

Career Cluster Pathway: Engineering and Technology

This program of study should serve as a partner to our registration guide, and help learners clearly define their career and college readiness pathways. Courses listed within this program of study are recommended only, and should be individualized to meet each learner's education and career and college goals.

LEVEL	GRADE	English/ Language Arts (4.0 credits)	Social Studies (3.0 credits)	Math (3.0 credits)	Science (2.0 credits)	Visual or Performin g Arts (1.0 credits)	Health/ Fitness (2.0 credits) Health = .5 PE = 1.5	World Language (2.0 credits)	Career & Technical or Occupational Education (1.5 credits)
Visit the OSPI website or Washington Student Achievement Council for more information on state graduation requirements. Note: Riverview School District offers a Personalized Pathway. See the Registration Guide and contact your school counselor.									
SECONDARY GRADUATION REQUIREMENTS	7	Language Arts	Social Studies	Math or Algebra I	Science	Elective	PE	NA	7 th Tech/Engineering
	8	Language Arts	Washington State History	Math, Algebra I, Geometry	Science	Elective	PE	NA	8 th Tech/Engineering
	9	English 9 Honors English 9	None	Algebra I Algebra II Geometry	Physical Science Honors Physical Science Agriscience A and B	Rec: Animation Ceramics Yearbook Public Speaking 2 Credits from Visual and Performing Arts Courses or Occ. Ed. Equivalent	One Semester Health and One Semester Physical Ed	Elective or Spanish 1 French 1	IT Academy Architecture & Engr Design I Manufacturing & Fabrication Robotics, FBLA, FFA, or TSA
	10	English 10 Honors English 10	Required: Modern World History and Geography or Honors Modern World History and Geography	Geometry Algebra II Pre-Calculus Honors Pre-Calculus, AP Calculus	Agriscience A and B Biology Honors Biology		One Semester of the following: Sports Medicine 1 and 2, Sports Medicine Lab, Advanced Health, Aerobic Fitness, Walk Fit, Strength and Conditioning, Team Sports	World Lang. Spanish 1 French 1	Architecture & Engr Design II Manufacturing & Fabrication Small Engine Repair Robotics, FBLA, FFA, or TSA
	11	English 11 Honors English 11 AP Language and Composition	Required: US History and Government or AP US History Electives for 11th & 12th Grades: Law and Business Ethics 1 & 2, Economics, Global Issues, Psychology	Algebra II Pre-Calculus Honors Pre-Calculus, AP Calculus, AP Statistics, Accounting, Financial Planning, Business Math, AP Computer Science	Agriscience A and B, Animal Science 1 and 2, Horticulture 1 and 2, AP Biology, Anatomy and Physiology, Chemistry, AP Chemistry, Physics, AP Physics, AP Computer Science				Architecture & Engr Design III Intro to Computer Programming Manufacturing & Fabrication Small Engine Repair Robotics, FBLA, FFA, or TSA
	12	English 12 Honors English 12 AP Language and Composition	Required: Civics or AP US Gov. and Politics See Electives Available Above for 12th grade required .5 credit	Choose: Algebra II Pre-Calculus Honors Pre-Calculus, AP Calculus, AP Statistics, Accounting, Financial Planning, Business Math, AP Computer Science	Choose: Agriscience A and B, Animal Science 1 and 2, Horticulture 1 and 2, AP Biology, Anatomy and Physiology, Chemistry, AP Chemistry, Physics, AP Physics, AP Computer Science				Arch & Engr Design IV, V Intro to Computer Programming Manufacturing & Fabrication Small Engine Repair STEM Guitar Building Future Proposal Robotics, FBLA, FFA, or TSA

