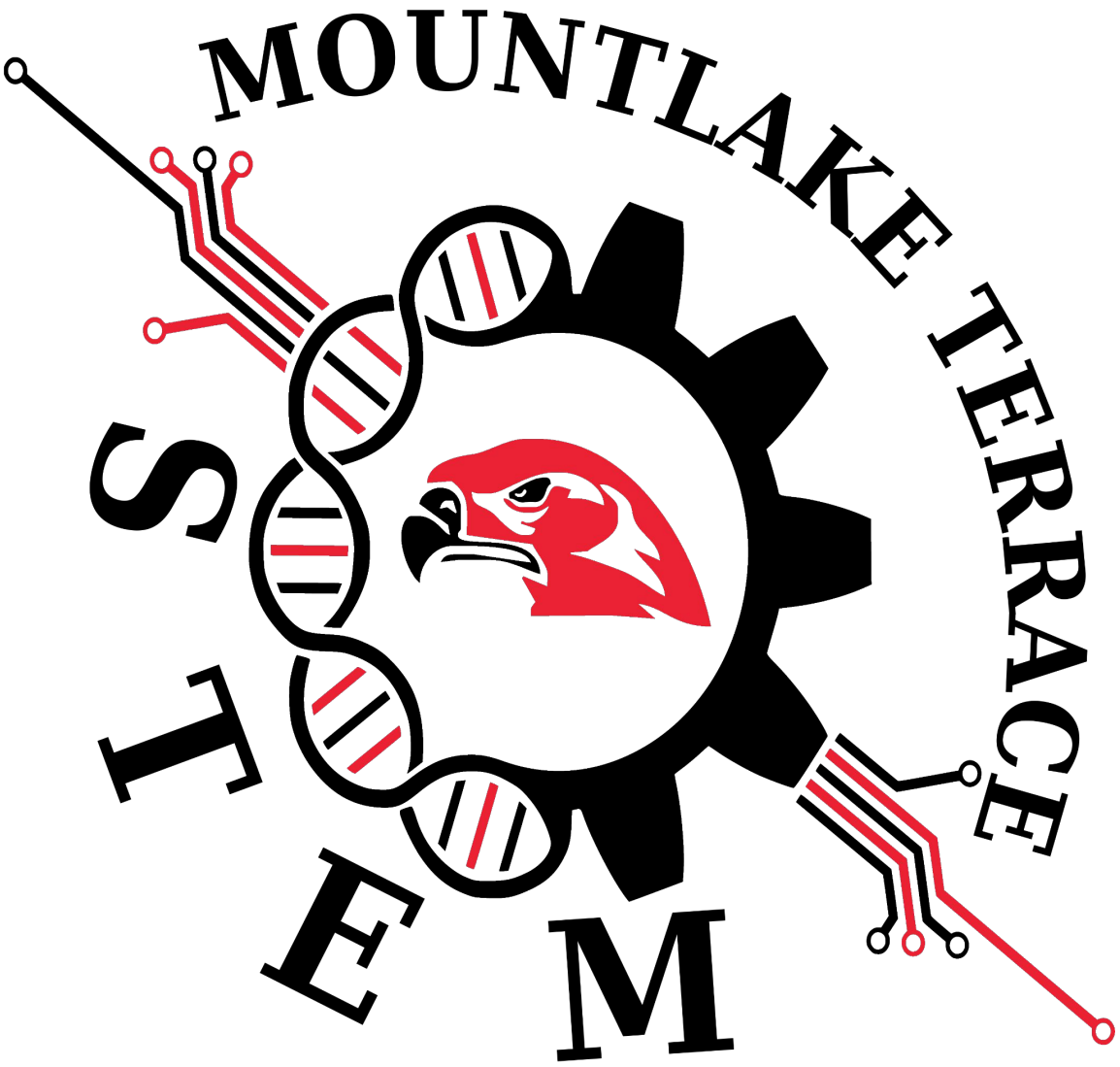
STEM Magnet Program

At Mountlake Terrace High School

Imagine a world...



