STEM: Science, Technology, Engineering, and Math Program of Study

Education Planning Guide for Middle School and Beyond

This program of study, along with other career planning materials, serves as a guide to assist students in the Auburn School District in developing a relevant middle-to-high school plan that will prepare them for further education and/or employment in the Science, Technology, Engineering and Math career cluster. The program of study outlined below can be individualized to meet each learner's education and career goals. It allows students to earn high school credits while completing coursework in middle school, earn college credits while completing coursework within high school, and apply those credits toward attainment of a college certificate and/or degree. It is important to share and review this plan with a parent/guardian and school counselor.

Auburn SD Component of Program of Study

Grade	English	Social Studies	Science	Math	Health/ Fitness	Arts	Career and Technical	Related Electives
Middle School	Successfully complete required coursework for 6th, 7th and 8th grade, and these electives →						STEM Robotics, STEM Mechatronics, STEM Fundamentals of IT, STEM Computer Science	
9	Language Arts	World Studies (.5) or AP Human Geography	Science (1.0) Next Gen or Biology	Algebra I		2.0 Credit from Fine Arts or Course Equivalencies	**Robotics 1 and 2 Engineering 1 & 2 Power, Energy, & Transportation**	Orientation or Career Choices
10	Language Arts	Global Issues (.5) or AP Euro	Science (1.0) Next Gen or Chemistry	Geometry	10th Grade Health (.5)		**Engineering Design 1 & 2 Woodworking & Design 1, 2**	Minimum of two years of the same world language are required for students planning to enroll at a four-year university
11	American Literature 1, 2	U. S. History or AP U. S. History	Chemistry	Advanced Algebra and Trig	1.5 Credits From Fitness Courses		**Computer Systems Engineer 1 & 2 Engineering & Design 3, 4**	
12	Senior English Electives	Civics (.5) and Elective (.5) or AP American Government (1.0)	Physics or AP Biology or AP Chemistry	AP Statistics or Pre-Calculus			**Aerospace Assembly 1, 2 AP Computer Science CTE**	

Auburn School District Graduation Requirements

Credit Requirements (24.0 credits total):
- 4.0 credits - English
- 3.0 credits - Social Studies
- 3.0 credits – Math
- 3.0 credits - Science
- 1.5 credits – Fitness
- 0.5 credits – Health
- 2.0 credits – Arts **
- 2.0 credits – World Language **
- 1.0 credits – Career and Technical
- 4.0 credits - Electives

Additional Requirements:
- High School and Beyond Plan
- Culminating Project/Portfolio
- Certificate of Academic Achievement or Approved Alternative

Students who earn a "B" or better in these courses may be eligible for college credit. See page 2 for more information. **Credits may be applied in a chosen career pathway

Post - High Program of Study

Apprenticeship Opportunities	Earn a Certificate and Enter the Workforce	Earn an Associate's Degree and transition to a 4-year university or enter the workforce	Earn a 4-year college degree, and then enter the workforce
To learn more about apprenticeships in this program, go to: Apprenticeship Registration & Tracking Search Metal Structure Robotics Technician (1077)	Renton Technical College Commercial Building Engineering Construction Management Engineering Design Technology Green River Community College Aerospace and Advanced Manufacturing Technology Machining and Manufacturing Technology Water/Wastewater Technology	Green River Community College Associate in Science Highline Community College Engineering	University of Washington Applied Math Civil and Environmental Engineering Electrical Engineering Washington State University Civil Engineering Computer Technology Western Washington University Electronic Engineering Technology Eastern Washington University Engineering

The Post-High School program options listed above for this Program of Study represent just some examples of options available within the Puget Sound area including programs where agreements for dual credit exist between the college and school district. For other options available related to this program of study, visit your career center or the websites of local colleges.

STEM: Science, Technology, Engineering, and Math Program of Study

Education Planning Guide for Middle School and Beyond

The Science, Technology, Engineering and Mathematics program prepares students for the highly technical and rewarding careers within a variety of occupational fields. Students learn to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in manufacturing and construction fields.

Occupational Information

The following represent occupations within this field and their average annual earnings and openings based on data from the Washington State Employment Security Department. For more information about these and other occupations within this field, go to https://esd.wa.gov/labormarketinfo

Occupation	Washington State Projected Openings 2016-2026	Earnings
Validation Engineers	44,800	$90,580 yr.
Electronics Engineering Technicians	16,800	$63,670 yr.
Manufacturing Engineering Technologists	16,800	$58,670 yr.
Robotics Technicians	3,200	$51,220 yr.
Aerospace Engineering and Operations Technician	1,700	$113,460 yr.
Environmental Engineers	4,200	$86,800 yr.
Wind Turbine Technician	5,600	$53,880 yr.

Student Leadership Development

First Lego League Club/Robotics Club are available at the middle schools and First Robotics Club is available at the high schools. Students have the opportunity to build and compete with a robot of their own design, learn and use sophisticated software and hardware, work alongside professional engineers and compete for college scholarships,

Skills USA serves high school and college students enrolled in training programs in trade, technical and skilled service occupations. Programs include local, state and national competitions in which students demonstrate occupational skills, leadership, teamwork, citizenship, and promotes involvement in community service activities.

For information about this leadership opportunity, talk with a Career and Technical Education Instructor.

Scholarship Opportunities

For local, state, and national scholarship opportunities, please visit your counseling and/or career center, Career Cruising www.CareerCruising.com, WOIS www.wois.org, mapyourcareer.org, Fast Web www.FastWeb.com, or www.mapyourcareer.org.

For more information about this Program of Study, contact an instructor, a school counselor or a career specialist.