizations able to communicate orally and in writing. Students are required to complete a course in Research Methods in Health and Safety where they prepare a written research proposal that demands strong written communication skills. One of the major courses that most students select is Communication Skills in Health and Safety where they are required to prepare a safety management training program and present the program to the class. Finally, each student is required to complete either a three credit field research project or a six credit thesis. In either case, the student is required to prepare a formal paper following university guidelines for theses and dissertations and present that paper to their three-member research committee. Theses must also be approved for format by the College of Graduate Studies.

Industrial Experiences

The major shall include appropriate industrial experiences such as industrial tours, work-study options and cooperative education, or senior seminars focusing on problem-solving activities related to industrial situations. The industrial experiences shall be designed to provide an understanding of the industrial environment and what industry expects of students upon employment.

The vast majority of our graduate students are distance learners who are employed in any of a number of industries. Students with no safety management experience that are not already employed are encouraged to complete an internship prior to completing their degree, but it is not a requirement. Assignments in various courses require students to demonstrate proficiency in management decision making as it applies to industrial safety programs. Students are encouraged to conduct their field research project in an industrial setting, where there is opportunity for industrial experience.

7.6 Student Admission and Retention Standards

University Admission Requirements from the Graduate Catalog 2009-2010

ADMISSION TO THE COLLEGE OF GRADUATE AND PROFESSIONAL STUDIES: DEGREE-SEEKING APPLICANTS

Admission to Master's Degree Programs

Regular Admission

Regular admission status, upon the recommendation of an academic unit, may be granted to an applicant who meets the minimum admission requirements of the College of Graduate and Professional Studies. It should be noted that some academic units may have higher and/or other admission requirements. For regular admission status in the College of Graduate and Professional Studies, an applicant must, as a minimum:

1. Hold a baccalaureate degree granted by a regionally accredited institution (for international students, a degree granted by a recognized institution).
2. Have earned a minimum cumulative grade point average of 2.7 in all undergraduate course work; or have earned a minimum cumulative grade point average of 3.0 in the last 60 hours of undergraduate course work; or have earned a minimum cumulative grade point average of 3.0 in the applicant's major field of study; or have earned a minimum cumulative grade point average of 3.0 in all courses taken at the graduate level.
3. Where required, submit departmentally acceptable scores in the General Test of the Graduate Record Examination (GRE) or, where applicable, other appropriate standardized measures.
4. Satisfy and/or meet any and all additional admission requirements of the department/program where admission is being sought.
5. Submit to the College of Graduate and Professional Studies a fully completed Graduate Admission Application Form with a non-refundable admission application fee of $35.00 payable by cash, credit card, money order, or check made payable to Indiana State University.

Conditional Admission

Conditional admission is intended for those students whose undergraduate record does not reflect their current capacity to do graduate work. In those circumstances conditional admission status, upon the recommendation of an academic unit, may be granted. It should be noted that some academic units may have higher or other admission requirements. Conditional admission has a maximum time limit of one academic year. Applicants admitted on a conditional basis must maintain a minimum cumulative grade point average of 3.0 while enrolled in the College of Graduate and Professional Studies. A final admission decision shall be reserved by the academic unit until an applicant's performance has been evaluated after one academic year of enrollment. For conditional admission status, an applicant must, as a minimum:

1. Hold a baccalaureate degree granted by a regionally accredited institution (for international students, a degree granted by a recognized institution).
2. Have earned a minimum cumulative grade point average of 2.3 in all undergraduate course work; or have earned a minimum cumulative grade point average of 2.5 in the last 60 credit hours of undergraduate course work; or have earned a minimum grade point average of 2.5 in the applicant's major field of study.
3. Where required, submit departmentally acceptable scores in the General Test of the Graduate Record Examination (GRE) or, where applicable, other appropriate standardized measures.
4. Satisfy and/or meet any and all additional admission requirements of the department/program where admission is being sought.
5. Submit to the College of Graduate and Professional Studies a fully completed Graduate Admission Application Form with a non-refundable admission application fee of $35.00 payable by cash, credit card, money order, or check made payable to Indiana State University.

Provisional Admission

Provisional admission is intended for those students meeting regular or conditional admission requirements who are missing admissions materials other than an application, application fee, and an official transcript from the institution granting their highest completed degree. Provisional admission status may be granted upon the recommendation of an academic unit. Final decision on an applicant admitted on a provisional basis shall be reserved until all missing documents are received but may not exceed one semester. For provisional admission status, an applicant must, as a minimum:

1. Meet the criteria for regular or conditional admission.

2. Submit official transcripts.
3. Submit to the College of Graduate and Professional Studies a fully completed Graduate Admission Application Form with a non-refundable admission application fee of $35.00 payable by cash, credit card, money order, or check made payable to Indiana State University.

