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 an 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. Tesla STEM is a public, choice school that uses a lottery-style system for enrollment.

During the first two years of a student’s experience at STEM, students are immersed in an integrated Science, Engineering, and Humanities sequence. The key academic focus is on 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 the 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 either a defined STEM Lab Concentration or STEM pathway 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/STEM Pathways**

**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)

**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 presentation of large-scale projects. (all grades)

**Computer Sciences Pathway**— Our four 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. (all grades)
### 2016 STUDENT AWARD HIGHLIGHTS

#### Imagine Tomorrow:
- Food, Energy & Water Category: 1st — Design Category, 1st — Behavior Category
- Biofuels Category: 1st — Technology Category, 2nd — Design Category
- Aerospace Category: 2nd — Design Category

#### Congressional Apps Challenge
- Aware of Excellence

#### WA State Science & Engineering Fair:
- Grand Prize Winner, Genius Olympiad, Seattle, 1st
- Outstanding Delegate (2)

#### Nationals: 1st
- Biomedical Debate, Problem Solving, Dental Science, veterinary, Nutrition
- Career Preparation, Essays on Technology

#### State: 1st
- Medical Innovation, Epidemiology, Public Health, Medical Term, Pathophysiology, Transcultural Healthcare
- Biomedical Debate, Problem Solving, Dental Science, Veterinary, Nutrition

#### FBLA:
- Nationals: 6th — Intro to Business

#### NWAB EXPO:
- 3D Printing Category
  - Prosthetic Horseshoes
  - Transcatheter Aortic Heart Valve

#### TSA:
- Nationals: 1st — Music Production, 2nd — Prepared Presentation
- Future Technology, Engineering Design, Music Production, Promotional Design, Software Dev, STEM Careers

#### Model UN:
- Outstanding Delegate (2)
- Distinguished Delegate (2)

#### Central Sound Science Fair:
- Grand Prize Winner
- 1st Behavior/Behavioral Science, Biomedical, Cellular/Molecular, Environmental, Environmental, Environmental, Environmental Engineering, Chemical

### 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 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 DLR Architecture
- Cyber Patriots/Army Force Association
- Genie/Terex Corporation
- Glacier River Design
- Inventcor Integris Architecture
- MicroGreen Polymers
- National Center for Women and Information Technology
- NW Medical Physics Center
- Teals Program/Microsoft
- TIE Young Entrepreneurs
- University of Washington
- Washington State Patrol Crime Lab
- Waste Management Zengalt

Our 2015-17 graduates have gone on to attend many colleges, including: CalTech, Rice, Purdue, Dartmouth, University of Washington, Stanford, Washington University, Cornell, Princeton, Johns Hopkins, UCLA, UC Berkeley, Gonzaga, Whitman, Vanderbilt, Cal Poly, Chapman, Linfield, Rose Hulman, and Harvey Mudd.

### Advanced Courses

<table>
<thead>
<tr>
<th>Advanced Courses</th>
<th>Honors/AP/Accelerated/Dual</th>
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<tbody>
<tr>
<td>9th &amp; 10th grade English</td>
<td>Honors</td>
</tr>
<tr>
<td>English Language</td>
<td>Honors, AP</td>
</tr>
<tr>
<td>English Literature</td>
<td>Accelerated</td>
</tr>
<tr>
<td>U.S. History</td>
<td>Honors, AP</td>
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<tr>
<td>Contemporary World Problems &amp; Global Health</td>
<td>Honors, Dual Credit</td>
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<tr>
<td>Psychology</td>
<td>AP</td>
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<tr>
<td>Advanced Algebra</td>
<td>Honors</td>
</tr>
<tr>
<td>UW Pre Calculus</td>
<td>Accelerated, Dual</td>
</tr>
<tr>
<td>Math Analysis</td>
<td>Accelerated</td>
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<tr>
<td>Calculus AB</td>
<td>AP</td>
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<tr>
<td>Calculus BC</td>
<td>AP</td>
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<tr>
<td>Statistics</td>
<td>AP</td>
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<tr>
<td>Physics</td>
<td>Honors</td>
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<tr>
<td>Physics C: Mechanics</td>
<td>AP</td>
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<tr>
<td>Physics C: Elect. &amp; Mag.</td>
<td>AP</td>
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<tr>
<td>Chemistry</td>
<td>Honors, AP</td>
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<tr>
<td>Biology</td>
<td>Honors, AP</td>
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<tr>
<td>Environmental Science</td>
<td>AP</td>
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<tr>
<td>Forensics</td>
<td>Accelerated, Dual</td>
</tr>
<tr>
<td>Environmental Science &amp; Sustainable Design</td>
<td>Accelerated, Dual Credit</td>
</tr>
<tr>
<td>Anatomy &amp; Physiology</td>
<td>Honors, Dual</td>
</tr>
<tr>
<td>Advanced Biomedical Lab</td>
<td>Accelerated</td>
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<tr>
<td>Comp Science Principles</td>
<td>AP</td>
</tr>
<tr>
<td>Comp Program/Game Design</td>
<td>Accelerated</td>
</tr>
<tr>
<td>Computer Science A (Java)</td>
<td>AP</td>
</tr>
<tr>
<td>Adv. Projects in Comp Sci.</td>
<td>Accelerated</td>
</tr>
<tr>
<td>Spanish I, II, III</td>
<td>Honors</td>
</tr>
<tr>
<td>Engineering II, III</td>
<td>Accelerated</td>
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</tbody>
</table>

### Academic Counselors:
- Molly Touran (last names A-I)
- Jessica Strange (last names J-N)
- Kelly Wescott (last names O-Z)