



# PROGRAM OF STUDY



Career Cluster: Agriculture, Food & Natural Resources

Career Cluster Pathway: Natural Resource Systems

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  or  CTE Equivalent	Health (.5)	Elective courses (6.5)  and Project Me  and Other CAA requirements	<b>ASD CTE COURSE OPTIONS</b>  Horticulture <sup>1</sup> Natural Resources Natural Resources II Biotechnology Landscape Design Work Based Learning CTE Grad Project  <b>LEADERSHIP</b>  FFA  <b>TECH PREP ARTICULATIONS</b>  Natural Resources 1 – Grays Harbor College (5 cr.)  Horticulture - South Puget Sound Community College (5 cr.)  Landscape Design – South Puget Sound Community College (5 cr.)  <b>CERTIFICATION</b>  Work Readiness Credential	<b>Little or No Preparation</b> <ul style="list-style-type: none"> <li>• Fallers</li> <li>• Fishers</li> <li>• Landscaping and Grounds keeping Workers*</li> </ul> <b>Some Preparation</b> <ul style="list-style-type: none"> <li>⊙ Biomass Collection, Separation and Sorting</li> <li>• First-Line Supervisors/Managers of Landscaping, Lawn Service, and Groundskeepers*</li> <li>• Refuse and Recyclable Material Collectors*</li> <li>• Pest Control Workers</li> </ul> <b>Medium Preparation</b> <ul style="list-style-type: none"> <li>⊙ Animal Waster Biomethane Gas Collection System Technician</li> <li>⊙ Environmental Engineering Technicians</li> <li>⊙ Environmental Sampling Technician</li> <li>• Cartographers and Photogrammetrists</li> <li>⊙ Forest and Conservation Technicians</li> <li>• Pesticide Handlers, Sprayers, and Applicators, Vegetation</li> <li>⊙ Water and Liquid Waste Treatment Plant and System Operators</li> </ul>	
	10	English 2 or Honors English 2	US History	*Class of 2013 (add't 1.0 credit)  or Algebra II	Biology <u>or</u> AP Biology <u>or</u> Biotechnology <u>or</u> Horticulture <u>or</u> Natural Resources		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	Pre-Calculus  or Calculus	Science Electives						
	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.)							