Admission of Applicants with Undergraduate Degrees from Non-Accredited Institutions to a Master's Degree Program

Conditional Admission

Applicants with undergraduate degrees from non-accredited institutions may not be granted regular admission status. However, upon the recommendation of an academic unit, conditional admission may be granted to such applicants. Conditional admission has a maximum time limit of one academic year. Under this category of admission, final admission decision by the respective academic units shall be reserved until after the evaluation of an applicant's performance, after completion of one academic year. In order to be considered for such conditional admission status, applicants with undergraduate degrees from non-accredited institutions must, as a minimum:

1. Have earned a baccalaureate degree, which includes a general education program/courses similar to that of Indiana State University.
2. Submit official transcripts showing a minimum cumulative grade point average of 2.7 in all undergraduate course work; or submit official transcripts showing a minimum cumulative grade point average of 3.0 in the last 60 credit hours of undergraduate course work; or submit official transcripts showing a minimum grade point average of 3.0 in the applicant's major field of study.
3. Where required, submit departmentally acceptable scores in the General Test of the Graduate Record Examination (GRE) or, where applicable, other appropriate standardized measures.
4. Complete nine to 12 credit hours of undergraduate or graduate courses prescribed by applicant's chosen academic unit at Indiana State University, and achieve a minimum cumulative grade point average of 3.0 during the first academic year.
5. Satisfy and/or meet any and all additional admission requirements of the department/program where admission is being sought.
6. Submit to the College of Graduate and Professional Studies a fully completed Graduate Admission Application Form with a non-refundable admission application fee of $35.00 payable by cash, credit card, money order, or check made payable to Indiana State University.

It should be noted that some academic units may have higher and/or additional requirements beyond those stated above.

Provisional Admission

Provisional admission is intended for those applicants from non-accredited institutions who meet conditional admission requirements but are missing admissions materials other than an application, application fee, and official transcripts from the institution granting their highest completed degree. Provisional admission status may be granted to such applicants upon the recommendation of an academic unit. Final decision on applicants admitted on a provisional basis shall be reserved until all missing documents are received but may not exceed one semester. For provisional admission status, applicants must, as a minimum:

1. Have earned a baccalaureate degree, which includes a general education program/courses similar to that of Indiana State University.
2. Submit official transcripts showing a minimum cumulative grade point average of 2.7 in all undergraduate course work.

3. Submit to the College of Graduate and Professional Studies a fully completed Graduate Admission Application Form with a non-refundable admission application fee of $35.00 payable by cash, credit card, money order, or check made payable to Indiana State University.

CONTINUOUS ENROLLMENT/READMISSION AT ISU

Any student admitted to the College of Graduate and Professional Studies and to a department who has not enrolled and earned graduate credit for work at Indiana State University for a period of two consecutive years will have his or her admission automatically cancelled. In order to re-enroll in classes, a student whose admission has been cancelled must apply for readmission to the College of Graduate and Professional Studies and the department/program of interest. Students who are readmitted in the above manner will be governed by the policies and regulations in effect at the time of readmission.

STUDENT LOAD

A full-time course load is considered to be nine credit hours during the fall and spring semesters. During a regular semester the maximum course load, graduate courses or any combination of graduate and undergraduate courses, is 12 credit hours. In the summer terms, a student is allowed to earn no more than a total of 15 credit hours. However, upon the approval of a student's academic advisor, the department chairperson, and the dean of the College of Graduate and Professional Studies a student may be permitted to enroll in additional hours beyond the limits indicated above. Full-time graduate assistants must maintain full-time enrollment as outlined in the Graduate Assistantship and Scholarship/Fee Waiver Award Guidelines. Except for unusual circumstances, the normal class load of 12 credit hours per semester will not be exceeded. Part-time graduate assistants must enroll in a minimum of nine credit hours each semester and one credit hour per summer session.

GRADING

A new plus/minus grading system was approved by the Faculty Senate effective fall 2009 and is reflected in the table below. Courses taken before fall 2009 will retain their old grade point values; courses taken in fall 2009 and beyond will follow the New Points column. Official transcripts will also reflect this change beginning with the fall semester of 2009. Letter grades indicating the quality of graduate course work completed and for which the credit hours earned can be applied toward graduation requirements generally can be interpreted as follows:

Grades	*New Points*	Old Points
A+	4.00	N/A
A	4.00	4.00
A-	3.70	N/A
B+	3.30	3.50
B	3.00	3.00
B-	2.70	N/A

C+	2.30	2.50
C	2.00	2.00
F	0.00	0.00

An average of at least 3.0 is required to remain in the College of Graduate and Professional Studies, for admission to candidacy, and for graduation on any graduate degree program. The minimum grade point average may be increased in specific colleges and departments. (See departmental statements in this Catalog.) Grades of "DP" (passing at time of drop) and "DF" (failing at time of drop) will be assigned to courses dropped after the fourteenth calendar day of the semester through the end of the tenth week of the semester. Grades of "WP" (passing at time of withdrawal) and "WF" (failing at time of withdrawal) will be assigned to officially withdrawn courses after the tenth week of the semester. "DP," "DF," and "WP" grades will not be calculated in the student's grade point average. "WF" grades will be calculated in the student's grade point average as an "F."

