

Glencoe High School

Machine Manufacturing (Welding)

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.

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

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	
SECONDARY	9	Freshman English	Algebra 1	Physical Science	World Studies	Physical Education	Machine/Welding 1	DIPLOMA
	10	Sophomore English	Geometry	Biology	American Studies	Health	Machine/Welding 2	
	11	Junior English	Algebra 2	Chemistry (elective)	Modern American and the world	Computer Keyboarding	Independent Study Machine/Welding 2	
	12	Senior English	Pre-Calculus	Physics (elective)	Economics 0.5 People and politics 0.5	Computer Applications	Independent Study Machine/Welding 2	

COMMUNITY	TERM	PROGRAM OF STUDY					Certificates/Degrees/Occupations
	FIRST TERM	WLD 111 Shielded Metal Arc Welding and Oxy-acetylene Cutting	WLD 112 Shielded Metal Arc Welding: Mild Steel I	WLD 113 Shielded Metal Arc Welding: Mild Steel II	WLD 101 Welding Processes and Applications		1-year Certificate: Welding

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PORTLAND COMMUNITY COLLEGE	SECOND TERM	WLD 114 Shielded Metal Arc Welding: Mild Steel III (E6011)	WLD 151 SMAW Certification Practice: Unlimited Thickness Mild	WLD 131 Gas Metal Arc Welding	WLD 132 Gas Metal Arc Welding Pulse	WLD 102 Blue Print Reading	# Boilermaker # Maintenance # Carpenter # Construction # Ironworker # Manufacturing # Sheet metal
	THIRD TERM	WLD 141 Flux-Cored Arc Welding I (Gas Shielded)	WLD 142 Flux-Cored Arc Welding II (Self Shielding)	WLD 152 Wire Welding Certification Practice	*An additional 4 credits of WLD required for certificate		

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	TERM	PROGRAM OF STUDY					
COMMUNITY COLLEGE	FIRST TERM	WLD 111 Shielded Metal Arc Welding and Oxy-acetylene Cutting	WLD 112 Shielded Metal Arc Welding: Mild Steel I (E7018)	WLD 113 Shielded Metal Arc Welding: Mild Steel II (E7018)	WLD 101 Welding Processes and Applications	General Ed	Associate of Applied Science Welding CIPS# 480508
	SECOND TERM	WLD 114 Shielded Metal Arc Welding: Mild Steel III (E6011)	WLD 151 SMAW Certification Practice: Unlimited Thickness Mild	WLD 131 Gas Metal Arc Welding	WLD 132 Gas Metal Arc Welding Pulse	WLD 102 Blue Print Reading	# Production workers # Sheet Metal Workers # Tool & Die Makers # Welders
	THIRD TERM	WLD 141 Flux-Cored Arc Welding I (Gas Shielded)	WLD 142 Flux-Cored Arc Welding II (Self Shielding)	WLD 152 Wire Welding Certification Practice	*An additional 4 credits of WLD required for certificate		
	FOURTH	WLD 221 Gas Tungsten Arc	WLD 222 Gas Tungsten Arc	WLD 223 Gas Tungsten Arc	WLD 203 Structural Steel	General Ed	

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PORTLAND	TERM	Gas Tungsten Arc Welding: Mild Steel	Welding: Aluminum	Welding: Stainless Steel	Welding Codes & Standards	General Ed	Degree requirements: 97 credits. Broken down to include 81 credits of Welding plus 16 credits of general education classes (Arts & Humanities, Social Science, Mathematics, Natural & Physical Science and Computer Studies).
	FIFTH TERM	WLD 261 Basic Fabrication I	Elective	Elective	General Ed		
	SIXTH TERM	WLD 262 Basic Fabrication II	Elective	WLD 271 Oxy-acetylene Welding Projects	General Ed		
UNIVERSITY	FIRST TERM	MCH 100 Machine Tool Basics	MCH 105 Blueprint Reading	MCH 110 Blueprint	MCH 115 Geometric Dimensioning &	MCH 120 Machine Shop Math	2-term Certificate: Manufacturing Technician

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PORTLAND COMM COLLEGE	FIRST TERM	Machine Tool Basics	I	Reading II	Dimensioning & Tolerancing	MCH 121 Manufacturing Processes I	CIPS# 480503
	SECOND TERM	MCH 125 Speeds and Feeds	MCH 130 Machine Shop Trigonometry	MCH 135 Basic Measuring Tools	MCH 145 Layout Tools	MCH 150 Precision Measuring Tools MCH 280 Cooperative Education	Note: While all courses to the left are required to complete the certificate, course offerings will vary for each campus. See a Manufacturing faculty advisor for assistance in planning a schedule