Tonight's Agenda

Part 1: 6:00 - 6:30 Introduction and Student Perspective

- Overview of program
- Student perspectives
- First courses in the program

Part 2: 6:30 - 7:30 Student Activities & Parent Information

- Parents: Nuts and bolts of the program
- Students: STEM activities in the HUB

Part 3: 7:30 - 8:00 Tours

- Optional lab tours led by STEM students

MTHS STEM Program

- **Four-Year Program with Engineering, Math and Science and all other required HS Classes**
- **Three Pathways for Students**
  - Aerospace
  - Computer Science
  - BioTech
- **Strong STEM Clubs/Community**
  - After school clubs
  - Community Building events
  - Interaction with local industry
- **College Credits and National Recognition**
  - Credit Partnerships with UW, Shoreline CC & Edmonds CC
- **Inspire, Engage, and Prepare Students for the World of STEM**

Diploma Options:

	Foundations (IED+STEM12)	STEM Electives	Math	Science
Exploratory	YES	*Explore!* Any Two STEM Classes	3+ Credits	3+ Credits with more options
Honors	YES	*Dive Deep!* Two aligned STEM Classes	4.0 Credits mostly honors	4.0 Credits rigorous Sciences

9th Grade - Taking Algebra 1

Computer Science Foundations

- Progression from block-based to text-based
- Write programs in Python
- Team project/ Story Creation

