Key
High School Academic
High School Career & Technical
PCC Dual Credit Articulated Courses
1-year Certificate or 2-year Certificate
AAS Degree
University

St. Helens High Schoo

Portland Community College Engineering-Manufacturing Pathway

This program of study should serve as a guide, along with other career planning materials , as you continue your career path. Courses listed within this plan are only recommended coursework and should be individualized coursework to meet each learner's educational and career goals.

Education Levels	Grade	English / Language Arts	Math	Science	Social Studies / Sciences	Other Required Courses Electives Recommended Electives Learner Activities	*Career and Technical Courses and/or Degree Major Courses	*Career and Technical Courses and/or Degree Elective Courses	
SECONDARY	9	Lit and Comp 9	Algebra I	Physics	World History 9	Health & PE	Metals 1	Rapid Manufacturing	DIPLOMA
	10	Lit and Comp 10	Geometry	Chemistry	World History 10	Health & PE	Metals 2	Blue Print Reading	
	11	Amer. Lit and Comp	Algebra II	Biology	IB History	Second Language	Metals 3		
	12	Writing 120	IB Math SL			Second Language	Metals 4		

PORTLAND COMMUNITY COLLEGE	TERM	PROGRAM OF STUDY						Certificates/Degrees/Occupations
	FIRST TERM	MCH 100 Machine Tool Basics	MCH 105 Blueprint Reading I	MCH 135 Basic Measuring Tools	MCH 120 Machine Shop Math	MCH 121 Manufacturing Processing I	MCH 115 Geometric Dimensioning and Tolerancing	**1 year Certificate - CNC Milling One Year Certificate**
	SECOND TERM	MCH 125 Speeds and Feeds	MCH 130 Machine Shop Trigonometry	MCH 145 Layout Tools	MCH 150 Precision Measuring Tools	MCH 268 CNC Program - Mill	MCH 110 Blue Print Reading II	
	THIRD TERM	MCH 205 Vertical Milling Machines and Operations	MCH 272 Mastercam Level I	MSD 115 Improving Work Relations				TOTAL CREDITS 48.5 Machine operators use computer-aided manufacturing (CAM) software to control, manipulate and manage precision tool production. Machine manufacturing and tool dies have become increasingly valuable, especially in the production of high-precision tools for high-tech manufacturing and large industrial construction. With such dramatic advancements over time, it pays to have a solid foundation in the art and mathematical science of
	FOURTH TERM	MCH 278 CNC Operation - Mill	MCH 280 Coperative Education: Machine Technology	MCH 288A Technical Skill Assessment in CNC Milling				

PORTLAND COMMUNITY COLLEGE	TERM	PROGRAM OF STUDY						Certificates/Degrees/Occupations
	FIRST TERM	MCH 100 Machine Tool Basics	MCH 105 Blueprint Reading I	MCH 135 Basic Measuring Tools	MCH 115 Geometric Dimensioning & Tolerance	GENERAL EDUCATION	MCH 120 Machine Shop Math	**Associate of Applied Science Degree Civil Engineering Techonology**
	SECOND TERM	GENERAL EDUCATION	MCH 110 Blue Print Reading II	MCH 150 Percision Measuring Tools	MCH 160 Drilling Machines and Operations	MCH 190 Boring and Lathe	GENERAL EDUCATION	Minimum 106 credits. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements. Students must complete a total of sixteen credits of General Education. Math/computation competency is met through the courses in the program of study indicated with a **§** symbol. A maximum of 24 credits of Pass/No Pass and a maximum of 24 credits of cooperative education (MCH 280) are allowed in the Machine Manufacturing Technology AAS Degree.
	THIRD TERM	MCH 125 Speeds and Feeds	MCH 130 Machine Shop Trigonometry	MCH 175 Band Saws	MCH 180 Turning Machines and Operations	MCH 195 Threading on the Lathe	GENERAL EDUCATION	
	FOURTH TERM	GENERAL EDUCATION	MCH DEGREE ELECTIVES	MCH 121 Manufacturing Process I	MCH 205 Vertical Milling Machines and Operations	MCH 225 Surface Grinding Machines and Operations		
	FIFTH TERM	MCH 259 CNC Programming - Lathe	MCH 268 CNC Programming - Mill	MCH 272 Matercam Level I	MCH DEGREE ELECTIVES			
	SIXTH TERM	MCH 278 CNC Operation Mill	MCH DEGREE ELECTIVES	MCH 273 Mastercam Level II	MCH 279 CNC Operation - Lathe			
	SEVENTH TERM	MCH 280 Cooperative Education: Machine Technology	MCH 287A Technical Skill Assessment in CNC Turning	MCH 288A Technical Skill Assessment in CNC Milling	MCH DEGREE ELECTIVES	MSD 115 Improving Work Relations		

UNIVERSITY								