

Blueprint for Instruction and Assessment

Precision Machining

48.0510.00

Domain	Related Standards	Instructional Time
Domain 1 Measurement, Materials, Safety and Layout	STANDARD 2.0 APPLY INDUSTRY SAFETY STANDARDS FOR PRECISION MACHINING STANDARD 3.0 APPLY PRINT READING AND KNOWLEDGE AND SKILLS STANDARD 4.0 IMPLEMENT PRECISION AND SEMI-PRECISION MEASUREMENT	25 - 30%
Domain 2 Manual Operations	STANDARD 5.0 DISTINGUISH AMONG TYPES OF MATERIALS AND ROUTINE MAINTENANCE REQUIREMENTS STANDARD 6.0 DESIGN AND APPLY A JOB PROCESS PLAN INCLUDING BENCHWORK, LAYOUT, AND SIMPLE MACHINING STANDARD 7.0 PERFORM BASIC TURNING OPERATIONS STANDARD 8.0 PERFORM BASIC MILLING OPERATIONS	25 - 30%
Domain 3 CNC Operations and Programming	STANDARD 10.0 DESCRIBE BASIC OPERATIONS OF CNC MACHINES STANDARD 11.0 PERFORM BASIC CNC TURNING OPERATIONS STANDARD 12.0 PERFORM BASIC CNC MILLING OPERATIONS	25 - 30%
Domain 4 CAD/CAM	STANDARD 13.0 DESCRIBE ADVANTAGES OF USING COMPUTER-AIDED DESIGN (CAD) AND COMPUTER-AIDED MANUFACTURING (CAM) SOFTWARE STANDARD 14.0 PERFORM BASIC USE OF COMPUTER-AIDED DESIGN (CAD) AND COMPUTER-AIDED MANUFACTURING (CAM) SOFTWARE STANDARD 15.0 PERFORM ADDITIVE MANUFACTURING WITH CAD	5 - 10%
Domain 5 Evolution of Machining	STANDARD 1.0 ANALYZE THE EVOLUTION OF PRECISION MACHINING STANDARD 9.0 EXPLAIN BASIC PRECISION GRINDING OPERATIONS	5 - 10%

Content domains are bodies of knowledge, skills, or abilities to be taught or assessed. They are clustered as related to technical standards for instruction. The suggested percentage of instructional time is listed for each domain. This blueprint corresponds with the Technical Standards endorsed July 2020.