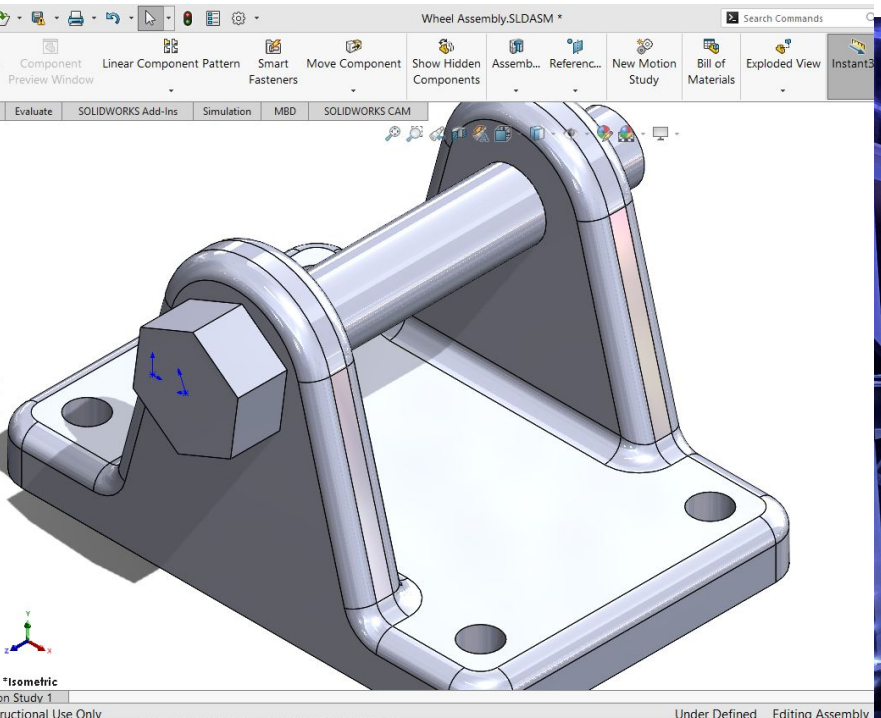
Robotics 1

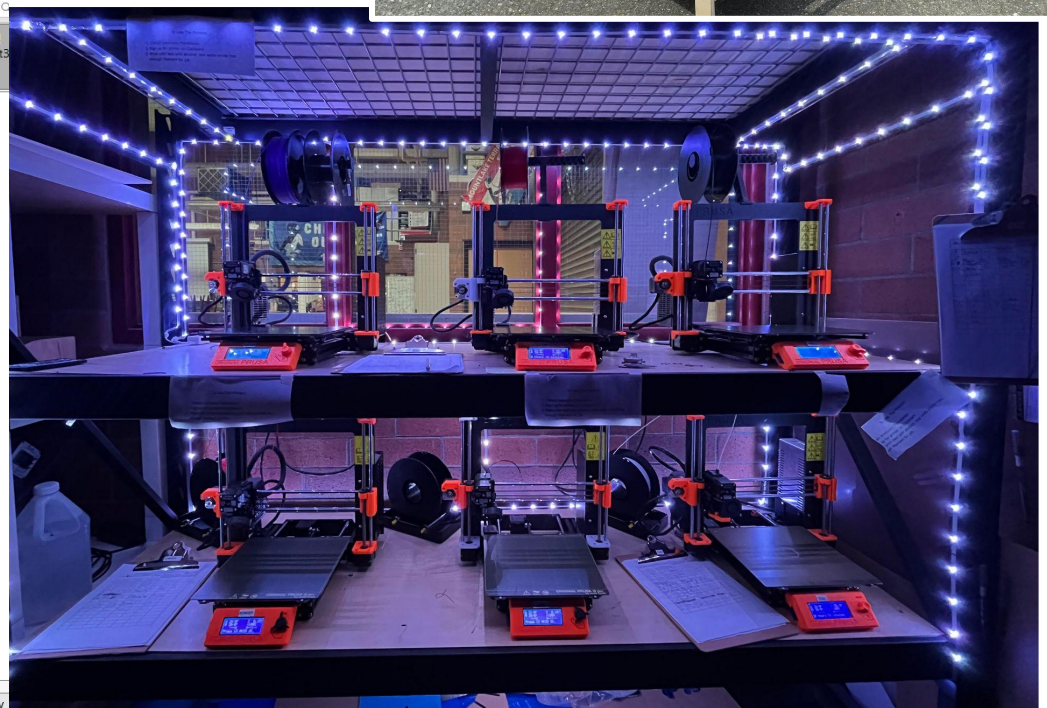
- Block and text-based programming languages
- Hardware, Sensors, wiring
- Teamwork/Problem Solving/Troubleshooting

9th Grade - Taking Honors Geometry +

Intro to Engineering Design

- Foundation of STEM Program
- Focus on Creativity
- Community building
- “21st century skills”





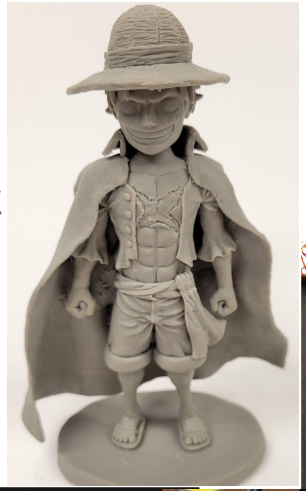
Art/Manufacturing at Terrace

CTE (Tech) ART

Industrial Arts

Manufacturing Innovations

- Sheet Metal Work
- Glass Lampwork
- Lapidary Stonework
- Plastic & Casting
- Mold Making
- Metal Casting
- Torch Work



Digital Arts

Photography (I & II)

Graphic Design (I & II)