The letter grades assigned for unsatisfactory course work at the time of drop or withdrawal during summer terms are "F" (failure) and "U" (unsatisfactory), for specially approved courses.

RETENTION

A student whose grade point average drops below a 3.0 (3.25 or 3.5 in certain programs) will be placed on probation, suspended from graduate study, or dismissed from the College of Graduate and Professional Studies. The dean of the College of Graduate and Professional Studies, in accordance with the regulations of the student's academic department and the College of Graduate and Professional Studies, will make decisions in such matters. A student who is suspended from graduate study or dismissed from the College of Graduate and Professional Studies may request a review of the case by the Graduate Student Appeals Committee of the Graduate Council.

7.7 Student Enrollment

There shall be evidence of an adequate number of program majors to sustain the program, and to operate if efficiently and effectively. Program enrollment shall be tracked and verified.

Per official university records via the office of the Associate Dean for Student Affairs of the College of Nursing, Health, and Human Services, enrollment figures for the undergraduate and graduate programs in Safety Management since 2003 are:

SAFETY MANAGEMENT COUNTS by Semester 2003-2009		
Term		
	Undergraduate Major	Graduate Major
Spring 2003	75	27

Fall 2003	71	23
Spring 2004	80	27
Fall 2004	86	26
Spring 2005	82	22
Fall 2005	70	18
Spring 2006	72	19
Fall 2006	66	19
Spring 2007	65	13
Fall 2007	66	14
Spring 2008	62	16
Fall 2008	62	23
Spring 2009	64	28
Fall 2009	74	29

From 2003-2009, a total of 38 Masters degrees were awarded. The average GPA for graduate students during the same time frame was 3.81/4.00.

7.8 Administrative Support & Faculty Qualifications: There must be evidence of appropriate administrative support from the institution for the Technology, Management, and Applied Engineering program/option including appropriately qualified administrators, an adequate number of full time faculty members and budgets sufficient to support program/option goals. Full time faculty assigned to teach courses in the Technology, Management, and Applied Engineering program/option must be appropriately qualified.

Administrative support: The College of Nursing, Health, and Human Services is committed to the Safety Management Program. The College believes that the program has tremendous potential and will continue to be a leader in the Health and Safety field.

7.9 Facilities, Equipment, and Technical Support

Adequacy of Facilities and Equipment

Facilities and equipment, including the technical personnel support necessary for maintenance, shall be adequate to support program/option goals. Evidence shall be presented showing the availability of computer equipment and software programs to cover functions and applications in each program area. Facility and equipment needs shall be included in the long range goals for the program.

Relevant Classrooms, Laboratories, Libraries, and Information Infrastructures

The facilities for the Safety Management program are housed within The Health and Human Services Building located on campus. Each full-time faculty member in the School has a private office measuring 96 sq ft. Six classrooms with seating for 45-55 students each are equipped with state-of-the art computerized audio visual support. A shared computer cluster room is available for all students (717 sq ft) There is a dedicated lab/chemical storage room (1,071sq ft). All faculty members receive a laptop computer with optional additional screen, keyboard and mouse to prepare their teaching and research materials.

Excellent library and other computer support are also available. The library on-campus has a vast collection of applicable journals and reference books and access to numerous databases (accessible from on campus or off-campus internet connections). There are two computer rooms available in the "Health and Human Services building, one available for all students, having 20 workstations. All students are required to own a laptop computer upon their admission to Indiana State University. The University supports a Student Computing Complex, available 24 hours. (See D.5)

Relevant Equipment and Supplies

The Industrial Hygiene laboratory is equipped with a variety of modern health and safety field sampling/assessment instruments, analytical equipment, personal protective equipment and associated supplies that are accessible to students and faculty. A list of major equipment for the Industrial Hygiene courses is included in this section.

Presently the faculty offices are housed in the Department of Health, Safety, and Environmental Health Sciences. Each faculty member has a private office. The faculty shares two full-time clerical support positions. The office suite includes a conference room, department library, additional office for adjunct faculty and TAs, office supply room, filing room and duplication room.

Technical Support

Indiana State University's office of Information Technology provides a full time computer technician for the College of Nursing, Health, and Human Services. Faculty who experience problems with their university-leased computers report the issues to the IT Help Desk. The Help Desk forwards the request to the technician in the college and she investigates the problem. The availability of a technician within the college gives faculty and students a personal solution to their information technology problems.

Support for Facilities and Equipment

Facility and equipment needs shall be reflected in the long-range goals and objectives for the program, and sources of potential funding shall be identified.

The Safety Management Program has prepared, and submitted to the Dean, the laboratory needs over the next five years. The long-term needs submitted were: (a) continual upgrading/replacement of equipment; (b) purchase of new equipment, specifically a digital odeometer (RA500) with software,

The faculty of the Safety Management program prepare an annual list of equipment and submit to the head of the department in order to (a) continually upgrade and replace the old equipment, and (b) purchase new equipment for expansion of the Industrial Hygiene laboratory.