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	PORTLAND COMMUNITY COLLEGE	TERM	PROGRAM OF STUDY				
PORTLAND COMMUNITY COLLEGE	FIRST TERM	MCH 100 Machine Tool Basics	MCH 120 Machine Shop Math	MCH 125 Speeds and Feeds	MCH 130 Machine Shop Trigonometry		1-year Certificate: CNC Milling
		MCH 105 Blueprint Reading I	MCH 115 Geometric Dimensioning & Tolerancing	MCH 135 Basic Measuring Tools			# Machinists # Millwrights # Pipefitters # Shipping clerks # Production workers # Sheet Metal Workers # Tool & Die Makers # Welders
	SECOND TERM	MCH 180 Turning Machines & Operations	MCH 150 Precision Measuring Tools	MCH 158 Shop Project Machine Technology II	MCH 205 Vertical Milling Machines & Operations		
		MCH 110 Blueprint Reading II	MCH 145 Layout Tools	MCH 259 CNC Programming - Lathe			
						Note: While all courses to the left are required to complete the certificate, course offerings will vary for each	

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	THIRD TERM	MCH 121 Manufacturing Processes I	MCH 272 Mastercam Level I	MCH 278 CNC Operation - Mill	MCH 280 Cooperative Education		campus. See a Manufacturing faculty advisor for assistance in planning a schedule

PORTLAND COMMUNITY COLLEGE	FIRST TERM	MCH 100 Machine Tool Basics	MCH 120 Machine Shop Math	MCH 125 Speeds and Feeds	MCH 130 Machine Shop Trigonometry	MCH 135 Basic Measuring Tools	1-year Certificate: CNC Turning
		MCH 105 Blueprint Reading I	MCH 115 Geometric Dimensioning & Tolerancing	MCH 110 Blueprint Reading II			# Machinists # Millwrights # Pipefitters # Shipping clerks # Production workers # Sheet Metal Workers # Tool & Die Makers # Welders
	SECOND TERM	MCH 145 Layout Tools	MCH 150 Precision Measuring Tools	MCH 158 Shop Project Machine Technology II	MCH 180 Turning Machines & Operations		Note: While all courses to the left are required to complete the certificate, course offerings will vary for each
		MCH 110 Blueprint Reading II	MCH 190 Boring on the Lathe	MCH 195 Threading on the Lathe	MCH 121 Manufacturing Processes I		

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	THIRD TERM	MCH 259 CNC Programming - Lathe	MCH 279 NCN Operation - Lathe	MCH 280 Cooperative Education			campus. See a Manufacturing faculty advisor for assistance in planning a schedule

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	COMMUNITY COLLEGE	TERM	PROGRAM OF STUDY				
COMMUNITY COLLEGE	FIRST TERM	MCH 100 Machine Tool Basics	MCH 120 Machine Shop Math	MCH 125 Speeds and Feeds	MCH 160 Drilling Machines & Operations	MCH 150 Precision Measuring Tools	Associate of Applied Science Machine Manufacturing Technology CIPS# 480501
		MCH 105 Blueprint Reading I	MCH 115 Geometric Dimensioning & Tolerancing	MCH 135 Basic Measuring Tools	MCH 145 Layout Tools		
	SECOND TERM	MCH 115 Geometric Dimensioning and Tolerancing	MCH 175 Band Saws	MCH 180 Turning Machines & Operations	MCH 205 Vertical Milling Machines & Operations		# Machinists # Electrical And Electronic Engineering Technicians # Industrial Engineering Technicians # Mechanical Engineering Technicians # Environmental Engineering Technicians # Sheet Metal Workers # Industrial Production Manager # Welders
		MCH 110 Blueprint Reading II	MCH 195 Threading on the Lathe	MCH 190 Boring on the Lathe	MCH 130 Machine Shop Trigonometry		

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PORTLAND CO	THIRD TERM	MCH 259 CNC Programming - Lathe	MCH 279 NCN Operation - Lathe	MCH 225 Surface Grinding Machines & Operations			<p>Note: While all courses to the left are required to complete the certificate, course offerings will vary for each campus. See a Manufacturing faculty advisor for assistance in planning a schedule</p> <p>Additional course requirements: 28 technical elective credits and 18 credits of general education classes (Arts & Humanities, Social Science, Mathematics, Natural & Physical Science, and Computer Studies) and satisfactory completion of MTH 65 and WR 121.</p>
	FOURTH TERM	MCH 268 CNC Programming - Mill	MCH 259 CNC Programming - Lathe	MCH 278 CNC Operation - Mill			
	FIFTH TERM	MCH 272 Mastercam Level 1	MCH 273 Mastercam II				
	SIXTH TERM	MCH Degree Electives					
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