

PROGRAM OF STUDY



Career Cluster: Science, Technology, Engineering, and Math

Career Cluster Pathway: Math and Science

This Career Pathway Program of Study can serve as a guide along with other career planning materials as learners continue on a career path. Courses listed within this program are only recommended coursework and should be individualized to meet each learner's education and career goals. **Note:** Many items have links to external resources with more information.

REQUIRED CREDITS	GRADE	English/ Language Arts (4.0 credits)	Social Studies (2.5 credits)	Math (2.0 credits)*	Science (2.0 credits)	Fine Arts (1.0 credits)	Health/ Fitness (2.5 credits)**	Electives (6.5 credits)	Related Career & Technical/ Occupational (1.0 credits) Certificate and Tech Prep (notation on HS and TP alignment)	SAMPLE Occupations Relating To This Pathway (*indicates job in high demand) (⊙ indicates a "green" job)	
SECONDARY SAMPLE COURSE OFFERINGS	9	English 1 or Honors English 1	Pacific Northwest History (.5)	Algebra I Geometry	Integrated Science or Adv Int Science	Credits from Art Courses <u>or</u> CTE Equivalent	Health (.5)	Elective courses (6.5) and Project Me and Other CAA requirements	<u>ASD CTE COURSE OPTIONS</u> Introduction to Auto Tech Auto Tech Advanced/Cooperative Work Experience Horticultural Science Environmental Science Biotechnology Natural Resources I Natural Resource II Material Science Technology Industrial Engineering Robotics Marine Technoloty Work Based Learning CTE Grad Project <u>LEADERSHIP</u> FFA Skills USA <u>TECH PREP ARTICULATIONS</u> Horticulture – South Sound Community College (5cr.) Beginning Industrial Engineering – Bates (7.5 cr.) Natural Resources I – Grays Harbor College (5cr.) <u>CERTIFICATION</u> AYES Certification Work Readiness Credential	<u>Some Preparation</u> <ul style="list-style-type: none"> • Weighers, Measurers, Checkers, and Samplers, Recordkeeping <u>Medium Preparation</u> <ul style="list-style-type: none"> • Chemical Technicians ⊙ Environmental Sampling Technician <u>Considerable Preparation</u> <ul style="list-style-type: none"> • Analytical Chemist • Anthropologist • Applied Mathematician • Archeologist • Astronomer • Atmospheric and Space Scientists ⊙ Biofuel Plant Field and Operations Engineer • Biological Technicians* • Biologist • Botanist • Chemists* ⊙ Climatologist • CTE Teacher • Ecologist • Environmental Science and Protection Technicians, Including Health • Environmental Scientist ⊙ Fisheries Biologist • Geneticist ⊙ Geographic Information Specialist ⊙ Geologist • Geophysicist ⊙ Hydrogeologist ⊙ Marine and Fish Biologist Hydro-Electric Mechanical Engineer • Marine Scientist 	
	10	English 2 or Honors English 2	US History	*Class of 2013 (add't 1.0 credit) <u>or</u> Algebra II <u>or</u> Pre-Calculus	Biology <u>or</u> AP Biology <u>or</u> Biotechnology <u>or</u> Horticulture <u>or</u> Natural Resources I		Credits from Health and Fitness Courses				**Successfully completing two years of physical education and one semester of health is required for high school graduation.
	11	English Electives or Business English	World History <u>or</u> Economics <u>or</u> Economics II	Calculus <u>or</u> CTE Equivalent							
	12	English Electives or Business English	World History <u>or</u> Economics <u>or</u> Economics II <u>and</u> CWP	CTE Equivalent (Students must pass a math competency test or have four years of math credits.)	Science Electives						

