

NIKOLA TESLA STEM HIGH SCHOOL

INSPIRE INNOVATE EDUCATE

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Tesla STEM High School is a science, technology, engineering and mathematics high school that uses problem-based learning to prepare students for future STEM professions. Students conduct research in STEM Lab Concentrations, investigate real world problems, and bring research and debate into the equation while working towards viable resolutions. Students enroll in on average, six Science courses and four Math

courses for the duration of their high school years. Engineering and Technology is integrated into all grade level classes throughout their four years at Tesla STEM. Tesla STEM is a public, choice school that uses a lottery-style system for enrollment.

A key academic feature frames the first two years of a student's experience at STEM. Students are immersed in an integrated Science, Engineering, and Humanities sequence where the focus is on the students' development of multiple skills, including conducting authentic research, working with primary source documents, developing scientific investigations, understanding and applying the engineering design process, collaboratively working in the Problem-Based Learning environment, developing digital literacy, and expanding critical thinking skills. Courses completed in first two years at Tesla STEM include: honors-level English, Language, Physics and Math, Graphic Design, Computers and/or Engineering, AP Environmental Science and AP/Honors Biology.

As a critical component in STEM education, during the final two years, students work in one defined STEM Lab Concentration in each of their Junior and Senior years, conducting inquiry and research, explore questions of their own, and champion their own ideas to the level of publication and/or production. The Lab Concentrations continue to address the goals of the Grand Challenges for Engineering to support a bright and sustainable future on a global scale.

Tesla STEM Lab Concentrations

Environmental Science and Sustainable Design (EESD) -This lab focuses on cause, effect, and science of global climate change, along with a strong emphasis on engineering and sustainability solutions; which are the central themes of this lab. (Junior Year)

Forensics and AP Psychology- Forensic Science engages students in systems biology problem solving, applying forensic science knowledge to engineer crime maps and data bases, and provides students with innovative thinking. AP psychology applies understanding of the brain and psychology to solve problems and analyze criminal behavior and crime trends. (Junior Year)

AP Physics and Global Engineering-AP Physics focuses on extensive mathematical modeling of physical phenomena and calculus based problem solving. In Global Engineering, students make extensive use of hardware to investigate phenomena, apply physical/mathematical understanding and create new devices. (Senior Year)

Human Anatomy and Physiology and Biomedical Engineering— Human Anatomy & Physiology provides an in-depth study of the eleven human body systems. Primary study includes terminology associated with the human body and the relationships between the structure and function of organ systems. In Biomedical Engineering, students evaluate current medical practices, and research and develop improvements in medical technology. (Senior Year)

TESLA GRADUATING CLASS: 2017

SENIOR CLASS SIZE: 124

AVERAGE UN-WEIGHTED GPA: 3.4
TESLA STEM DOES NOT RANK

8 NATIONAL MERIT SCHOLARS

21 COMMENDED MERIT SCHOLARS

47 AP SCHOLARS

28 AP SCHOLARS WITH HONORS

114 AP SCHOLARS WITH DISTINCTION

23 NATIONAL AP SCHOLARS

ACT (MEAN SCORES)

TESLA COMPOSITE: 30.4
NATIONAL COMPOSITE: 22.4

SAT (MEAN SCORES)

MATH: 680
READING: 656
WRITING: 642

AP (MEAN SCORES)

TESLA AP PASS RATE: 88.9%
(WA STATE: 60.8%)

BIOLOGY: 3.75
(WA STATE: 2.95)

CALCULUS AB: 3.98
(WA STATE: 3.07)

CALCULUS BC: 3.94
(WA STATE: 3.65)

CHEMISTRY: 3.27
(WA STATE: 2.64)

COMPUTER SCIENCE: 4.00
(WA STATE: 3.09)

ENVIRONMENTAL SCIENCE: 3.99
(WA STATE: 2.74)

LANGUAGE: 3.45
(WA STATE: 2.88)

PHYSICS C E&M: 3.55
(WA STATE: 3.53)

PHYSICS C MECHANICS: 3.91
(WA STATE: 3.72)

PSYCHOLOGY: 3.98
(WA STATE: 2.92)

STATISTICS: 3.65
(WA STATE: 2.90)

US HISTORY MEAN SCORE: 3.21
(WA STATE: 2.76)

Tesla Grading Scale

A	100-90%	4.0-3.7
B+	89-87%	3.6-3.3
B	86-83%	3.2-3.0
B-	82-80%	2.9-2.7
C+	79-77%	2.6-2.3
C	76-73%	2.2-2.0
C-	72-70%	1.9-1.7
NC	69-0%	

2016 STUDENT AWARD HIGHLIGHTS

IMAGINE TOMORROW:

FOOD, ENERGY & WATER CATEGORY: 1ST — SOLAR WATER DISINFECTION, 1ST — OPTIMIZING WATER DESALINATION, 1ST — PROJECT SUSTAIN

BIOFUELS CATEGORY: 1ST —DEPRESSURIZING DISTILLATION, 1ST —VALUE ADDED GLYCEROL, 1ST —TRILLION TON PROBLEM

BUILT ENVIRONMENT CATEGORY: 1ST — ADVOCATING GREEN BEHAVIOR

UW CSE YOUTH APPS CHALLENGE:

