Course Objectives/Course Outline
Spokane Community College

Course Title: CNC Programming Mill
Prefix and Course Number: APM 202

Course Learning Outcomes:
By the end of this course, a student should:

— Utilize Mastercam for Milling
— Model simple parts in Mastercam
— Program, edit and prep parts for the CNC Mill using Mastercam software

Course Outline:

Week 1: Getting Started with CNC Mill Programming Introduction to CNC Mill Programming Coordinates and Reference Points Overview of Program Fundamentals Part Program Structure Contour Point Calculations	**Week 7: Canned Cycles for CNC Mill** Boring Cycles Tapping Cycles Pattern of Holes
Week 2: The Four Basic G-Codes Speeds and Feeds Rapid Positioning – G00 Linear Interpolation – G01 Circular Interpolation – G02/G03	**Week 8: Face Milling, Slots, and Pockets** Face Milling Slots Pocket Milling
Week 3: Parts of the CNC Program Simulator Introduction Programming the Start, Safety Line, and End Tooling and Tool Offsets Programming the Spindle	**Week 9: Subroutines and Plane Selection** Subroutines Plane Selection
Week 4: General Canned Cycles Canned Cycle Fundamentals Canned Cycle Codes Drilling Holes	**Week 10: Mirror Image, Coordinate Rotation, and Program Documentation** Program Documentation
Week 5: Cutter Compensation Tool Radius Fundamentals Cutter Compensation Commands D-Offset Midterm Exam Review	**Week 11: Programming, Programming, Programming** More Programming Review for Final Exam
Week 6: Midterm Exam Midterm Exam covers skills learned in Weeks 1 thru 5	**Week 12: Final Exam** Final Exam covers skills learned in Weeks: 1 thru 11