Technical Certification <i>(Instruction provided through certified training and/or testing centers)</i>	Apprenticeship Opportunities <i>(To learn more about Apprenticeship, visit Labor and Industries website.)</i>	2-yr Degree or Certification <i>(Find specific colleges at www.checkoutcollege.com)</i>	4 –yr Degree or Adv Training <i>(Find specific colleges at Washington Student Achievement Council)</i>	Medium Preparation	Considerable Preparation
<p><u>Surveying Technology</u></p> <ul style="list-style-type: none"> Bates Technical College Bellingham Technical College Clark College Renton Technical College South Puget Sound Community College 	<p>Follow these steps to learn about the specific apprenticeships available in this pathway:</p> <p>STEP 1: Link to Apprenticeship Registration and Tracking System</p> <p>STEP 2: Search by "Occupation" using key words below or the SOC code listed</p> <ul style="list-style-type: none"> Electronics Technician (17-3023) Engineer Technician (17-3027) Estimator (17-2071) Industrial Instrument Technician (17-3023) Quality Control (17-3026) Technical Engineer (17-1022) Marine Engineer Audio Engineer Electrician <p>STEP 3: Click "View" and scroll down to find contact name and program standards for qualifications and how to apply</p>	<p><u>Biomedical Technician</u></p> <ul style="list-style-type: none"> Bates Technical College North Seattle Community College Spokane Community College <p><u>Civil Engineering</u></p> <ul style="list-style-type: none"> Some technical and community colleges <p><u>Construction Engineering Tech</u></p> <ul style="list-style-type: none"> Spokane Community College <p><u>Electrical Design Tech</u></p> <ul style="list-style-type: none"> Bates Technical College Skagit Valley Community College <p><u>Electromechanical Technician</u></p> <ul style="list-style-type: none"> Shoreline Community College <p><u>Electrical, Electronics & Communications Engineering Tech</u></p> <ul style="list-style-type: none"> Some technical and community colleges <p><u>Engineering Technology</u></p> <ul style="list-style-type: none"> Edmonds Community College Columbia Basin College ITT Technical Institute Walla Walla Community College <p><u>Environmental Engineering Tech</u></p> <ul style="list-style-type: none"> Clover Park Technical College <p><u>Geographic Information Systems (GIS)</u></p> <ul style="list-style-type: none"> Everett Community College Green River Community College <p><u>Surveying Technology</u></p> <ul style="list-style-type: none"> Bates Technical College Bellingham Technical College Clark College Renton Technical College South Puget Sound Community College 	<p><u>Aerospace, Aeronautical and Astronautical Engineering</u></p> <ul style="list-style-type: none"> University of Washington <p><u>Agricultural/Biological Engineering</u></p> <p>University of Washington</p> <ul style="list-style-type: none"> Walla Walla College Washington State University <p><u>Chemical Engineering</u></p> <ul style="list-style-type: none"> University of Washington Washington State University <p><u>Civil Engineering</u></p> <ul style="list-style-type: none"> Gonzaga University Saint Martin's University Seattle University University of Washington Washington State University <p><u>CTE Secondary Education Teacher</u></p> <ul style="list-style-type: none"> BA - Education Degree in a CTE program area with 2000 hours of related work experience 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 <p><u>Engineering Technology</u></p> <ul style="list-style-type: none"> Central Washington University City University ITT Technical Institute <p><u>Electrical Engineering</u></p> <ul style="list-style-type: none"> Washington State University - Tri-Cities <p><u>Industrial Engineering</u></p> <ul style="list-style-type: none"> University of Washington <p><u>Mechanical Engineering</u></p> <ul style="list-style-type: none"> Gonzaga University Saint Martin's University Seattle University University of Washington Washington State University 	<ul style="list-style-type: none"> Avionics Technician CAD Technician Cartographers and Photogrammetrist* Computer Programmer Electrical Design Technician Electronics Technician Environmental Engineering Tech GIS Technician Mechanical Engineering Tech Medical Equipment Repair* Solar Energy Systems Designer Survey Technician* <p><u>Considerable Preparation</u></p> <ul style="list-style-type: none"> Aeronautical Engineer Agricultural Engineer Architectural Engineer* Automotive Engineer Automotive Power Electronics Engineer Battery Design Engineer Biological Technician* Biomass Plant Operations, Engineering, and Maintenance Biomedical Engineer Biomedical Engineer Biotechnology Engineer Carbon Capture Power Plant Installations, Operations, Engineering, and Management Carbon Sequestration Plant Installation, Operations 	<ul style="list-style-type: none"> Construction Engineer Electrical Engineer Electronics Engineer* Environmental Engineer* Environmental Science and Protection Technician Geothermal Electrical Engineer Geothermal Engineering Geothermal Operations Engineer Geothermal Power Generation Engineer Green Building Design and Engineering Health and Safety Engineer Hybrid Powertrain Development Engineer Hydro-Electric Electrical Engineer Hydro-Electric Power Generation Engineer Hydrogen Power Plant Installation, Operations, Engineering Industrial Engineer* Landfill Gas to Energy Installation, Operations, Engineering & Management Manufacturing Engineering Marine Engineer/Architect Materials Engineer Mechanical Engineer Nuclear Engineer Petroleum Engineer System Engineer Powertrain Control Systems & Software Engineer PV Solar Cell Designer Robotics Engineer Solar Energy Engineer Solar Operations Engineer Solar Thermoelectric Plant Manager Transportation Engineer CTE Teacher Water Resource Engineer Wind Energy Engineer Wind Turbine Electrical Engineer Wind Turbine Mechanical Engineer