1ST—BEST APP, CARPOOL SCHOOL

WA SCIENCE & ENGINEERING FAIR:

2ND— OPTICS & PHOTONICS

3RD—BELUGA SOFTWARE

HOSA:

1ST— CAREER PREPARATION, ESSAYS ON TECHNOLOGY, PREPARED PRESENTATION, VIDEO GAME DESIGN

2ND— DENTAL SCIENCE, PUBLIC HEALTH, RESEARCHED PERSUASIVE SPEAKING, MEDICAL INNOVATION, HUMAN GROWTH AND DEVELOPMENT, TRANSCULTURAL HEALTHCARE

3RD—CERT SKILLS, RESEARCHED PERSUASIVE SPEAKING, BEHAVIORAL HEALTH, MEDICAL MATH, PHARMACOLOGY

FBLA:

1ST— BUSINESS ETHICS, MANAGEMENT INFORMATION SYSTEMS, ECONOMICS, BUSINESS CALCULATIONS, INTRO TO BUSINESS COMMUNICATION

2ND— PARLIAMENTARY PROCEDURE, BUSINESS COMMUNICATION, SALES PRESENT.

3RD—PERSONAL FINANCE, ECONOMICS, NETWORKING CONCEPTS, DIGITAL VIDEO PRODUCTION

NWABR EXPO:

(3D PRINTING CATEGORY)

1ST— BONE BRACE FOR COMMUNUTED FRACTURES AS AN ALTERNATIVE TO AMPUTATION

2ND—SHOULDER HOLDER

3RD— DEVELOPING A 3D PRINTABLE TRANSTIBIAL PROSTHESIS FOR DOWNHILL SKIING

TSA -16 TOTAL AWARDS, INCLUDING:

1ST—CAREER PREPARATION, ESSAYS ON TECHNOLOGY, PREPARED PRESENTATION, VIDEO GAME DESIGN

2ND—DESKTOP PUBLISHING, ENGINEERING DESIGN, SOFTWARE DEVELOPMENT, TECHNOLOGY BOWL

3RD— ENGINEERING DESIGN, EXTEMPORANEOUS SPEECH, MUSIC PRODUCTION, PHOTOGRAPHIC TECHNOLOGY, WEBMASTER

CENTRAL SOUND SCIENCE FAIR:

1ST—BEHAVIORAL & SOCIAL SCIENCE, EARTH AND ENVIRONMENTAL SCIENCES,

2ND—ENERGY: ORGANISMAL SCIENCE, CHEMICAL AND PHYSICAL, BEHAVIOR/SOCIAL SCIENCE

3RD—, BEHAVIORAL & SOCIAL SCIENCE, EARTH AND ENVIRONMENTAL SCIENCE

Tesla Internships/Partnerships

As a critical component in STEM education, students work in partnership with Tesla's High School faculty, college professors, industry experts, and community and business leaders in a combined effort to further support and enrich students' interests and curiosity in science, technology, engineering, and mathematics.

During their Junior year, the majority of our scholars participate in these valuable internship experiences, allowing the learner to take those connections made in Tesla's courses and lab concentrations to use their knowledge and skills in real time with the experts and leaders in the specific STEM fields. Some Business Partners Include:

Aerojet
Astronics
City of Redmond
Concur
Cyber Patriots/Air Force Association
DLR Architecture
Genie/Terex Corporation
Glacier River Design
Integrus Architecture
MicroGreen Polymers
National Center for Women and Information Technology
Teals Program/Microsoft
TiE Young Entrepreneurs
University of Washington
Washington State Patrol Crime Lab
Waste Management

Our 2015 & 2016 graduates have gone on to attend many colleges, including: Cal Tech, Rice University, Purdue, Dartmouth, University of Washington, Stanford University, Washington University, Cornell, Princeton, Johns Hopkins, UCLA, UC Berkeley, Gonzaga, Whitman, Vanderbilt, Cal Poly, Chapman, Linfield College, Rose Hulman and Harvey Mudd



Advanced Courses	Honors/AP/ Accelerated/Dual
9th English	Honors
10th English	Honors
English Language	Honors, AP
English Literature	Accelerated
U.S. History	Honors, AP
Contemporary World Problems & Global Health	Honors, Dual Credit
Advanced Algebra	Honors
UW Pre Calculus	Accelerated, Dual
Calculus AB	AP
Calculus BC	AP
Statistics	AP
Physics	Honors
Physics C: Mechanics	AP
Physics C: Elect. & Mag.	AP
Chemistry	Honors, AP
Biology	Honors, AP
Environmental Science	AP
Forensics	Accelerated, Dual
Environmental Science & Sustainable Design	Accelerated, Dual Credit
Human Anatomy & Physiology	Honors, Dual Credit
Advanced Biomedical Lab	Accelerated
AP Comp Science Principles	AP
C#/Game Design	Accelerated
Computer Programming	AP
Adv. Projects in Java	Accelerated, Dual
Spanish I, II, III	Honors
Psychology	AP
Engineering II	Accelerated

ACADEMIC COUNSELORS:

Kelly Wescott

Molly Touran

Paula Olson—First Semester

Jessica Strange—Second Semester

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