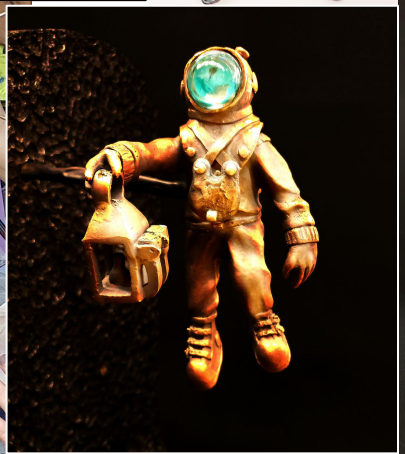
Video Production

Fine Art

Painting & Drawing 1&2

Clay Design 1&2

AP Studio Art



Music at Terrace

Student Experiences

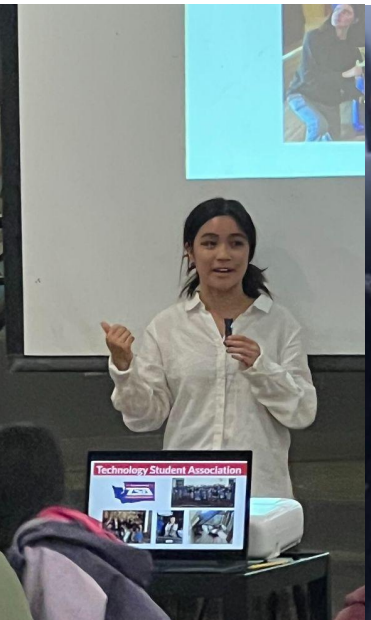
Student Experiences

Kaylee: Journalism, Bio, Music, TSA

Gabe: Aero/Fundraising, Rocketry

Angela: Biotech & HOSA

Jenna: Girls Who Code, CS, FRC



Career Tech Student Organizations

Innovations: Scholastic Art & Writing Gold/Silver/Bronze

TSA: 1st in Coding nationally, 2nd in Structural Design nationally

HOSA: 1st in Biotechnology nationally, 2nd round qualification in Healthcare Photography nationally

FRC: Worlds Qualification

VEX: State Qualifier

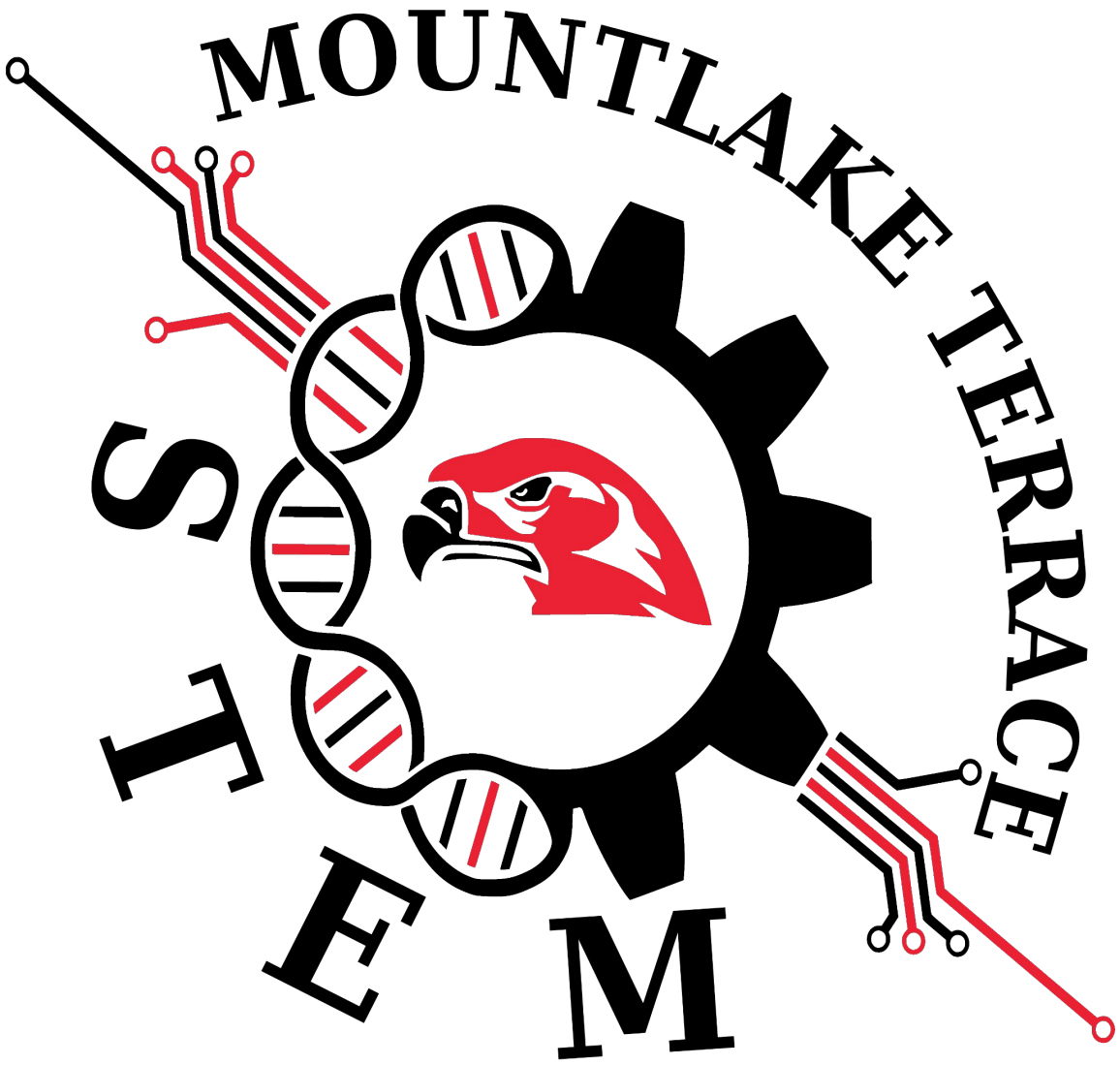
Rocketry: Four NAR Level 1 High-Power Rocketry Certifications

