

SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

**ACADEMIC AFFAIRS**

Course Number: MECH-481 Department: MET

Course Title: Senior Project Semester: Spring Year: 2004

<b>Course Objective</b>	<b>Competencies</b>
<p>1. The skills that will be stressed will be communication, project management, and customer focused process management</p> <p>2. Prepare a proposal, schedule of tasks, finalized design, finalized manufacturing process, and final report and presentation</p>	<ul style="list-style-type: none"><li>• Student teams will be given a problem statement and design requirements with expected deliverables.</li> <li>• Develop the conceptual design by<ul style="list-style-type: none"><li>• Establishing the design specifications</li><li>• Generate Alternatives</li></ul></li><li>• Develop a Preliminary Design<ul style="list-style-type: none"><li>• Model and analyze the design</li><li>• Evaluate design for match with customer requirements</li></ul></li><li>• Develop a Detailed Design<ul style="list-style-type: none"><li>• Refine and Optimize the design</li></ul></li><li>• Develop a Final Design<ul style="list-style-type: none"><li>• Document the design with detailed and assembly drawings</li><li>• Communicate the design using the design review process</li></ul></li><li>• Develop manufacturing processes<ul style="list-style-type: none"><li>• Create an Operation Book for the manufacturing operations</li></ul></li></ul>

Course Objective	Competencies
	<ul style="list-style-type: none"> <li>• Generate CNC program to manufacture part</li> <li>• Develop manufacturing costs</li> <li>• Apply Project Management skills to a given project by               <ul style="list-style-type: none"> <li>• Developing a problem statement and mission statement to support and define the project.</li> <li>• Developing project objectives to achieve for the desired project result.</li> <li>• Developing a project strategy that will meet all project objectives</li> <li>• Developing a Work Breakdown Structure for the project</li> <li>• Determining task durations and resource requirements and performing the scheduling computations to develop a timeline for the project.</li> <li>• Preparing the project master schedule using Microsoft Project 98.</li> <li>• Developing a project notebook.</li> </ul> </li> <li>• Practice communication skills by interviewing faculty,, students, and then providing a presentation to the Mechanical Engineering Technology department.</li> <li>• Practice communication skills by taking part in weekly team meetings and providing meeting minutes for the meetings throughout the semester.</li> </ul>