Technical Certification <i>(instruction provided through certified training and/or testing centers)</i>	Apprenticeship Opportunities	2-yr or ATA Degree <i>(Find specific colleges at www.checkoutcollege.com)</i>	4 –yr Degree or Advanced Training	<ul style="list-style-type: none"> • Math Teacher • Meterologist • Microbiologists • Nanobiologist • Nuclear Chemist/Technician • Quality Control Scientist • Research Technician • Science Teacher • Statistician • Zoologist
<p><u>Biology Technician/ Biotechnology Laboratory Technician</u></p> <ul style="list-style-type: none"> • Bates Technical College • Shoreline Community College 	<p>To learn more about Apprenticeship, visit Labor and Industries website.</p> <p>This pathway does not currently have any active apprenticeships.</p>	<p><u>Biology Technician/ Biotechnology Laboratory Technician</u></p> <ul style="list-style-type: none"> • Bates Technical College • Seattle Community College- Central Campus • Shoreline Community College • Spokane Community College <p><u>Chemical Technology</u></p> <ul style="list-style-type: none"> • Edmonds Community College <p><u>Wildlife and Wildlands Management</u></p> <ul style="list-style-type: none"> • Spokane Community College 	<p><u>Applied Math</u></p> <ul style="list-style-type: none"> • Seattle Pacific University • University of Washington • Washington State University • Western Washington University • Whitman College • Whitworth College <p><u>Animal Genetics</u></p> <ul style="list-style-type: none"> • Washington State University <p><u>Astronomy</u></p> <ul style="list-style-type: none"> • University of Washington • Whitman College <p><u>Atmospheric Science/Meteorology</u></p> <ul style="list-style-type: none"> • University of Washington <p><u>Bio-chemistry and related sciences</u></p> <ul style="list-style-type: none"> • Eastern Washington University • Gonzaga University • Seattle Pacific University • Seattle University • University of Washington • Walla Walla College • Washington State University • Western Washington University <p><u>Biology and related sciences</u></p> <ul style="list-style-type: none"> • Whitman College • University of Washington • Washington State University • Western Washington University <p><u>Chemistry</u></p> <ul style="list-style-type: none"> • Central Washington University • Eastern Washington University • Gonzaga University • Pacific Lutheran University • Saint Martin's University • Seattle Pacific University • Seattle University • University of Puget Sound • University of Washington • Walla Walla College • Washington State University • Western Washington University • Whitman College • Whitworth College <p><u>Ecology</u></p> <ul style="list-style-type: none"> • Seattle Pacific University • University of Washington • Western Washington University • Whitman College <p><u>Entomology</u></p> <ul style="list-style-type: none"> • Washington State University 	<ul style="list-style-type: none"> • Air Pollution Chemist • Astrophysicist • Biochemists and Biophysicists • Environmental Scientists • Environmental Scientists and Specialists, Including Health • Epidemiologists • Geoscientists, Except Hydrologists and Geographers* • Hydrologists* • Materials Scientists • Medical Scientists, Except Epidemiologists* • Natural Sciences Managers • Physicists • Political Scientists

Technical Certification <i>(instruction provided through certified training and/or testing centers)</i>	Apprenticeship Opportunities	2-yr or ATA Degree	4 –yr Degree or Advanced Training
			<p><u>Environmental Science</u></p> <ul style="list-style-type: none"> • Antioch University • City University • Eastern Washington University • Heritage University Northwest University • Seattle University • The Evergreen State College • University of Washington • Walla Walla College Washington State University • Western Washington University <p><u>Epidemiology</u></p> <ul style="list-style-type: none"> • University of Washington <p><u>Geology and related sciences</u></p> <ul style="list-style-type: none"> • Central Washington University • Eastern Washington University • Pacific Lutheran University • University of Puget Sound • University of Washington • Washington State University • Western Washington University • Whitman College <p><u>Geophysics and Seismology</u></p> <ul style="list-style-type: none"> • University of Washington • Western Washington University <p><u>Mathematics/Statistics</u></p> <ul style="list-style-type: none"> • Most 4yr state and private colleges <p><u>Oceanography</u></p> <ul style="list-style-type: none"> • University of Washington <p><u>Physics</u></p> <ul style="list-style-type: none"> • Central Washington University • Eastern Washington University • Gonzaga University • Pacific Lutheran University • Seattle Pacific University • Seattle University • University of Puget Sound • University of Washington • Washington State University • Western Washington University • Whitman College • Whitworth College <p><u>Zoology/Wildlife and Wild lands Management</u></p> <ul style="list-style-type: none"> • University of Washington • Washington State University • Western Washington University

*Data acquired from www.workforceexplorer.com, www.sbctc.edu, www.careerclusters.org, and www.edf.org/cagreenjobs,
Adapted from <http://www.nthurston.k12.wa.us/education/components/scrapbook/default.php?sectiondetailid=34988>