Section 2: Time to explore!

Imagine a school where...

- All teachers are passionate about their subject area
- **Students are challenged to be independent, creative, and see failure as a step in success**
- HS students graduate with college transcripts full of relevant, transferable credits
- **Coursework is overseen by an advisory committee of industry representatives**
- The staff are dedicated to preparing students for a profitable and growing STEM job market
- **Students take rigorous academic courses, and then successfully apply the concepts in national competitions**

Imagine a School...



MTHS Beyond STEM

MTHS Math Department

Our Department's Focus: Making one's thinking clear to others while developing mathematical, communication, and collaborative skills

Other Notes:

- Secondary Emphasis: not preparing students for a test, but for **work with others**
- True Learning: By students who are proficient, our math SBA results are **top** in Edmonds School District
- Flexibility: Students can jump immediately into Honors (or non-Honors) classes

  ...all the way up to **AP Calculus AB and BC, AP Stats**

MTHS Science Department

Science Classes at MTHS:

- Dual credit / Advanced Placement courses in:
  - Chemistry/Honors/AP
  - Biology/Honors/AP
  - Physics/AP
  - Anatomy and Physiology (dual)
  - Biotechnology (dual)

Also offered

Earth and Space Physical Science

Zoology Astronomy

Science Curriculum Highlights:

- Emphasis on a "hands-on approach"
- Advanced lab grade equipment:
  - Pipettes
  - Spectrophotometers
  - DNA analysis/Gel electrophoresis
  - PCR machines
  - Dissection

Goals:

Prepare students for college

Teach modern ideas

Teach methods used in advanced scientific laboratories

MTHS Humanities

Humanities @ Terrace

- Honors as a block class in grade 10 with combined English & Social Studies
- Gives students more time with the subject and cross-disciplines for deeper understanding of literature and history and how they are interconnected

Journalism (CTE 7th Period)

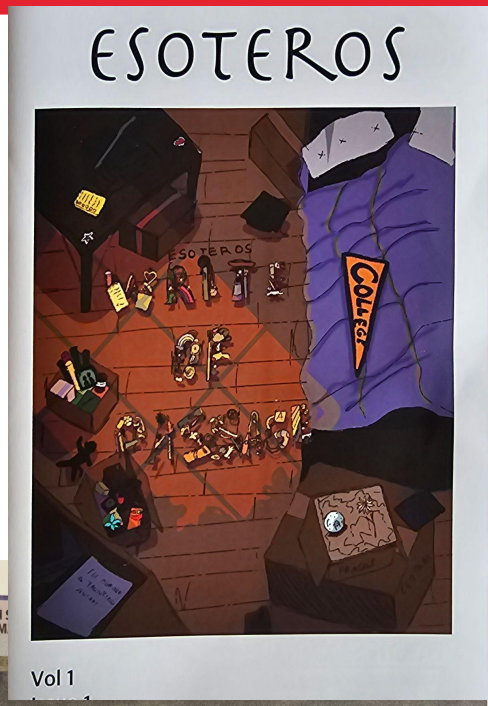
- Website building
- Adobe Suite (Indesign, Illustrator, Photoshop, etc.),
- Art and graphic design
- Yearbook (layout & design)
- Photography (also separate photography classes)
- Only school in district with a strong print and web program
- Awards: *National & *Local
- No prior experience required

