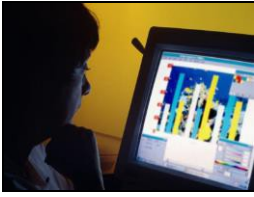# Computer Science & Engineering Pathway (STEM Honors Diploma)

The Computer Science and Engineering program of study introduces students to rewarding field of computer software development. Students develop software development skills using programming methods emphasizing problem solving and algorithm development. This program is an excellent option for students interested in pursuing Computer Science or Engineering in college.

Required Courses for STEM Honors Diploma – Computer Science/ Engineering Pathway

Course	Credits	College Credits Available
Honors Geometry	1.0	
Honors Biology	1.0	
Honors Algebra 2	1.0	
Chemistry	1.0	
Physics or AP Physics	1.0	
Honors Pre-Calculus	1.0	
AP Calculus or AP Statistics	1.0	Advanced Placement Credit
Intro to Engineering Design	1.0	Lake WA Institute of Tech (5)
Computer Science Principles or AP CSP	1.0	UW (5), AP Credit Available
AP Computer Science A	1.0	UW (4), AP Credit Available
English 12 STEM Engineering	1.0	

Program Spotlight

Students in this program have opportunity to compete in skill challenges through the FIRST Robotics club and competitions.

The job demand for skilled Computer Science and Engineering workers continues to be extremely high.

Sample High School and Beyond Plans for MTHS STEM Honors Diploma Students

The following are sample college-preparatory STEM Honors Diploma schedules for Music and Non-Music students pursuing the Computer Science and Engineering program of study. These plans are designed to serve as helpful starting guides for students in their planning for high school and beyond. Required STEM Honors Diploma courses are listed in red *italics*.
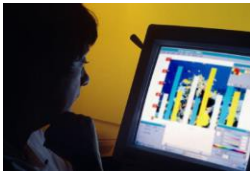
District Graduation Requirements 2017-2020

English	4.0
Math	3.0
Science	2.0
Social Studies	3.5
Health	.5
P.E.	1.5
Art	1.0
Personal Finance	.5
Career/Technical	1.5
Electives	4.5
Total Credits	**22**

District Graduation Requirements 2021 & Beyond:
Additional 1 credit of Science and additional 1 credit of Electives required.

Total Credits 24

Graduation and Minimum 4-Year College/University Entrance Requirements:

English	4.0
Math	3.0
Science (Lab)	2.0
Social Studies	3.5
Health	.5
P.E.	1.5
Art	1.0
Personal Finance	.5
Career/Technical	1.5
Electives	2.0
World Language	2.0
Sr. Math/Science	1.0
Total Credits	**22**

"I am a Music Student"

Grade 9

English 9/English 9 Honors	English 9/English 9 Honors
Honors Geometry	*Honors Geometry*
Honors Biology	*Honors Biology*
World Hist. 9/Honors WH 9	Health
Music	Music
Intro to Engineering Design	*Intro to Engineering Design*

Grade 10

English 10/Eng10 Honors	English 10/Eng10 Honors
World Hist. 10/AP Euro Hist.	World Hist. 10/AP Euro Hist.
Honors Algebra 2	*Honors Algebra 2*
Chemistry	*Chemistry*
Music	Music
Computer Science Principles or AP CSP	

Grade 11

English 11/AP Eng. 11	English 11/AP Eng. 11
US History	US History
Honors Pre-Calculus	*Honors Pre-Calculus*
World Language	World Language
Music	Music
AP Computer Science A	*AP Computer Science A*

Grade 12

English 12 STEM Engineering	*English 12 STEM Engineering*
Social Studies 12	Social Studies 12
World Language	World Language
Music	Music
AP Calculus or AP Statistics	*AP Calculus or AP Statistics*
Physics or AP Physics	*Physics or AP Physics*

Regional 2 and 4-Year College/University Programs

Edmonds Community College (EdCC)
- Robotics and Electronics (Associate Degree)
- Computer Science (Transfer Degree)

University of Washington, Washington State University:
- Computer Science & Engineering (BA/ MA Degrees)

Rochester Institute of Technology (RIT):
- Engineering Technology (BA degree) *

* Indicates college programs which articulate directly with this high school program for college credit.

"I am not a Music Student"

Grade 9

English 9/English 9 Honors	English 9/English 9 Honors
Honors Geometry	*Honors Geometry*
Honors Biology	*Honors Biology*
World Hist. 9/Honors WH 9	Health
World Language	World Language
Intro to Engineering Design	*Intro to Engineering Design*

Grade 10

English 10/Eng10 Honors	English 10/Eng10 Honors
World Hist. 10/AP Euro Hist.	World Hist. 10/AP Euro Hist.
Honors Algebra 2	*Honors Algebra 2*
Chemistry	*Chemistry*
World Language	World Language
Computer Science Principles or AP CSP	

Grade 11

English 11/AP Eng. 11	English 11/AP Eng. 11
US History	US History
Honors Pre-Calculus	*Honors Pre-Calculus*
Art Elective	PE
World Language/Elective	World Language/Elective
AP Computer Science A	*AP Computer Science A*

Grade 12

English 12 STEM Engineering	*English 12 STEM Engineering*
Social Studies 12	Social Studies 12
Personal Finance	Art Elective
AP Calculus or AP Statistics	*AP Calculus or AP Statistics*
Physics or AP Physics	*Physics or AP Physics*
Elective	Elective

Regional 2 and 4-Year College/University Programs

Edmonds Community College (EdCC)
- Robotics and Electronics (Associate Degree)
- Computer Science (Transfer Degree)

University of Washington, Washington State University:
- Computer Science & Engineering (BA/ MA Degrees)

Rochester Institute of Technology (RIT):
- Engineering Technology (BA degree) *

* Indicates college programs which articulate directly with this high school program for college credit.

