Mountlake Terrace STEM Program
Exploratory Diploma Guide

The Mountlake Terrace STEM Program's Exploratory Diploma offers a customizable four-year program to recognize students who have taken multiple STEM classes in addition to studying math and science beyond the minimum graduation requirements. The Exploratory Diploma does not require students to take a specific sequence of STEM Classes. Rather, this allows for exploration across fields, and promotes the integration of those disciplines in a final project.

Directions

To receive a STEM Program Exploratory Diploma, students should begin their coursework with Introduction to Engineering Design, take 2.0cr of STEM electives, 3.0cr of Math, 3.0cr of science, one additional math or science class, and finish with STEM English 12. If these credits are completed with a 70% (C-) or better, then students will earn a STEM Exploratory Diploma.

Take Both Foundations of STEM (2.0cr)

- **Introduction to Engineering Design** (1.0cr)

Students learn the basics of Design, project management, communication and other skills necessary to function in the 21st century workplace

- **STEM English 12** (1.0cr)

Students spend the year proposing, developing, and presenting a capstone project for the International Science and Engineering Fair

Pick 2 STEM electives (2.0cr)

- Principles of Engineering (1.0cr)
- Aerospace Engineering (1.0cr)
- Manufacturing Innovations (1.0cr)
- AP Computer Science Principles (1.0cr)
- AP Computer Science A (1.0cr)
- Biotechnology (1.0cr)

Pick 3 Math (3.0cr) (Take at MTHS)

- Algebra 1 (1.0cr)
- Geometry (1.0cr)
- Honors Geometry (1.0cr)
- Algebra 2 (1.0cr)
- Honors Algebra 2 (1.0cr)
- Pre-Calculus (1.0cr)
- CHS Pre-Calculus (1.0cr)
- CHS Calculus (1.0cr)
- AP Calculus AB (1.0cr)
- AP Calculus BC (1.0cr)
- AP Statistics (1.0cr)

Pick 3 Science (3.0cr) (Take at MTHS)

- Integrated Physical Science (1.0cr)
- Food Science (1.0cr)
- Biology (1.0cr)
- Honors Biology (1.0cr)
- Earth Space Science (1.0cr)
- Zoology (0.5cr)
- AP Biology (1.0cr)
- Chemistry (1.0cr)
- AP Chemistry (1.0cr)
- Astronomy (0.5)
- Human Anatomy & Physiology (1.0cr)
- Physics (1.0cr)
- AP Physics (1.0cr)

+1.0 Additional credit in either Math or Science

- Comparable math or science alternative

Class _____

Instructor Initials _____

Mountlake Terrace STEM Program
College and Career Preparation

STEM students complete a senior capstone research project and participate in the Washington State Science and Engineering

Fair and the Central Sound Science and Engineering Fair. Students also have the opportunity to be members of, or compete, in Career and Technical Student Organizations (CTSO clubs). Many STEM students show excellence in depth areas leading to acceptance into their first choice schools. These classes and extracurricular activities build research skills, organization, professionalism, connection, teamwork, leadership, community involvement, and competition at the regional and national levels.

College Credit Offering: Students have the opportunity to earn college credit through CHS, CTE, and AP testing

College in the High School (CHS)
Introduction to Engineering Design (Edmonds CC)
Pre-Calculus
Calculus
Career and Technical Education (CTE) (dual credit in college and high school)
Biotechnology (5cr. Shoreline CC)
Anatomy and Physiology (5.0cr Edmonds CC)
Principles of Engineering (3.0cr LWTech)
Advanced Placement (AP) (credit available with AP test)
AP Physics
AP Biology
AP Chemistry
AP Calculus
AP Computer Science Principles
AP Computer Science A
AP Statistics

CTSO and STEM Club Opportunities for Acknowledgement: Several CTSO clubs have had regional and state competitors as well as national qualifiers.

VEX Robotics: Regional, State and National competitions

FIRST Robotics: Regional, State and National competitions

Technology Student Association (TSA): State and National Competition and MTHS is the largest TSA chapter in Washington State

HOSA Future Health Professionals: State and National Competition

Team America Rocketry Challenge: National Competition and Rocketry Certifications

International Science and Engineering Fair: Regional and State competitions

E-Sports: State and National Competition

STEM + Music

Students often complete 4 years of Music courses at the same time as the STEM Diploma. Although common, this typically requires students to waive 1.0cr Physical Education, and then take an additional .5cr Physical Ed and .5Cr Personal Finance Online. Students should work with their counselor to make these arrangements.