HBN

- Broadcasts news, live sports & podcasts

Creative Writing Club & Literary Magazine

- We provide a creative outlet for all forms of art
- Submissions are open to ALL students @ Terrace



Resume Builders

Promoting Future Scientists & Engineers

- **Year-Long STEM Research Projects**
  - Entered in various science and engineering competitions
- **Epic Classroom Projects**
- **Industry Certifications**
  - CSWA, BACE, Bloodborne Pathogens, OSHA 10, Oracle Java SE 8 Certification
- **Professional Internships**
  - AGC/SCC BioPath, Washington Aerospace Scholars, STEM Boosters Web development
- **Leadership Opportunities**
  - Holiday market, clubs, classrooms

Leadership

Career and Technical Courses (CTE) Committed to developing 21st century skills

Professional Advisory Committees

- Advise CTE classes
- Made up of academic and industry representatives
- Keep classes up to date on state of the art skills to drive curriculum

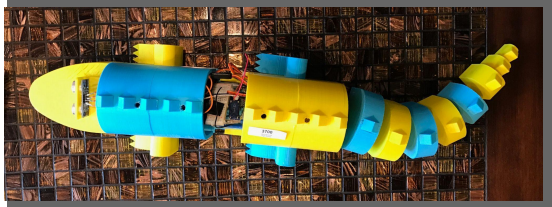
WE CREATE PROFESSIONALS thru academics

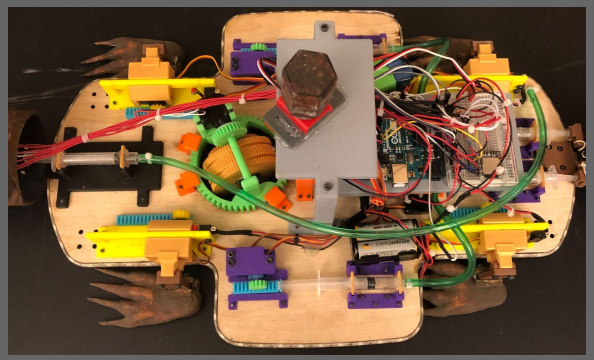
- Project management
- Industry Process
- Professional Internships

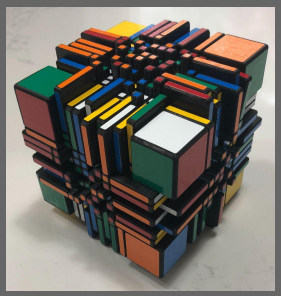
College Credit in High School

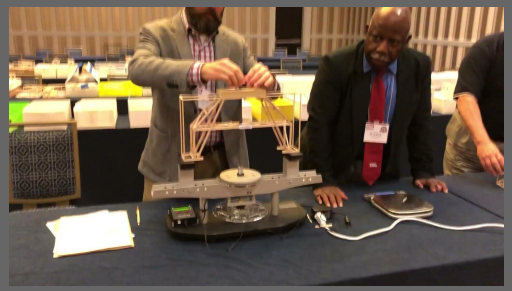
- 10+ AP course options - college credits can be earned through high end of course exam performance.
- 18+ CHS course options - college credit earned by passing the class.
- Running Start is compatible with STEM Program and allows for accelerated college credits.

