

Aerospace Engineering Pathway (STEM Honors Diploma)



The Aerospace Engineering program of study launches students into the world of aeronautics, rocketry and aerospace engineering. Students explore and develop solutions to engineering design problems in aerodynamics, propulsion, space flight, the biology of space science, materials and structures, and flight stability and control. Construction of a remote operated Mars rover, designing and launching model rockets, working with GPS technology, and using flight simulator software are examples of student projects within this program.

Required Courses for STEM Honors Diploma – Aerospace Engineering Pathway

Course	Credits	College Credits Available
Honors Geometry	1.0	
Honors Biology	1.0	
Honors Algebra 2	1.0	
Chemistry	1.0	
Honors Pre-Calculus	1.0	
AP Calculus or AP Statistics	1.0	AP Credit Available
Intro to Engineering Design	1.0	
Principles of Engineering	1.0	EdCC (5)
Intro to Aerospace Engineering	1.0	
AP Physics or AP Chemistry	1.0	AP Credit Available
English 12 STEM Engineering	1.0	

Program Spotlight

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

The demand for Aerospace Engineers continues to be high in our region.

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 Aerospace 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 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 am a Music Student”	
Grade 9	
English 9/English 9 Honors	English 9/English 9 Honors
<i>Honors Geometry</i>	<i>Honors Geometry</i>
<i>Honors Biology</i>	<i>Honors Biology</i>
World Hist. 9/Honors WH 9	Health
Music	Music
<i>Intro to Engineering Design</i>	<i>Intro to Engineering Design</i>
Grade 10	
English 10/Eng10 Honors	English 10/Eng10 Honors
World Hist. 10/AP Euro Hist.	World Hist. 10/AP Euro Hist.
<i>Honors Algebra 2</i>	<i>Honors Algebra 2</i>
<i>Chemistry</i>	<i>Chemistry</i>
Music	Music
<i>Principles of Engineering</i>	<i>Principles of Engineering</i>
Grade 11	
English 11/AP Eng. 11	English 11/AP Eng. 11
Social Studies 11	Social Studies 11
<i>Honors Pre-Calculus</i>	<i>Honors Pre-Calculus</i>
World Language	World Language
Music	Music
<i>Intro Aerospace Engineering</i>	<i>Intro Aerospace Engineering</i>
Grade 12	
<i>English 12 STEM Engineering</i>	<i>English 12 STEM Engineering</i>
Social Studies 12	Social Studies 12
World Language	World Language
Music	Music
<i>AP Calculus or AP Statistics</i>	<i>AP Calculus or AP Statistics</i>
<i>AP Physics or AP Chemistry</i>	<i>AP Physics or AP Chemistry</i>
Regional 2 and 4-Year College/University Programs	
<u>Edmonds Community College (EdCC)</u>	
<ul style="list-style-type: none"> ▪ Materials Science Technology (Transfer Degree)* ▪ Engineering (Transfer Degree) * ▪ Aerospace Manufacturing (Career Certificate) 	
<u>University of Washington, Washington State University:</u>	
<ul style="list-style-type: none"> ▪ Aeronautical Engineering (BA and MA Degrees) 	
<u>Rochester Institute of Technology (RIT):</u>	
<ul style="list-style-type: none"> ▪ 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
<i>Honors Geometry</i>	<i>Honors Geometry</i>
<i>Honors Biology</i>	<i>Honors Biology</i>
World Hist. 9/Honors WH 9	Health
World Language	World Language
<i>Intro to Engineering Design</i>	<i>Intro to Engineering Design</i>
Grade 10	
English 10/Eng10 Honors	English 10/Eng10 Honors
World Hist. 10/AP Euro Hist.	World Hist. 10/AP Euro Hist.
<i>Honors Algebra 2</i>	<i>Honors Algebra 2</i>
<i>Chemistry</i>	<i>Chemistry</i>
World Language	World Language
<i>Principles of Engineering</i>	<i>Principles of Engineering</i>
Grade 11	
English 11/AP Eng. 11	English 11/AP Eng. 11
Social Studies 11	Social Studies 11
<i>Honors Pre-Calculus</i>	<i>Honors Pre-Calculus</i>
Art Elective	Art Elective
PE	PE
<i>Intro Aerospace Engineering</i>	<i>Intro Aerospace Engineering</i>
Grade 12	
<i>English 12 STEM Engineering</i>	<i>English 12 STEM Engineering</i>
Social Studies 12	Social Studies 12
<i>AP Calculus or AP Statistics</i>	<i>AP Calculus or AP Statistics</i>
Personal Finance	PE
<i>AP Physics or AP Chemistry</i>	<i>AP Physics or AP Chemistry</i>
Elective	Elective
Regional 2 and 4-Year College/University Programs	
<u>Edmonds Community College (EdCC)</u>	
<ul style="list-style-type: none"> ▪ Materials Science Technology (Transfer Degree)* ▪ Engineering (Transfer Degree) * ▪ Aerospace Manufacturing (Career Certificate) 	
<u>University of Washington, Washington State University:</u>	
<ul style="list-style-type: none"> ▪ Aeronautical Engineering (BA and MA Degrees) 	
<u>Rochester Institute of Technology (RIT):</u>	
<ul style="list-style-type: none"> ▪ 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 need to complete .5 PE and .5 Personal Finance through alternative means such as Running Start, summer school, eLearning, or BYU online.