<b>Technical Certification</b> <i>(instruction provided through certified training and/or testing centers)</i>	<b>Apprenticeship Opportunities</b>	<b>2-yr or ATA Degree</b> <i>(Find specific colleges at <a href="http://www.checkoutcollege.com">www.checkoutcollege.com</a>)</i>	<b>4 –yr Degree or Advanced Training</b>	<b>Considerable Preparation</b>
<p><b><u>Fishing and Fisheries Sciences and Management</u></b></p> <ul style="list-style-type: none"> <li>• Peninsula College</li> <li>• Grays Harbor College</li> </ul> <p><b><u>Survey Technology</u></b></p> <ul style="list-style-type: none"> <li>• Bates Technical College</li> <li>• Renton Technical College</li> </ul>	<p>To learn more about Apprenticeship, visit <a href="#">Labor and Industries</a> website.</p> <p>Follow these steps to learn about the specific apprenticeships available in this pathway:</p> <p><b>STEP 1:</b> Link to <a href="#">Apprenticeship Registration and Tracking System</a></p> <p><b>STEP 2:</b> Search by using key words below or the SOC code listed</p> <ul style="list-style-type: none"> <li>• Drainage &amp; Wastewater Collection (51-8031)</li> <li>• Landscape Technician (37-3011)</li> <li>• Potable Water Supply &amp; Service Worker (51-8031)</li> <li>• Waste-Water Treatment Plant Operator (51-8031)</li> <li>• Water Pollution Control Plant Operator (51-8031)</li> <li>• Water/Wastewater Tech (51-8031)</li> </ul> <p><b>STEP 3:</b> Click “View” and scroll down to find contact name and program standards for qualifications and how to apply</p>	<p><b><u>Environmental Engineering Tech</u></b></p> <ul style="list-style-type: none"> <li>• Clover Park Technical College</li> </ul> <p><b><u>Greenhouse/Nursery Operations &amp; Mgmt</u></b></p> <ul style="list-style-type: none"> <li>• Clark College</li> <li>• Edmonds Community College</li> <li>• Spokane Community College</li> </ul> <p><b><u>Landscaping and Groundskeeping</u></b></p> <ul style="list-style-type: none"> <li>• Clark College</li> <li>• Clover Park Technical College</li> <li>• Edmonds Community College</li> <li>• South Seattle Community College</li> </ul> <p><b><u>Natural Resource/Conservation</u></b></p> <ul style="list-style-type: none"> <li>• Grays Harbor Community College</li> <li>• Peninsula Community College</li> <li>• Skagit Valley Community College</li> <li>• Wenatchee Community College</li> </ul> <p><b><u>Occupational Safety &amp; Health Tech</u></b></p> <ul style="list-style-type: none"> <li>• Bates Technical College</li> <li>• Edmonds Community College</li> <li>• Pierce Community College</li> </ul> <p><b><u>Quality Control and Safety Technologies/Technicians</u></b></p> <ul style="list-style-type: none"> <li>• Clover Park Technical College</li> </ul> <p><b><u>Greenhouse/Nursery Operations &amp; Mgmt</u></b></p> <ul style="list-style-type: none"> <li>• Clark College</li> <li>• Edmonds Community College</li> <li>• Spokane Community College</li> </ul> <p><b><u>Turf &amp; Turfgrass Management</u></b></p> <ul style="list-style-type: none"> <li>• Clover Park Technical College</li> <li>• Spokane Community College</li> <li>• Walla Walla Community College</li> </ul> <p><b><u>Water Quality &amp; Wastewater Treatment Mgmt &amp; Recycling Tech</u></b></p> <ul style="list-style-type: none"> <li>• Green River Community College</li> </ul> <p><b><u>Water Resources</u></b></p> <ul style="list-style-type: none"> <li>• Grays Harbor Community College</li> <li>• Green River Community College</li> <li>• Skagit Valley Community College</li> <li>• Spokane Community College</li> </ul> <p><b><u>Wildlife &amp; Wildlands Science Mgmt</u></b></p> <ul style="list-style-type: none"> <li>• Spokane Community College</li> </ul>	<p><b><u>Conservation and Renewable Natural Resources, Other</u></b></p> <ul style="list-style-type: none"> <li>• University of Washington-Seattle Campus</li> <li>• Washington State University</li> </ul> <p><b><u>Engineering Related Technologies</u></b></p> <ul style="list-style-type: none"> <li>• Central Washington University</li> <li>• City University</li> <li>• ITT Technical Institute</li> </ul> <p><b><u>Environmental Sciences</u></b></p> <ul style="list-style-type: none"> <li>• Washington State University - Vancouver</li> </ul> <p><b><u>Fishing and Fisheries Sciences and Management</u></b></p> <ul style="list-style-type: none"> <li>• University of Washington</li> </ul> <p><b><u>Forest Management</u></b></p> <ul style="list-style-type: none"> <li>• University of Washington</li> </ul> <p><b><u>Forestry and Related Sciences, Other</u></b></p> <ul style="list-style-type: none"> <li>• Heritage University</li> <li>• University of Washington-Seattle Campus</li> <li>• Washington State University</li> </ul> <p><b><u>Landscape Architecture</u></b></p> <ul style="list-style-type: none"> <li>• University of Washington-Seattle Campus</li> <li>• Washington State University</li> <li>• Washington State University - Spokane</li> </ul> <p><b><u>CTE Secondary Education Teacher</u></b></p> <ul style="list-style-type: none"> <li>• Education Degree in a CTE program area with 2000 hours of related work experience</li> <li>• Industry Route Certificate requires 6000 hours of work experience in the field and completion of a state approved CTE Preparation Program along with passage of Basic Skills Math and English</li> </ul>	<p><b><u>Considerable Preparation</u></b></p> <ul style="list-style-type: none"> <li>• Aquaculture Manager</li> <li>• Biomass Plant Operations, Engineering, and Maintenance</li> <li>• Civil Engineer for Agricultural, Irrigation, and Water Supply</li> <li>• Climatologist</li> <li>• Conservation Forestry Consultant</li> <li>• Conservation Policy Analyst &amp; Advocate</li> <li>• CTE Teacher</li> <li>• Forestry Supervisor</li> <li>• Greenhouse Gas Emissions Report Verifier</li> <li>• Landscape Architects*</li> <li>• Fish and Game Warden</li> <li>• Renewable Energy Consultant</li> <li>• Sales Representatives, Wholesale and Manufacturing, Technical and Scientific*</li> <li>• Secondary and Post Secondary Horticulture Instructors</li> <li>• Soil Conservation Technician</li> <li>• Soil Conservationist</li> <li>• Water/Wastewater Quality Consultant</li> </ul> <p><b><u>Extensive Preparation</u></b></p> <ul style="list-style-type: none"> <li>• Climate Change &amp; Energy Policy Specialist</li> <li>• Environmental Engineers</li> <li>• Restoration Planner</li> <li>• Water Resource Policy Specialist</li> </ul>

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