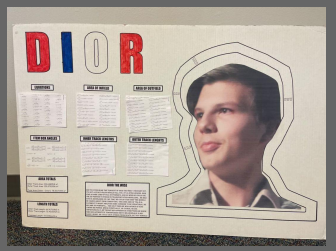
Alumni: Reiden Chea








College Credit in High School

- AP Chem Results (57)

  3-22, 4-14, 5-7 **(75% pass rate)***
- AP Physics Results (50)

  3-14, 4-15, 5-10 **(78% pass rate)**
- AP Bio Results (2022 and 2023) 53 total,

  3-19, 4-13, 5-10 **(79% pass rate)**
- AP Computer Science: AP CS Principles (2023) 18 total,

  3-8, 4-4,5-3 **(83.3% pass rate)**
- AP Computer Science A (2023) 29 Total,

  3-2, 4-9, 5-13 **(82.8% pass rate)**
- CHS free AND transferable college credits

*highest passing rate in the state

AP: Mins for Maxes

Sophomore Year:
AP World: 3
AP Chem: 5
AP CSP: 3

Senior Year:
AP Bio: 4
AP CalcAB: 5
AP Gov: 3

Junior Year:
AP US: 3
AP Stats: 3
AP CSA: 4
AP Lang: 3

Total UW Credits: 69 ($18,092 @ $262.20/Credit)
Toss in CHS* → 90 credits = JUNIOR standing on entry

*College In the High School is now free!

English 12 STEM (Capstone)

Curricular Highlights:

- Writing, reading, speaking and listening
- Emphasis on technical writing and professional presentation
- District designed and approved honors level course
- Students work with a mentor to choose an engineering/science research project

Competition Drives Innovation

Students are required to present in three competitions:

- Central Sound Regional Science and Engineering Fair (CSRSEF) - MTHS to host next year
- Washington State Science and Engineering Fair (WSSEF)
- International Science and Engineering Fair (ISEF)
- STEM Expo

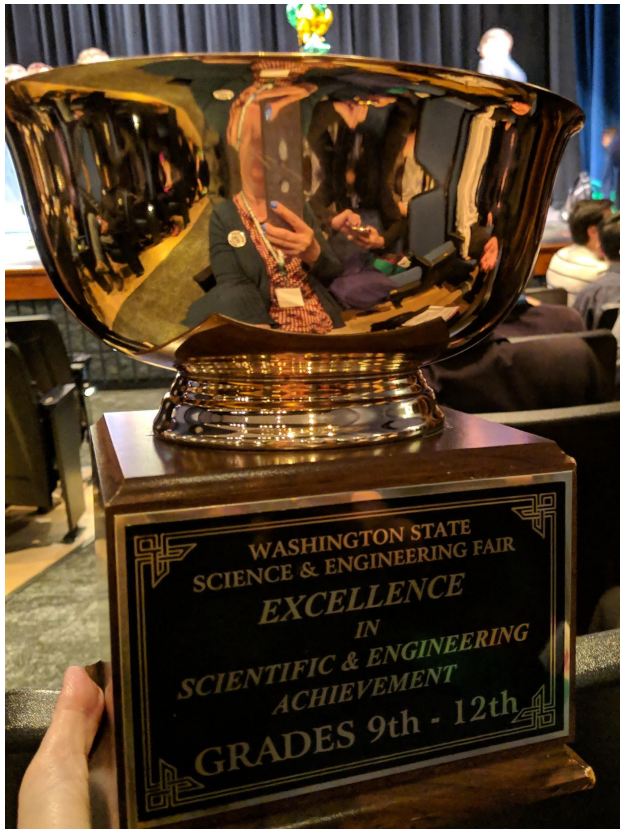
Currently implementing research into underclass STEM classes to create opportunities for:

- Science Talent Search (STS)
- Junior Science and Humanities Symposium (JSHS)

JSHS
JUNIOR SCIENCE AND HUMANITIES SYMPOSIUM

REGENERON
SCIENCE TALENT SEARCH

WSSEF Washington State Science & Engineering Fair



MOUNTLAKE TERRACE STEM

STEM Results

Our STEM students have been admitted to:

- Cal Poly
- Colorado School of Mines
- Penn State
- UW (direct to Engineering)
- Berkeley (direct to Bio)
- Georgia Tech
- Embry-Riddle (AZ and FL)
- Seattle University
- US Naval Academy
- Wellesley
- Purdue
- USC
- And Many More...