Description of Process to Determine the Budget for the Program

Currently, budgets are delivered to the College and the Departments in late April or May. No input from Department chairs or Deans is solicited prior to the delivery of the budget sheets from the Budget Officer. There has been no increase in Supply and Expenses line items in any academic department at the University for at least the last five years.

There are budget hearings in the spring for the Deans and Vice Presidents. Up to this point, there has been no change in supplies and equipment due to budget hearings.

Adequacy of Institutional Support, Financial Resources and Constructive Leadership Necessary to Achieve Program Objectives

The institution has consistently provided some financial support for the Safety Management program. The Dean of College of Nursing, Health and Human Services has allocated a portion of the College's University equipment allocation to the unit. Furthermore, in-kind gifts from business and industry have supplemented the program's equipment needs. Even with these bases of support, much of the laboratory equipment is outdated and represents older technology than that generally in use in industry today. Aside from industrial hygiene equipment, the program lacks resources to acquire equipment to provide experiential learning opportunities in construction, welding, electrical, mining, robotics, and manufacturing safety, Much of this equipment is available to faculty and students in the College of Technology and is a major reason that a formal request to move our programs to that college has been initated.

Adequacy of Faculty Professional Development and How it is Planned and Funded

Operating funds in the Departments have been available for faculty members to seek professional development. Part of this is covered in the department's budget line item "travel". Money is also available from a department's designated account, which secures income from the Driver's Education fees, and the Dean's operating and designated funds. Current university budgeting strategies to offset loss of state revenues may affect the availability of faculty development funds in the future.

Description of Plan and Sufficiency of Resources to Acquire, Maintain, and Operate Facilities and Equipment Required to Achieve Program Objectives

The Safety Management program is in need of modern industrial hygiene monitoring equipment, fall protection equipment, and other personal protective equipment. In recent years, several items have been donated by area companies, but limited department and college budgets have restricted the purchase of most new equipment requests.

Appropriateness of Equipment

Equipment shall be appropriate to reflect contemporary industry.

Department of Health, Safety and Environmental Health Sciences Laboratory Equipment

The equipment currently in use is appropriate to reflect contemporary industry.

Chromatograph

Gas Chromatograph (FID, ECD)
HPLC (P200 Gradient pump,
UV100 detector, SP4600 Integrator)

Spectrophotometer

UV-Vis Spectrophotometer
Flourescent Spectrophotometer
Atomic Absorption Spectrophotometer
Vis Spectrophotometer

Other equipment

Audiometer
Laminar Flow Hood
HazMat Kit
Light Meter
Geiger Counter
Counter Top Refrigerator
Freezer
Refrigerator

Analytical Balance
Microscope
Two Dell Computers
Gillian 5-pack Pump Kits
Gillian Gilabrator and Universal Pump Calibrator
Alnor Velometer
WIBGET Heat Stress Monitor
Quest Noise Dosimeter and Calibrator
Quest Sound Level Meters with Octave Filter Set
Bubble meters (home-made)
Light Meter
Draeger Pump

1- Audiometers
2- Audiometry booth
3- Quest tech noise dosimeters
4- Quest tech sound level meters
5- Gillian electric air sampling pumps with chargers and filters
6- Manual gas detecting pumps and tubes
7- Personal gas detectors (MSA Personal H2S Detector)
8- Respirable dust air sampling Cyclones
9- Gaiger Counters and the Radioactive Samples
10- Thermometers
11- Metrosonic Wet/Dry Bulb Thermometer
12- Respirator Qualitative Fit Test Kit
13- Respirator Quantitative Fit Test Kit (Portacount)
14- Fire fighting/protection educational kit and related videos
15- Gas Alert Micro 5 (5 gas detector)
16- Test Gas – Neotronics (Cylinders for calibration)
17- Analog and Digital Scales (all types and sizes)
18- Indiana Bell BioPak 60 SCBA Rexnord
19- Personal Protective Equipments (all types and sizes) – Such as ear plugs/muffs + Respirators + Eye protections + etc
20- La Motte Water Pollution Detection Outfit
21- La Motte Air Pollution Detection Outfit
22- Kurz Flow Calibrator
23- Quest Tech Multi Log Gas Detectors
24- Indiana Bell Respirator equipment
25- Alnor Velometer
26- International Instruments Digital Manometer
27- Indiana Bell – Elsa 5 min survival kit
28- Amprob – Current Tracer
29- Narda Gaussmeter
30- Narda Microwave Survey Meter
31- Simpson Microwave Leakage tester
32- Wibget Heat Stress Monitor
33- Asbestos test kit
34- Clor-D-tect kits
35- Hood and Ventilation Demonstration Set

36- Sound Analysis System
37- United Detection – Light Meter
38- Oxygen Level Meter
39- Flow Rate Meter
40- Explosive Meter
41- Exotex Multi Gas Meter
42- Gastechtor Multi Gas Meter

7.10 Program Goals

Each major program shall have current short and long-range goals and objectives and plans for achieving them.

