

# PROGRAM OF STUDY



Career Cluster: Health Science and Development

Career Cluster Pathway: Biotechnology Research

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)	
<b>SECONDARY SAMPLE COURSE OFFERINGS</b>	9	English 1 or Honors English 1	Pacific Northwest History (.5)	Algebra I  Geometry	Integrated Science or Adv Int Science		Health (.5)		<b>ASD CTE COURSE OPTIONS</b>  Digital Communications Digitools Food and Nutrition Biotechnology Natural Resources I Sports Medicine Work Based Learning CTE Grad Project  <b>LEADERSHIP</b>  FBLA Skills USA  <b>TECH PREP ARTICULATIONS</b>  Digital Communications/Digitools – Grays Harbor College (3cr.)  Natural Resources I – Grays Harbor College (5cr.)  <b>CERTIFICATION</b>  Work Readiness Credential	<b>Some Preparation</b> <ul style="list-style-type: none"> <li>Data Entry Clerk</li> <li>Medical and Clinical Laboratory Technicians*</li> <li>Veterinary Assistants and Laboratory Animal Caretakers</li> <li>Medical Equipment Preparers*</li> </ul>	
	10	English 2 or Honors English 2	US History	<i>*Class of 2013 (add't 1.0 credit)</i>  Algebra II	Biology <u>or</u> AP Biology <u>or</u> Biotechnology <u>or</u> Horticulture <u>or</u> Natural Resources I			Elective courses (6.5)		<b>Medium Preparation</b> <ul style="list-style-type: none"> <li>Lab Assistant-Genetics</li> <li>Lab Technician*</li> <li>Maintenance and Instrument Technician</li> <li>Process Technician</li> <li>Quality Assurance Technician</li> <li>Quality Control Technician</li> <li>Veterinary Technologists and Technicians*</li> </ul>	
	11	English Electives or Business English	World History <u>or</u> Economics <u>or</u> Economics II	Pre-Calculus	Calculus		Credits from Art Courses  CTE Equivalent	Credits from Health and Fitness Courses  **Successfully completing two years of physical education and one semester of health is required for high school graduation.	Project Me  Other CAA requirements		<b>Considerable Preparation</b> <ul style="list-style-type: none"> <li>Biochemist</li> <li>Bioinformatics Associate</li> <li>Bioinformatics Scientist</li> <li>Bioinformatics Specialist</li> <li>Clinical Trials Research Associate</li> <li>Clinical Trials Research Coordinator</li> <li>Regulatory Affairs Specialist</li> <li>Research Assistant</li> <li>Research Associate</li> <li>Toxicologist</li> <li>Medical and Clinical Laboratory Technologists*</li> <li>CTE Teacher</li> </ul>
	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						

<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><u>Extensive Preparation</u></b> <ul style="list-style-type: none"> <li>• Pharmacists*</li> <li>• Biomedical Chemist</li> <li>• Biostatistician</li> <li>• Cell Biologist</li> <li>• Geneticist</li> <li>• Microbiologist</li> <li>• Molecular Biologist</li> <li>• Pharmaceutical Scientist</li> <li>• Research Scientist</li> </ul>
<p><b><u>Clinical/Medical Laboratory Assistant</u></b></p> <ul style="list-style-type: none"> <li>• Bryman College</li> <li>• Edmonds Community College</li> </ul> <p><b><u>Phlebotomy Technician</u></b></p> <ul style="list-style-type: none"> <li>• Pima Medical Institute</li> </ul> <p><b><u>Veterinary Technician</u></b></p> <ul style="list-style-type: none"> <li>• Apollo College</li> <li>• Bellingham Technical College</li> <li>• Lower Columbia College</li> <li>• Pima Medical Institute</li> </ul>	<p>To learn more about Apprenticeship, visit <a href="#">Labor and Industries</a> website.</p> <p>This pathway does not currently have any active apprenticeships.</p>	<p><b><u>Clinical/Medical Laboratory Assistant</u></b></p> <ul style="list-style-type: none"> <li>• Clover Park Technical College</li> <li>• Pierce College</li> <li>• Shoreline Community College</li> <li>• Wenatchee Valley College</li> </ul> <p><b><u>Veterinary Assistant</u></b></p> <ul style="list-style-type: none"> <li>• Pierce College</li> <li>• Yakima Valley Community College</li> </ul>	<p><b><u>Bio-chemistry and related sciences</u></b></p> <ul style="list-style-type: none"> <li>• Eastern Washington University</li> <li>• Gonzaga University</li> <li>• Seattle Pacific University</li> <li>• Seattle University</li> <li>• University of Washington</li> <li>• Walla Walla College</li> <li>• Washington State University</li> <li>• Western Washington University</li> </ul> <p><b><u>Biotechnology</u></b></p> <ul style="list-style-type: none"> <li>• University of Washington</li> <li>• Washington State University</li> </ul> <p><b><u>Medical Technology</u></b></p> <ul style="list-style-type: none"> <li>• Seattle University</li> <li>• University of Washington</li> </ul> <p><b><u>Microbiology</u></b></p> <ul style="list-style-type: none"> <li>• University of Washington</li> <li>• Washington State University</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>	

\*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>