

SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

ACADEMIC AFFAIRS

Course Number: MECH-438 Department: Mechanical Eng. Technology

Course Title: CAM II Semester: Spring Year: 2009

Objectives/Competencies

Course Objective	Competencies
1. Create lathe operation setups using CAD solid modeling.	<ul style="list-style-type: none"> • Create proper file folders for lab projects. • Recognize proper chuck to use for part. • Insert all components of lathe setup in an assembly. • Edit stock to required length. • Constrain stock and part in lathe chuck.
2. Open lathe setups in CAM and perform manufacturing operations.	<ul style="list-style-type: none"> • Transform assembly into proper plane for lathe operations. • Ensure part is at proper X, Y, Z origin • Identify stock and fixture solids for manufacturing. <p>In addition to MECH-337, CAM 1, Objective 10:</p> <ul style="list-style-type: none"> • Perform Back Turning operations. • Adjust process planning for tolerance control.
3. Create multiple mill operation setups using CAD solid modeling.	<ul style="list-style-type: none"> • Create proper file folders for lab projects. • Decide how many operations will be required for part manufacture. • Discuss how the result of one operation becomes the stock in the next. • Insert Kurt Vise components into CAD system. • Create initial stock as a solid. • Discuss and use fixtures in CAD assemblies.

	<ul style="list-style-type: none"> • Constrain stock, fixture (when needed), and part in Kurt Vise. • Include necessary fasteners when needed.
4. Open mill setups in CAM and perform manufacturing operations.	<ul style="list-style-type: none"> • Transform assembly into proper plane for mill operations. • Ensure part is at proper X, Y, Z origin • Identify stock and fixture solids for manufacturing. <p>In addition to MECH-337, CAM 1, Objectives 5 and 9:</p> <ul style="list-style-type: none"> • Recognize variable Z-level parts. • Identify surface features. • Perform machining using a ball mill. • Adjust process planning for tolerance control.
5. Perform 4-axis machining.	<ul style="list-style-type: none"> • Recognize parts requiring a multi-axis mill. • Insert 4th Axis Vise components into CAD system. • Define part volumetric center. • Create initial stock as a solid. • Constrain stock and part in 4th Axis Vise. • Perform indexing operations.