Long Term Goal #1	Continuous evaluation and improvement of program curriculum.
Short Term Goa1 1	Incorporate optional construction and environmental health components to the program.
Objective 1	Partnering with the Environmental Health program within our own department, a minor in Environmental Health has been established.
Tactic	The first Safety Management graduates with a minor in Environmental Health graduated in May 2006. Currently there are 7 students who have declared an Environmental Health minor.
Objective 2	Partnering with the Department of Technology Management's Construction Management program, a minor in Construction Management has been established.
Tactic	The Construction Management minor consists of 22 semester credit hours, but Safety Management majors already have 10 of those hours in their curriculum. With 4 additional courses, Safety Management majors are able to complete this minor.
Short Term Goal 2	Relocation of Safety Management program to the College of Technology
Objective 1	Submit proposal to relocate program to dean of College of Nursing, Health, and Human Services
Tactic	Proposal submitted as of October 2009
Objective 2	Participation with College of Technology restructuring plans beginning December 2009.
Tactic	Representatives of program faculty will participate in planning sessions.
Short Term Goal 3	Continued contact with and support from Safety Management Advisory groups.
Objective 1	At least annual face-to face meeting with local advisory group.
Tactic	Continue to schedule and conduct advisory group meetings at least annually.
Short Term Goal 4	Improved communications with program graduates

Objective	Develop system for flow of information between program faculty and graduates.
Tactic	Development of web site for graduates to update personal contact information and to provide them with program news
Long Term Goal #2	Promote and foster faculty professional development.
Short Term Goal #1	Each faculty member in program should pursue professional certification through Board of Certified Safety Professionals.
Objective	Provide financial support to faculty to enroll in CSP preparation course and to sit for certification exams.
Tactic	Department and college will share costs of certification exams.
Short Term Goal #2	Each faculty member in program will actively participate annually in national or international professional conferences, including session presentations and moderating.
Objective	Provide travel expenses for minimum of one national or international professional meeting per year for each program faculty member.
Tactic	Supplement department travel budget ($400 per faculty member annually) with foundation funds or other department resources.
Long Term Goal #3	Improve department funding levels for recruitment, educational tools for augmentations of classroom instruction, scholarships, and faculty professional development.
Short Term Goal 1	ISU is currently in the public phase of a development campaign to raise some $85 million.
Objective	Provide assertive effort to assist campaign at program and department levels.
Tactic	Request contributions from program alumni and corporate partners.

7.11 Program/Option Operation

Evidence shall be presented showing the adequacy of instruction including: (a) motivation and counseling of students; (b) scheduling of instruction; (c) quality of instruction; (d) observance of safety standards; (e) availability of resource materials; (f) teaching and measurement of competencies (specific measurable compentencies shall be identified for each course along with the assessment measures used to determine student mastery of the competencies); (g) supervison of instruction; (h) placement services available to graduates*.*

The full time, tenured and tenure track faculty on the Safety Management program is responsible for the advisement, motivation and counseling of the students in the program. As soon as a student declares the Safety Management major, a faculty member from the program is assigned to him/her as an advisor. Each student is required to meet with his/her advisor at least once each semester for course scheduling, advisement and career exploration. As part of the advisement process each student must complete an anonymous advisor evaluation form (See attached Advisor evaluation form). These evaluations provide faculty with feedback about their overall quality of advisement. It is expected that each faculty use the students' feedback to improve their advisement practices and address any student concerns.

It is the responsibility of the faculty to monitor instruction, along with the program coordinator and department chairperson. The faculty approved (1991) an evaluation document that identifies procedures for evaluating teaching effectiveness. The department follows the guidelines in the Evaluation Methods and Documentation of Teaching Effectiveness as approved by the Faculty Senate. Full-time tenured and tenure-track professors teach all the courses within the Safety

Management Program. Graduate students are not assigned to teach classes. The schedule of instruction is established each semester by the department chairperson.

Each professor is responsible for the organization and content presentation necessary to meet the objectives and goals for the particular courses in the curriculum for which they have been assigned. The Program's faculty is experienced, full-time faculty. It is assumed, their organization and scheduling of instruction does allow adequate time for completion of appropriate homework assignments and laboratory problem-solving activities.
Schedules are developed with consideration of program and students' needs. Every possible effort is made to meet the program requirements and the published sequence of courses required for students to complete the program in four years. Quality of instruction is evaluated by the chairperson, faculty members on the Department's Faculty Affairs Committee (FAC), and by the students. Every year each tenure-track faculty is evaluated on their teaching performance by the chairperson and one or two members of the FAC (see attached Teaching Evaluation form). In addition, every faculty member is required to administer the Student Instructional Report II (SIRs) (see attached SIRs) for each course at the end of each semester. Students have the opportunity to give anonymous feedback about the quality of instruction to their professor. In addition, the Promotion-Tenure (PT) document from the Department of Health, Safety and Environmental Health Sciences as well as the PT document for the College of Nursing, Health and Human Services recommend that each faculty do a self evaluation of their teaching and quality of instruction.

