Course Syllabus

Department: Science/Technology

Date: 01/25/13

I. Course Prefix and Number: TECH 206

   Course Name: Engineering Drawing IV

   Credit Hours and Contact Hours: 3 credit hours and 6 contact hours

   Catalog Description including pre- and co-requisites: supporting data required for grade prerequisite of ‘C’ or higher.

   A continuation of Engineering Drawing III. Advanced topics include geometric positioning and tolerancing as it relates to symbols, terms, datums, modifiers, geometric characteristics, true position and English/Metric units; and computer numerically controlled (CNC) manufacturing of student’s CAD-documented parts executed via post processor software. The course will include an advanced design project. Prerequisite: TECH 205

   Relationship to Academic Programs and Curriculum including SUNY Gen Ed designation if applicable:

   This is a required course for the AAS Mechanical Technology program. Other students may enroll if they have the prerequisite.

II. Course Student Learning Outcomes: State the student learning outcome(s) for the course (e.g. Student will be able to identify...)

   Upon completion of this course the student will be able to:
   • Interpret and apply general dimensions and tolerances.
   • Interpret and apply Geometric Dimensioning and Tolerancing (GD&T) symbols.
   • Interpret and apply datums and datum feature references.
   • Interpret and apply form tolerances.
   • Interpret and apply orientation tolerances.
   • Interpret and apply position tolerances.
   • Interpret and apply runout and profile tolerances.
   • Prepare drawings for use by CAM software.
   • Prepare CAM software for roughing and finishing operations.
   • Define tools in CAM software.
   • Create tool paths for CAD geometry.
   • Specify and manipulate post processors.
College Learning Outcomes Addressed by the Course: (check each College Learning
Outcome addressed by the Student Learning Outcomes)

☐ writing ☑ computer literacy
☐ oral communications ☐ ethics/values
☐ reading ☐ citizenship
☐ mathematics ☐ global concerns
☑ critical thinking ☑ information resources

III. Assessment Measures (Summarize how the college and student learning outcomes
will be assessed): For each identified outcome checked, please provide the specific assessment measure.

<table>
<thead>
<tr>
<th>List identified College Learning Outcomes(s)</th>
<th>Specific assessment measure(s)</th>
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</thead>
<tbody>
<tr>
<td>eg: writing</td>
<td>eg: student will complete a research paper</td>
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<tr>
<td>Critical thinking</td>
<td>Students will complete quizzes and tests.</td>
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<tr>
<td>Computer Literacy, Information Resources</td>
<td>Students will complete a capstone design project.</td>
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IV. Instructional Materials and Methods

Types of Course Materials:

A textbook is required for this course. Software is supplied by FLCC.

Methods of Instruction (e.g. Lecture, Lab, Seminar …):

Lecture, Demonstration, Labs

V. General Outline of Topics Covered:

Dimensioning and Tolerancing
- General Dimensioning, Dimension Application and Limits of Size
- Form Tolerances
- Datums and Datum Feature References
- Orientation Tolerances
- Position Tolerancing
- Runout and Profile
- CAD/CAM