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%	

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

NIKOLA TESLA STEM HIGH SCHOOL

4301 228TH AVENUE NE,

REDMOND, WA

Website: http://www.lwsd.org/school/stem

<u>ACADEMIC COUNSELORS:</u>

Kelly Wescott

Molly Touran

Paula Olson—First Semester

Jessica Strange—Second Semester