Resources for teaching, equipment and laboratory needs are distributed by the Dean of the College each year according to each department's request. Access to teaching resources are easy available in the department, including personal computers, printing materials, scanning and photocopy equipment. Each classroom is equipped with computer systems which include projectors and DVD players.. Recently the Department provided each faculty with an external hard drive backup system, and access to portable/removable power point controls. To supplement the cost of laboratory equipment the university approved a laboratory fee of $25.00 per student registered in the laboratory classes.

The faculty of the Safety Management Program is responsible for collecting evidence that demonstrates the student mastery of specific program learning outcomes. The faculty had identified seven major learning outcomes for the Safety Management Program. In addition, each learning outcome had been associated with each required course in the program to indicate whether the outcome is intended to be met at a basic (B), intermediate (I), or advanced (A) level(see attached Learning Outcomes). Each course has specific learning objectives listed on its syllabus. The faculty, through different teaching and evaluation strategies such as paper, oral presentations, group work-discussions, exams, assignments and quizzes, determines student mastery of the competencies and assigns the final grade.

The Safety Management Program requires an Internship or Practicum Experience for each student. The Internship prepares the students for employment upon graduation. The internship placement is set up in such a way that it serves as a practice to apply for jobs upon graduation. The majority of the students use the Internship experience as their starting point for job placement. Students are encouraged to participate in every career fair that the university organizes. Faculty members advise and circulate employment opportunities to students. In addition, the ISU Career Center provides a great service to the students in terms of resume preparation, practice interviews and employment opportunities.

7.12 Grauate Satisfaction with Program/Option

Graduate evaluations of the program/option shall be made on a regular basis (every two to five years). These evaluations shall include attitudes related to the importance of general outcomes and specific compentecies identified for the program/option. Summary data shall be available for graduate evaluations of the program/option.

Due to the short time available to complete this self study of the masters program, no alumni survey has been conducted for this program. In October 2009, the safety management advisory committee voted unamimously to adopt the seven stated learning outcomes from the undergraduate program and add one additional outcome for the masters program.
The masters program state learning outcomes are:

Upon completion of the Master of Science degree in Health and Safety with Occupational Safety Management specialization, the graduate should be able to:

1. Identify, describe, and classify common hazards (workplace and general).
2. Asses and explain risk and the different perception of risk by individuals and segments of the population.
3. Prepare safety and health eduation and training materials.
4. Determine the proper method of managing workforce acceptance of safety procedures, training, and engineering.
5. Select the proper collection, reporting, and summarization methods for incident reporting.
6. Prioritize and recommend the proper action level (design, safety device, warning device, training, or PPE) and control technique for loss exposure (engineering contrrol, administrative control, PPE) to prevent injuries and property losses.
7. Gain the necessary quantitative and analytical skills to manage a safety department regarding the economical, financial, and decision making aspectsd of safety management.
8. Demonstrate adherence to professional and ethical standards, and become an advocate for positive change in the Safety Profession through development of standards, increasing knowledge base and participating in the appropriate professional activities.

7.13 Employment of Graduates

Placement, job titles, and salaries of graduates shall be tracked on a regular basis (two to five years). The jobs held by graduates shall be consistent with program/option goals. Summary data shall be available for the employment of graduates.

The only survey conducted for this accreditation cycle was for alumni of the undergraduate program, but two of the respondents have also completed their masters degrees. Results of that survey included the following:
Based on results of the survey of graduates, 14 of the 17 respondents were currently employed within the safety industry and the following job titles were obtained: director, manager, associate, representative, others. Industries in which graduates reported employment included construction, manufacturing,consulting, general business, and education.
Primary job responsibilities included industrial hygiene (29%), risk management (35%), construction safety (64.7%), emergency management/preparedness (29.4%), accident/incident investigation (52.9%), hazardous materials (23.5%), environmental regulations (11.8%), general

OSHA (52.9%), Safety Training/education (64.7%), seccurity (5.9%). The survey allowed respondents to select multiple answers for primary responsibilities. Most alumni listed secondary work responsibilities as well.

Respondents were asked to report a salary range for their current position. Those results were:

<$40,000	1
$40,001-55,000	8
$55,001-70,000	2
$70,001-100,000	2
>$100,000	1
Missing	3

These reported salaries are for graduates with less than six years experience.

7.14 Job advancement of Graduates

The advancement of graduates within organizations shall be tracked on a regular basis (two to five years) to ensure promotion to positions of increasing responsibility. Summary data shall be available for the job advancement of graduates.

