

SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

ACADEMIC AFFAIRS

Course Number: MECH-338 Department: Mechanical Eng. Technology

Course Title: CAM I Semester: Spring Year: 2008

Objectives/Competencies

Course Objective	Competencies
1. Demonstrate an understanding of CAM basics.	<ul style="list-style-type: none">• Interact with the screen and menu layout for the CAM software.• Discuss the file structure for CAM software.• Discuss how CAD, CNC, and CAM relate.• Perform screen manipulations (zoom, pan, etc.)
2. Perform CAD/CAM integration (2D Applications).	<ul style="list-style-type: none">• Create 2D part profiles in CAD (DXF files).<ul style="list-style-type: none">• Perform DXF file translation into CAM.• Create layers and colors.• Translate CAD geometry to the proper CAM origin.
3. Prepare for manufacturing (2D Applications).	<ul style="list-style-type: none">• Discuss and understand Z Levels.• Apply Z Levels to imported geometry.• Project the geometry into a wireframe representation.• Create point centers for holes.• Perform property changes on geometry.• Create rectangles for stock representation.• Set material to be machined.

8. Prepare for manufacturing (3D Applications—solids).	<ul style="list-style-type: none"> • Transform solids into the proper plane for machining. • Verify solid is at the proper X, Y, Z origin. • Identify features: Bosses, Pockets, Holes, Caps. • Create additional profile features as required.
9. Perform milling operations on solid models.	<p>In addition to number 5 above:</p> <ul style="list-style-type: none"> • Recognize parts with multiple Z-levels. • Perform finishing of flat, functional surfaces. • Discuss the importance of associatively between CAD and CAM.
10. Perform turning operations on solid models.	<ul style="list-style-type: none"> • Perform Face operations. • Perform OD and ID Turn operations. • Perform Groove Operations. • Perform OD and ID Threading. • Perform successful tool changes to avoid collisions. • Demonstrate how to successfully part off.