Note: STEM Honors Diploma Music students will still need to complete .5 PE and .5 Personal Finance through alternative means such as Running Start, summer school, eLearning, or BYU online.

Computer Science and Engineering Pathway (STEM Diploma)

The Computer Science and Engineering program of study introduces students to rewarding field of computer software development. Students develop software development skills using programming methods emphasizing problem solving and algorithm development. This program is an excellent option for students interested in pursuing Computer Science or Engineering in college.

Required Courses for STEM Diploma – Computer Science & Engineering Pathway

Course	Credits	College Credits Available
Algebra 1	1.0	
Geometry	1.0	
Biology	1.0	
Algebra 2	1.0	
Chemistry	1.0	
Physics	1.0	
Pre-Calculus	1.0	
Robotics	.5	
Computer Science Foundations	.5	
Intro to Engineering Design	1.0	Lake WA Institute of Tech (5)
Computer Science Principles (CSP) or AP CSP	1.0	UW (5), AP Credit Available
AP Computer Science A	1.0	UW (4), AP Credit Available
English 12 STEM Engineering	1.0	

Program Spotlight

Students in this program have opportunity to compete in skill challenges through the FIRST Robotics club and competitions.

The job demand for skilled Computer Science & Engineering workers continues to be extremely high.

Sample High School and Beyond Plans for MTHS STEM Diploma Students

The following are sample STEM Diploma schedules for students who wish to pursue the Computer Science and Engineering program of study. These plans are designed to serve as helpful starting guides for students in their planning for high school and beyond. Required STEM Diploma courses are listed in red *italics*.

District Graduation Requirements 2017-2020

English	4.0
Math	3.0
Science	2.0
Social Studies	3.5
Health	.5
P.E.	1.5
Art	1.0
Personal Finance	.5
Career/Technical	1.5
Electives	4.5
Total Credits	**22**

District Graduation Requirements 2021 & Beyond:
Additional credit of Science and additional credit of Electives required.

Total Credits	**24**

Graduation and Minimum 4-Year College/University Entrance Requirements:

English	4.0
Math	3.0
Science (Lab)	2.0
Social Studies	3.5
Health	.5
P.E.	1.5
Art	1.0
Personal Finance	.5
Career/Technical	1.5
Electives	2.0
World Language	2.0
Sr. Math/Science	1.0
Total Credits	**22**

"I Plan to Enroll in a Community/Technical College"

Grade 9	
English 9/English 9 Honors	English 9/English 9 Honors
Algebra 1	*Algebra 1*
Biology	*Biology*
World Hist. 9/Honors WH 9	Health
Art Elective	Art Elective
Robotics	*CS Foundations*

Grade 10	
English 10/Eng10 Honors	English 10/Eng10 Honors
World Hist. 10/AP Euro Hist.	World Hist. 10/AP Euro Hist.
Geometry	*Geometry*
Chemistry	*Chemistry*
Elective	PE
Intro to Engineering Design	*Intro to Engineering Design*

Grade 11	
English 11/AP Eng. 11	English 11/AP Eng. 11
US History	US History
Algebra 2	*Algebra 2*
Physics	*Physics*
PE	PE
Computer Science Principles or AP CSP	

Grade 12	
English 12 STEM Engineering	*English 12 STEM Engineering*
Social Studies 12	Social Studies 12
Personal Finance	Elective
Pre-Calculus	*Pre-Calculus*
AP Computer Science A	*AP Computer Science A*
Elective	Elective

Regional Community/Technical College Programs

Edmonds Community College (EdCC)
- Robotics and Electronics (Associate Degree) *
- Computer Science (Transfer Degree)
- Windows/C++ Specialization (Certificate)
- Computer Game Development (Certificate)

* Indicates college programs which articulate directly with this high school program for college credit.

"I Plan to Enroll in a 4-Year College/University"

Grade 9	
English 9/English 9 Honors	English 9/English 9 Honors
Algebra 1	*Algebra 1*
Biology	*Biology*
World Hist. 9/Honors WH 9	Health
World Language	World Language
Robotics	*CS Foundations*

Grade 10	
English 10/Eng10 Honors	English 10/Eng10 Honors
World Hist. 10/AP Euro Hist.	World Hist. 10/AP Euro Hist.
Geometry	*Geometry*
Chemistry	*Chemistry*
World Language	World Language
Intro to Engineering Design	*Intro to Engineering Design*

Grade 11	
English 11/AP Eng. 11	English 11/AP Eng. 11
Social Studies 11	Social Studies 11
Algebra 2	Algebra 2
Physics	Physics
Art Elective	Art Elective
Computer Science Principles or AP CSP	

Grade 12	
English 12 STEM Engineering	*English 12 STEM Engineering*
Social Studies 12	Social Studies 12
PE	Personal Finance
Pre-Calculus	*Pre-Calculus*
AP Computer Science A	*AP Computer Science A*
Elective	Elective

Regional 4-Year College/University Programs

University of Washington, Washington State University, Multiple Private colleges:
- Computer Science & Engineering (BA/ MA Degrees)

Rochester Institute of Technology (RIT):
- Engineering Technology (BA degree) *

* Indicates college programs which articulate directly with this high school program for college credit.

Note: STEM Students will still need to complete .5 PE and .5 Personal Finance. This may need to be done through alternative means such as Running Start, summer school, eLearning, or BYU