Due to lack of data, it is not possible to make a conclusive statement about the job advancement of safety management masters program alumni. Individual alumni have reported advancement into management positions within many of their companies including manufacturing, construction, and consulting organizations. A future survey of graduates will include questions concerning job advancement as a result of their degree completion.

7.15 Employer Satisfaction with Job Performance

Employer satisfaction with the job performance of graduates shall be tracked on a regular basis (two to five years) including employer attitudes related to the importance of the specific competencies identified in the program. Summary data shall be available showing employer satisfaction with the job performance of graduates.

The majority of the students enrolled in our graduate program are currently employed and are part time students. Most are receiving at least partial financial support from their employers to complete an advanced degree. Due in part ot the short time frame for completing a self study of the masters program, no survey of employers has been conducted at this time. It is expected that within the next two years a comprehensive survey of employers of the masters program alumni will be completed. Several of the members of the safety management advisory committee are alumni of the the masters program.

7.16 Graduate Success in Advanced Program

If a goal of the program/option is to prepare students for advanced studies, then the success in the advanced study programs shall be tracked and confirmed. Summary data shall be available showing success in advanced programs.

While not stated as one of our outcomes, we do encourage many of our undergraduate majors to pursue advanced degrees. According to university records, since 2003, 18 B.S. program graduates have entered into our masters program and since 2003 a total of 11 undergraduate alumni have earned their masters degrees in our graduate program. We currently have no record of B.S. program graduates pursuing advanced degrees from other institutions. We also have no record of masters program alumni since 2004 pursuing terminal doctoral degrees from any institution.

7.17 Student Success in Passing Certification Exams

The following letter was sent from the Board of Certified Safety Professionals concerning data from program graduates who have attempted the Associate Safety Practitioner (ASP) exam and the Certified Safety Professional (CSP) exam. The BCSP did not differentiate between BS and MS degrees in this letter.

Dear Dr. Blyukher,

BCSP is excited to hear about the pursuance of re-accreditation for the Safety Management Program at ISU and is looking forward to working with you to provide students with the opportunity towards CSP certification through the Graduate Safety Practitioner (GSP) Program path once ABET accreditation has been achieved.

As I mentioned in my voice mail, BCSP is currently in the process of updating our database management system and transferring information from our legacy system. The problem with gathering a true reflection of the number of graduates lies in the fact that there have been multiple methods used for entering data which has changed over time. In early cases, the specific university information was not captured in the database and since has been entered in different formats so there are inconsistencies and missing data that is only available by pulling hard copy files. However, below is the information I was able to gather, albeit not the complete picture.

The numbers below are based on a graduation year of 2000 or later.

- 19 graduates have achieved the ASP designation*
- 12 graduates have achieved the CSP certification
- 9 candidates are currently eligible to sit for Safety Fundamentals (2 of which have sat for the exam previously and did not pass)
- 5 are no longer eligible due to not passing the examination within eligibility time limits

I hope this helps. Please let me know if I can be of further assistance.

Sincerely,

Christy Uden
Customer Service Manager
Board of Certified Safety Professionals
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*Since receiving this letter , one additional graduate has passed the ASP exam.

7.18 Advisory Council Approval of Overall Program

The Safety Management advisory board consists of professionals from a variety of industries that meet at least once per academic year, usually during the spring semester, to review the current curriculum and proposed modifications. In general, board terms are three years, and renewable. In some instances, members may not complete a three year term and are replaced. The current board members include:

Larry Meddles—Gartland Foundry
Mike Howard—Rose Hulman Institute of Technology
Bill Oliver—AET, Inc.
Paul Woerz—Alcoa
Larry Newport—Keramida
Ted Buck—Bell South
Kelly Lemons—TBM Building Services
Phil Hatfield—Safety Management Group

Minutes of the most recent meeting follow. Minutes of previous meetings may be found in appendices

Minutes

The Safety Management Advisory Group

October 5, 2009

Present: Larry Meddles, chair, Mike Howard, Kelly Coy, Larry Newport, Bill Oliver, Yasenka Peterson, Bill Campbell, Farman Moayed, Ernie Sheldon, Shiaw-fen Ferng, Eliezer Bermudez, Boris Blyukher.

Meeting was called to order by Chairman Larry Meddles at 3:30 pm. Dr. Moayed moved to approve minutes of April 9, 2009 meeting. Dr. Ferng seconded and motion passed unanimously. Bill Oliver moved that the faculty move forward with re-accreditation of the undergraduate program and initial accreditation of the graduate program through the Association for Technology Management and Applied Engineering (ATMAE). Mike Howard seconded and the motion passed unanimously. The process is being led by Dr. Brad Lawson in the College of Technology. Dr. Lawson is a charter member of ATMAE (formerly NAIT) and very experienced in accreditation procedures. A timeline for completion of the accreditation self studies was discussed and the faculty noted that their target date for completion is mid December, although Dr. Lawson's target date is late January. The accreditation team visit will occur in late March or early April 2010.

