CAD/CAM II Solids
Outline of Instruction

Course Information
Organization               Monroe County Community College, Applied Science and Engineering Technology
Developers                 Bob Leonard
Course Number              MECH 221
Instructional Level        Associate Degree
Potential Hours of Instruction 60
Total Credits              3

Description
This course covers the latest Master Cam Solids PC software with two and three dimensional design and solid creation. Using various models this course will include surfacing, verifying and analyzing of surfaces. Solids creation and using primitives for modifying, editing, analyzing, extruding, loft, sweep, rotate, extrude and Boolean functions will be included in this course. Creating geometry from surfaces. Manage views, levels and entities from print specifications. Also covered will be LEAN manufacturing, and Rapid Prototype. Solids import functions for Catia, Solid Works or Pro E will be used. Certification test for "CPgmM" CAD/CAM technologist offered. Appropriate terminology is to be used and safety is stressed.

Major Units
Design 2 & 3 Dimensional Wireframes
Feature Based Solid Modeling
Modeling Modes and Level Management
Solid Modeling Functions
Extrude, Revolve, Sweep, Draft & Loft
Edit Solids and Boolean Functions
Loft, Shell, Chamfer, Fillet Features
Solids Manager
Create Solid by Cut, Create & Add from Wireframe
Create Library

Types of Instruction

<table>
<thead>
<tr>
<th>Instruction Type</th>
<th>Contact Hours</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Classroom Presentation</td>
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<tr>
<td>On-Campus Lab</td>
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<td>3</td>
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<td>Credits</td>
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Textbooks
Prerequisites
MECH 201

Course Outcomes
1. Determine correct CAD-CAM set-up for CNC
2. Import data from PC for machining exotics and composites .
3. Identify solids, CAD-CAM capabilities and applications .
4. Create and assemble history trees & identify features and steps of derived surfaces .
5. Demonstrate proper nomenclature of primitive shapes and solid geometry functions .
6. Create a solid model from surfaces & Import entities
7. Manage views, levels and history tree from print specifications to wireframe model to solid model
8. Create features that can be recognized and machined