



ENGINEERING & TECHNOLOGY

Engineering and Technology Pathway: Study and apply principles from advanced mathematics, life sciences, & the Earth. The STEM Career Cluster® focuses on planning, managing, and providing scientific research and professional and technical services, including laboratory and testing services, and research and development services and space science, and technology. In addition, future engineers and technologists learn certain processes in mathematics, science and technology.

HIGH SCHOOL COURSES OFFERED

EXPLORATORY

- Engineering
- Engineering Cooperative Worksite Learning

PREPARATORY

- CTA: Pre-Engineering

ALIGNED TO INDUSTRY

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Civil Engineer	\$66,872	950	8.9%
Sustainability Specialist	\$76,410	4100	17%
Industrial/Mechanical Engineer	\$106,730	590	18.9%
Robotics Engineer	\$109,830	250	6%
Aeronautical Engineer	\$116,500	310	6.6%
Architectural & Engineering Manager	\$152,400	360	10%

WORKBASE LEARNING

Work Experience Opportunities

CTE students in many cases can pursue what is called a "work-based learning" opportunity or an internship involving a job outside of school. "Work-based learning" experiences are always paid and earn high school credit. Internships are typically paid but do not earn academic credit. Individual schools and CTE teachers work with local employers to arrange these opportunities for their students, so your local CTE or career office is the best source of information for what your own school offers.

Washington Technology Student Association

Interested in careers in architecture, engineering, construction, manufacturing, film/video production, graphic arts or other technical areas? TSA is the only student leadership organization devoted exclusively to students interested in technology. Learn through exciting competitive events and leadership opportunities. From engineers to business managers, alumni credit TSA with having had a positive influence on their lives. More information is contained on the [Student Leadership Organizations](#).



POST SECONDARY OPTIONS

High school/ Certificate	Cert/ License	Associates Degree	Bachelor's Degree	Masters/ Doctoral	Schools w/ programs
Precision Exams- Engineering Principles 1, 2, 3 Revit, Autodesk, AutoCAD, Adobe InDesign	Engineer, Civil Engineer, Structural Engineer, Electrical Engineer, Environmental Engineer, Mechanical Engineer	Pre-Engineering, Engineering, Engineering Management	Pre-Engineering, Engineering, Engineering Management	Engineering, Engineering Management, Systems Engineering	NWUniv, Skagit Valley, St. Martin's, LWTC, NSCC, Clark, Edmonds, DigiPen, Bates, Walla Walla, ESC, EWU, PLU, UW, SPU, Whitman, CWU, WWU, Gonzaga, WSU, Seattle U, UW

Additional industry-based certification information is available from the OSPI website.



EXAMPLE COURSE PLAN • 4 YEAR COLLEGE / UNIVERSITY

Subject/Credit	HS Credit earned in MS	9 th Grade	10 th Grade	11 th Grade	12 th Grade
English/4		Pre-AP Freshman English	Pre-AP Sophomore English	AP Language	AP Literature
Math/3	Algebra	Geometry	Algebra 2	Pre-Calculus	Calculus
Social Studies/3			World History	US History	CWP Civics
Lab Science/3		AP Environmental Science	AP Biology	AP Physics	AP Chemistry
CTE/1				Basic Construction 1 & 2	
PE & Health/2		Family Health Foundations of PE	Team Sports Weight Training		
Art/1		FA Woods 1 & 2			
PPR or Electives/7		Spanish 1	Spanish 2	Spanish 3	Engineering Worksite Learning



EXAMPLE COURSE PLAN • 2 YEAR COLLEGE / TECH

Subject/Credit	HS Credit earned in MS	9 th Grade	10 th Grade	11 th Grade	12 th Grade
English/4		Freshman English	Sophomore English	Junior English	Senior English
Math/3		Algebra	Geometry	Algebra 2	CTA: Pre-Engineering (1 cr)
Social Studies/3			World History	US History	CWP Civics
Lab Science/3		AP Environmental Science	AP Biology	AP Physics	CTA: Pre-Engineering (.5 cr)
CTE/1					CTA: Pre-Engineering (1 cr)
PE & Health/2		Family Health Foundations of PE	Team Sports Weight Training		
Art/1		FA Woods 1 & 2			CTA: Pre-Engineering (.5 cr)
PPR or Electives/7		ASL 1	ASL 2	Engineering ASL 3	ASL 4

NOTE: These are just two of many options for course planning. Need help; see your counselor or career specialist today.