NIKOLA TESLA STEM HIGH SCHOOL

INSPIRE INNOVATE EDUCATE

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Tesla STEM High School is a public science, technology, engineering and mathematics high school that uses Problem-Based Learning to prepare students for future STEM professions. Tesla STEM is a public, choice school that uses a lottery-style system for enrollment. In class, students conduct research in STEM Lab Concentrations, investigate real world problems, and bring research and debate into the equation while working towards viable solutions. Students enroll in, on average, six Science and four Math courses over the duration of their high school career, with Engineering and Technology topics integrated into all grade-level classes.

Courses completed during the first two years at Tesla STEM include: Honors-level English, World Language, Physics, Math, Graphic Design, Computer Science, Engineering, AP Environmental Science, AP or Honors Biology, and Entrepreneurship. In their final two years at STEM, students work in either a defined STEM Lab Concentration or STEM pathway each year, conducting inquiry and original research to the level of publication and/or local and national academic competitions. Lab Concentrations address the goals of the National Academy of Engineering's "Grand Challenges for Engineering" in order to support a bright and sustainable future on a global scale.

Tesla STEM Lab Concentrations/STEM Pathways

Junior STEM Labs:

Environmental Science and Sustainable Design - This lab focuses on cause, effect, and the science of global climate change, along with a strong emphasis on the central lab themes of engineering and sustainability solutions. *Dual credit is available via U of Washington.*

Forensics and Psychology - This lab engages students in systems biology problem solving, applying forensic science knowledge to engineer crime maps and data bases, and provides students with innovative thinking. Students apply understanding of the brain and psychology to solve problems and analyze criminal behavior and crime trends. *Dual credit via U of Washington and AP credit are available.*

Senior STEM Labs:

Advanced Physics and Global Engineering - Advanced Physics focuses on extensive mathematical modeling of physical phenomena and calculus-based problem solving. Students make extensive use of hardware to investigate phenomena, apply physical/mathematical understanding in unit projects, and create new devices. *AP credit (AP Physics C: M + EM) are available.*

Advanced Biomedical STEM Lab - Honors Human Anatomy and Physiology is presented in tandem with Advanced Biomedical Engineering. Human body systems are explored using various vertebrate models. This knowledge is then applied in a project-based learning format which teaches modern lab techniques and creates innovative solutions to real world problems. Students investigate how our changing planet is impacting human health and how sustainability is at the interface of modern biomedical science. *Dual credit is available via U of Washington.*

STEM Pathways (all grade levels):

Engineering Pathway—Our Engineering 1, 2 & 3 courses are hands-on project-based courses that emphasize the engineering design process, with increasing complexity, rapid prototyping and the presentation of large-scale projects. *Dual credit is available via U of Texas-Austin.*

Computer Sciences Pathway—Our sequential Computer Science courses include increasing levels of computational thinking, data abstraction, beginning through advanced programming, and mobile development. Students at all levels participate in contest-based experiences. *Dual credit via Bellevue College and AP credit are available.*

TESLA GRADUATING CLASS: 2019

SENIOR CLASS SIZE: 132

AVERAGE UN-WEIGHTED GPA: 3.52
(on a 4.0 scale)
TESLA STEM DOES NOT RANK

6 NATIONAL MERIT SCHOLARS
30 COMMENDED MERIT SCHOLARS
79 AP SCHOLARS
41 AP SCHOLARS WITH HONORS
144 AP SCHOLARS WITH DISTINCTION
37 NATIONAL AP SCHOLARS

SAT (2018 MEAN SCORES)

TESLA: MATH: 711; ERW: 676
WA STATE: MATH: 533; ERW: 539

ACT (2017 MEAN SCORES)

TESLA COMPOSITE: 29.5
WA STATE COMPOSITE: 21.9

AP (MEAN SCORES)

TESLA AP PASS RATE: 88.3%
(WA STATE: 63.3%)

BIOLOGY: 3.67
(WA STATE: 2.96)

CALCULUS AB: 4.17
(WA STATE: 3.21)

CALCULUS BC: 3.82
(WA STATE: 3.64)

CHEMISTRY: 3.74
(WA STATE: 2.84)

COMPUTER SCI A: 4.03
(WA STATE: 3.42)

COMP SCI PRINCIPLES: 3.45
(WA STATE: 3.07)

ENVIRONMENTAL SCIENCE: 3.75
(WA STATE: 2.84)

ENGL LANGUAGE: 3.55
(WA STATE: 3.01)

PHYSICS C E&M: 4.02
(WA STATE: 3.82)

PHYSICS C MECHANICS: 4.11
(WA STATE: 3.73)

PSYCHOLOGY: 4.19
(WA STATE: 3.05)

STATISTICS: 3.79
(WA STATE: 3.00)

US HISTORY MEAN SCORE: 3.65
(WA STATE: 2.78)

TESLA STEM GRADING SCALE

A	100-90%
B+	89-87%
B	86-83%
B-	82-80%
C+	79-77%
C	76-73%
C-	72-70%
NC	69-0%

P grade issued at school's discretion for 69-60% or for non-grade-bearing courses

Diploma Requirements: Credit requirements for all grade levels can be accessed at http://www.lwsd.org/programs-and-services/curriculum-instruction/high-school-guide/graduation-requirements

Tesla Junior Year Internship Experiences

As a critical component in STEM education, students work in partnership with college professors, industry experts, and community and business leaders in a combined effort to further support and enrich students' interests and curiosity.

During Junior year 95% of our scholars participate in a school-sponsored internship experience, allowing the learner to connect their courses and lab concentrations and use their knowledge and skills in real time with the experts and leaders in specific STEM fields. Some Business Partners Include:

Aerojet — DLR Architecture
Genie/Terex Corp
Glacier River Design
Inventcor — Integrus Architecture
MicroGreen — Microsoft
NW Medical Physics Center
University of Washington
Washington State Patrol Crime Lab
Waste Management—Zengalt

Our 2015-18 graduates have gone on to attend many colleges, including: MIT, CalTech, Rice, Purdue, Dartmouth, University of Washington, Stanford, Washington University, Cornell, Georgia Tech, Princeton, Johns Hopkins, UCLA, UC Berkeley, Gonzaga, Whitman, Vanderbilt, Cal Poly, Chapman, Rose Hulman, and Harvey Mudd.

Advanced Courses	Honors/AP/ Accelerated/ Dual
9th & 10th grade English	Honors
English Language 11th grade	Honors, AP
World Literature/ARC	Accelerated
U.S. History	Honors, AP
Contemporary World Problems	Honors
Psychology	AP
Advanced Algebra	Honors
Math Analysis	Accelerated
Calculus AB, Calculus BC	AP
Statistics	AP
Physics	Honors
Physics C: Mechanics + Electrical & Magnetic	AP
Chemistry	Honors, AP
Biology	Honors, AP
Environmental Science	AP
Forensics	Accelerated, Dual
Environmental Science & Sustainable Design	Accelerated, Dual Credit
Anatomy & Physiology	Honors, Dual Cr
Advanced Biomedical Lab	Accelerated
Comp Science Principles	AP
Comp Program/Game Design	Accelerated
Computer Science A (Java)	AP
Adv. Projects in Comp Sci.	Accelerated
Data Structures	Accelerated
Spanish I, II, III	Honors
Engineering I	Dual Credit
Engineering II, III	Accelerated