Our STEM students are majoring in:

- Mechanical Engineering
- Electrical Engineering
- Astronautic Engineering
- Computer Science
- Computer Engineering
- Chemical Engineering
- Biology
- BioEngineering
- Physics
- Economics
- Music
- International Relations

STEM Community at MTHS

- **STEM Community Building**
  - Movie Nights
  - Quarterly Game Nights
  - Other Social Events
  - Club Competitions
  - Mentoring opportunities at Edmonds Elementary Schools

- **Students enjoy being together… after school the department is typically busy!**
  - Working/chatting with teachers
  - Leadership/club meetings
  - Side projects
  - Additional work time
- **Parent Involvement**
  - FRC
  - TAC

STEM Community at MTHS

STEM Program Timeline

January 31st
Online STEM Program Applications Due

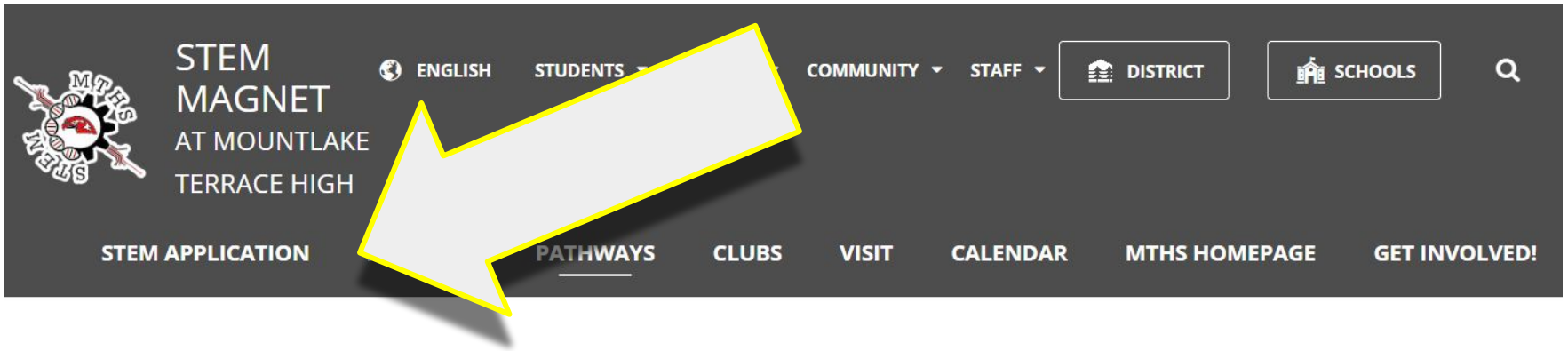
End of Feb.
All 8th Grade Registration Forms Due

Mid February
Notes of admittance to the STEM Program mailed out

- **In-area students:** Normal registration process in February; sign up for "IED" and indicate participation in the MTHS STEM program on your form.
- STEM Program Application forms are required from all interested 8th grade students… both in-area and out-of-area students.

- Late applications to the STEM program will be given consideration

MTHS STEM Website



HOME › PATHWAYS

MTHS STEM Honors Diploma Guide

MTHS STEM Exploratory Diploma Guide

MTHS STEM Program

Pathways

The MTHS STEM program consists of two pathways, the Honors STEM pathway that consists of several AP and college-level courses as well as a deep dive into one of the specific STEM fields of Aerospace, Biotechnology, and Computer Science. The second pathway, the Exploratory STEM pathway is for students who would like explore different facets of STEM.

STEM Application 2024-2025

Registration link goes live tonight at **7:00 pm**

MOUNTLAKE TERRACE STEM