



SUBJECT PATHWAYS

Science

- Biology
- Chemistry
- Physics
- Earth & Space

Tech

- Communication
- Construction
- Design
- Green Industries

Engineering

- Computer Engineering Tech
- Computer Science

Math

- Algebra
- Relations
- Geometry
- Functions
- Data Mgt
- Calculus & Vectors



STEM



UNIONVILLE HIGH SCHOOL STEM PROGRAM

PURPOSE

To provide students with an enriched learning experience in Science, Technology, Engineering, and Mathematics.

RESULT

Unionville High School STEM Program Certificate

EXPERIENCE

Students experience additional collaboration, creativity, innovation, entrepreneurial know-how, and ethical citizenship further developing skills and enhancing learning opportunities

OPPORTUNITY

Students are involved in broad-based learning with outside practical experiences which can include community partnerships and experiential learning outside the school environment.

POST SECONDARY PATHWAYS

The courses required would be the recommended or required pathway for students pursuing post secondary interests in STEM related fields including a college diploma program, a college degree program, or a university degree program.

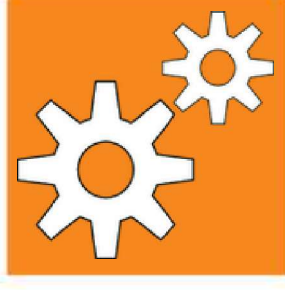
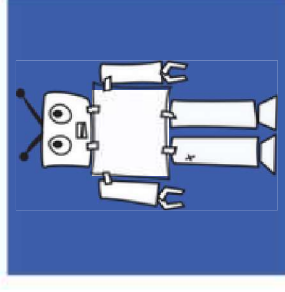
RESUME & PORTFOLIO BUILDING

Provides students with content for resume and post secondary application material and references (i.e. activities/events/clubs/teams etc.)

21ST CENTURY COMPETENCIES

Students develop 21st century competencies including collaboration, communication, critical thinking, and creativity.

UNIONVILLE HIGH SCHOOL





UHS

SCIENCE



TECHNOLOGY



ENGINEERING



MATHEMATICS



OVERVIEW

The purpose of the Unionville High School's STEM program is to provide students with an enriched learning experience in Science, Technology, Engineering, and Mathematics.

In response to student agency needs, to have more experience with STEM collaboration and experiential learning, we feel that a STEM program would be critical for students to experience as these become common and major pathways undertaken by our students in post secondary and careers related to STEM. Having a clear STEM focus would provide students with opportunities for further engagement in STEM subjects in a novel and non-traditional manner.



REQUIREMENTS

COURSES*

Science – *minimum of any 4 courses in Science*

- Any Gr. 9 and Gr. 10 Science
 - Gr. 11 and/or 12 Biology (SBI3U/3C, SBI4U)
 - Gr. 11 and/or 12 Chemistry (SCH3U, SCH4U/4C)
 - Gr. 11 and/or 12 Physics (SPH3U, SPH4U/4C)
 - Gr. 12 Earth & Space Science (SES4U)
 - Gr. 12 Health Science (SNC4M)
 - or college equivalents (I.E. Dual Credit)
- Technology** – *minimum of 1 course from*
- Technology & the Skilled Trade (TAS10)
 - Construction Technology (TCJ20, TCJ3C, TCJ4C)
 - Green Industries (THJ20)
 - Communications Technology (TGJ20, TGJ3M, TGJ4M)
 - Technology Design (TDJ20, TDJ3M, TDJ4M)
 - Manufacturing (TMJ20, TMJ3C, TMJ4C)

Engineering/Computer Studies – *minimum of 3 courses from*

- Gr. 9 Intro to Computer Technology (TEJ101)
- Computer Engineering (TEJ20, TEJ3M/3E, TEJ4M/4E)
- Computer Science (ICD20, ICS3U/3C, ICS4U/4C)
- Game Design (IDC302)
- 3D Visualization & VR (IDC4U3)

Mathematics – *minimum of 4 courses*

Minimum one course must be a grade 12 Math course (e.g. MAP4C, MCT4C, MDM4U, MHF4U, MCV4U, etc.)

***Please Note:** A student who does not meet the requirements in the current school year cannot advance to the next year in the STEM program.

Updated STEM Requirements as of 2023-2024 School Year STEM's 4 C's (Courses, Clubs, Competitions/Contests and Connections)

Clubs: *Min. 1 per school year (1 Full Year participation or 2 Semestered clubs)*

- A/V Club - UHS Interface - STEM Beyond - Science Club - Math Club
 - Music & Tech Club - Chemistry Club - Food Science Club - Physics & STEM Fellowship - Architecture Club - STEM ED - UHS Robotics - Computer Science Club
- Competitions and Contests:** *Min. 1 per school year (Including but not limited to)*
- University of Waterloo - Various Science, Math and Computing Contests
 - Real World Design Challenge
 - OAOPT - Physics Competition (Grade 11 and 12)
 - University of Toronto - National Biology Competition
 - FIRST, VEX and Skills Robotics Competitions
 - YRSC, OTSC and SCNC Skills Competitions

Connections - Internal and External: *minimum 1 per school year (Possible Opportunities)*

- Virtual/In Person Field Trips
- Workshops
- Guest speakers
- SHAD
- Aspire - University Health Network
- Queen's Summer Engineering Academy
- UOTT - Summer Camps
- York U - Spark Lab Program & Helix Summer Science Institute, etc.