Aerospace Engineering Pathway (STEM Diploma)



The Aerospace Engineering program of study launches students into the world of aeronautics, rocketry and aerospace engineering. Students explore and develop solutions to engineering design problems in aerodynamics, propulsion, space flight, the biology of space science, materials and structures, and flight stability and control. Construction of a remote operated Mars rover, designing and launching model rockets, working with GPS technology, and using flight simulator software are examples of student projects within this program.

Required Courses for STEM Diploma – Aerospace Engineering Pathway

Course	Credits	College Credits Available
Algebra 1	1.0	
Geometry	1.0	
Biology	1.0	
Algebra 2	1.0	
Chemistry	1.0	
Pre-Calculus	1.0	
Intro to Engineering Design	1.0	
Principles of Engineering	1.0	EdCC (5)
Intro to Aerospace Engineering	1.0	
Physics	1.0	
English 12 STEM Engineering	1.0	

Program Spotlight

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

The demand for Aerospace Engineers continues to be high in our region.

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 Aerospace 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
<i>Algebra 1</i>	<i>Algebra 1</i>
<i>Biology</i>	<i>Biology</i>
World Hist. 9/Honors WH 9	Health
Art Elective	PE
<i>Robotics</i>	<i>CS Foundations</i>
Grade 10	
English 10/Eng10 Honors	English 10/Eng10 Honors
World Hist 10/AP Euro Hist.	World Hist 10/AP Euro Hist.
<i>Geometry</i>	<i>Geometry</i>
<i>Chemistry</i>	<i>Chemistry</i>
Elective	Elective
<i>Intro to Engineering Design</i>	<i>Intro to Engineering Design</i>
Grade 11	
English 11/AP Eng. 11	English 11/AP Eng. 11
US History	US History
<i>Algebra 2</i>	<i>Algebra 2</i>
Elective	PE
<i>Intro Aerospace Engineering</i>	<i>Intro Aerospace Engineering</i>
<i>Principles of Engineering</i>	<i>Principles of Engineering</i>
Grade 12	
<i>English 12 STEM Engineering</i>	<i>English 12 STEM Engineering</i>
Social Studies 12	Social Studies 12
<i>Pre-Calculus</i>	<i>Pre-Calculus</i>
Personal Finance	PE
<i>Physics</i>	<i>Physics</i>
Elective	Elective
Regional Community/Technical College Programs	
<u>Edmonds Community College (EdCC)</u>	
<ul style="list-style-type: none"> ▪ Materials Science Technology (Transfer Degree)* ▪ Engineering (Transfer Degree) * ▪ Aerospace Manufacturing (Career Certificates) 	
* 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
<i>Algebra 1</i>	<i>Algebra 1</i>
<i>Biology</i>	<i>Biology</i>
World Hist. 9/Honors WH 9	Health
World Language	World Language
<i>Robotics</i>	<i>CS Foundations</i>
Grade 10	
English 10/Eng10 Honors	English 10/Eng10 Honors
World Hist 10/AP Euro Hist.	World Hist 10/AP Euro Hist.
<i>Geometry</i>	<i>Geometry</i>
<i>Chemistry</i>	<i>Chemistry</i>
World Language	World Language
<i>Intro to Engineering Design</i>	<i>Intro to Engineering Design</i>
Grade 11	
English 11/AP Eng. 11	English 11/AP Eng. 11
US History	US History
<i>Algebra 2</i>	<i>Algebra 2</i>
Elective	Elective
<i>Intro Aerospace Engineering</i>	<i>Intro Aerospace Engineering</i>
<i>Principles of Engineering</i>	<i>Principles of Engineering</i>
Grade 12	
<i>English 12 STEM Engineering</i>	<i>English 12 STEM Engineering</i>
Social Studies 12	Social Studies 12
<i>Pre-Calculus</i>	<i>Pre-Calculus</i>
Personal Finance	PE
<i>Physics</i>	<i>Physics</i>
Art Elective	Art Elective
Regional 4-Year College/University Programs	
<u>University of Washington, Washington State University, Multiple Private Colleges:</u>	
<ul style="list-style-type: none"> ▪ Aeronautical Engineering (BA and MA Degrees) 	
<u>Rochester Institute of Technology (RIT):</u>	
<ul style="list-style-type: none"> ▪ 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 need to complete .5 PE and .5 Personal Finance through alternative means such as Running Start, summer school, eLearning, or BYU online.