

4-year Curriculum Framework

First Year		Second Year		Third Year		Fourth Year	
Topic	Hrs	Topic	Hrs	Topic	Hrs	Topic	Hrs
Intro to Apprenticeship/Admin	4	Machine Construction	4	Metrology / GD&T	32	3D modeling	
Personal and Shop Safety	8	Machine Maintenance	8			Inventor	20
Shop math	10	Adv Shop math	10	Excel	4	Process Planning	12
Blue Print Reading	10	GD&T	10	Tool and Cutter Grinding	16		
Precision Measurement	8	Adv Engine Lathe	12			Advanced GD&T	16
Hand tools	4						
Using the Machinery's Handbook	8	Thread Forms and Threading	8	G & M Code Programming (Lathe)	12		
Intro to Setup Reduction & 5S and Quality Mgmt	6			CNC Lathe Setup	4	Quality Mgmt, Shop/Machining Economics	20
NIMS Credential - Measurement, Materials and Safety	10	NIMS Credential - Manual Turning	24				
Mid -Term Exam	4	Mid -Term Exam	4	Mid -Term Exam	4	Mid -Term Exam	4
Semester Hours	72	Semester Hours	72	Semester Hours	72	Semester Hours	72
Drilling and Tapping	8	Carbide Application Sandvik Online Course	20	Intro to Metallurgy Ferrous - Non-Ferrous	32	Intro to Mastercam	24
Intro to GD&T	8	Adv Manual Mill	12				
Engine Lathe Setup and Operations	8	G & M Code Programming (Mill)	12	Fixture Design	4	Mastercam Application: Design, Program, Machine and Part Inspection	44
Manual Mill Setup/Operation	8			Cutting Tool Design	4		
Surface Grinding	4						
Intro to CNC and Manual G & M Code Prog.	20			Advanced G & M Code Programming (Mill)	20		
NIMS Credential - Job Planning, Benchwork and Layout	12	NIMS Credential - Manual Milling	24	CNC 4 th Axis	8		
Final Exam	4	Final Exam	4	Final Exam	4	Final Exam	4
Semester Hours	72	Semester Hours	72	Semester Hours	72	Semester Hours	72
Total Hours 1st Year	144	Total Hours 2nd Year	144	Total Hours 3rd Year	144	Total Hours 4th Year	144

All Instructors are Precision Machining Professionals and Certificated Teachers