Drs. Blyukher, Sheldon, Campbell, and Moayed met with Dean Sims, Associate Dean McNabb, and all three department chairs from the College of Technology on October 2 to explore the fit of the Safety Management programs within that college. A tour of the COT facilities will be given to our faculty in the near future.

Mike Howard suggested that the curriculum in the program might need to include more focus on security and biosafety. Larry Meddles noted that process safety management is not currently included in our curriculum.

Meeting was adjourned at 4:15 pm.

7.19 Outcome Measures Used to Improve Program

Evidence shall be presented showing how multiple outcome measures (Graduate Satisfaction with Program/Option, Employment of Graduates, Job Advancement of Graduates, Employer Satisfaction with Job Performance, Graduate Success in Advanced Programs, Student Success in Passing Certification Exams, and Advisory Committee Approval of Program) have been used to improve the overall program/option. Evidence that program stakeholders participate in this process must be demonstrated.

Whether an organization specializes in business, entertainment, or education, without constantly striving to improve itself, it will quickly lose its edge. The Safety Management programs at Indiana State University have evolved over many years to continue to provide the industries our graduates serve with knowledgeable personnel who understand workplace hazards, workers' behavior, and the economic consequences of injuries and occupational diseases to employers, family, and society. To maintain the reputation of a well-respected program we have utilized a variety of evaluative methods including regular meetings of our industrial advisory board, student and peer teaching evaluations, and employer feedback. Beginning two years ago we developed a list of outcome measures that we are now using to assess the effectiveness of our programs. These outcomes measures were initially written by two faculty members attending a university workshop to prepare for North Central accreditation. The decision to apply for ATMAE reaccreditation for our undergraduate program using the outcomes assessment model was based on compatibility with the university's requirements for the North Central process. When we learned that ATMAE was now accrediting masters programs using this model we decided to apply for an initial accreditation for our masters program as well.

Both our bachelors and masters program were at one time accredited with the American Society of Safety Engineers (ASSE), but those accreditations expired in 1997 after ASSE turned over its accredited programs to ABET. At that time, our programs would have required dramatic curricular changes to meet the criteria for ABET. In 2003, two of our faculty attended a NAIT accreditation workshop and it was determined that our programs fit well within the structure of NAIT. Since several programs in the College of Technology (COT) were due for reaccreditation in 2004, we were invited by COT to complete a self study and submit with their own programs for the visiting team to review that year. Upon completion of a two year follow up report, our undergraduate program was granted full accreditation. Since that time the college structure at ISU has changed. The former College of Health and Human Performance, where our program had originated, was merged with the College of Nursing to form the largest professional college on campus. We currently have filed a formal request to our dean to move the safety management programs into COT, a move we are certain would benefit our students by providing more experiential learning opportunities in their available laboratories. At this time we are awaiting his decision on our request.

The Safety Management advisory board consists of professionals from a variety of industries that meet at least once per academic year to review the current curriculum and proposed modifications. During 2009 the advisory board met twice, April 9 and October 5. The board, in conjunction with the faculty members, discussed suggested changes to various courses in the Safety Management Program following review of syllabi for the courses. These courses are: HLTH 212 – Introduction to occupational health and safety; HLTH 314 – Industrial health and safety legislation; HLTH 427 – Applied physics for health sciences; HLTH 416 – Administration of industrial health and safety programs; and HLTH 423 – Current issues and training concepts in industrial health and safety. Some of the board members' suggestions and recommendations included the covering of Hazardous Materials chapter in HLTH 212, taking the Applied physics and math courses at the start of the Safety Program, and the creation of a new course that combines HLTH 416 and HLTH 423.

Members of the advisory board have also been instrumental in facilitating internship sites for the students in the Safety Management program. In addition, the advisory board reviewed the student Learning Outcomes for the Safety Management Program. The board suggested that a learning outcome that addresses health and safety codes in the workplace should be added. They also recommended the creation of learning outcomes for the Master's program in Occupational Health and Safety.

Evidence to show the multiple outcomes measures has been presented in several of the preceding standards. In addition, the following items are included in the appendices of this document:

- Degree Audit Reporting System (DARS) sample forms for a student early in the program and for a candidate for graduation
- Student Instructional Report II (SIRII) individual blank form and instructor's summary
- Complete survey data
- Completed internship employer evaluation
- Advisor evaluation form
- Peer teaching evaluation form

Each of these evaluation tools is used by the faculty to continuously modify course goals, topics, and presentation techniques. Since our last accreditation cycle, overhead computer projection systems have been installed in every classroom used by our program. Graduate distance education courses have from satellite television courses with two way audio available only within the state boundaries of Indiana to interactive computer-based presentations viewable live from anywhere in the world. This change has resulted in graduate student applications from all across the country and a broad diversity of our graduate student demographics. As technology continues to advance, faculty will migrate toward new and creative methods of delivery including podcasts and two-way video presentations.

The Safety Management programs at Indiana State University have enjoyed a successful history and will continue to thrive and improve by adapting to the changing demands of our students and employers within the safety industry.