COURSE INFORMATION FORM

DISCIPLINE: ETEC/CADD
COURSE TITLE: Capstone Project in Engineering Technology

CR.HR  3   LECT HR  1   LAB HR  3   CLIN/INTERN HR.   _______   CLOCK HR.   _______

CATALOG DESCRIPTION
Capstone design/build project for engineering technology. This project will include the design and fabrication of a project of suitable complexity and scope. The project will include a comprehensive production document set and a functional prototype.

PREREQUISITES
ETEC 152, ETEC 269, ETEC 270 or ETEC 271

EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)
Upon completion of this course, the student will be able to:

1. Identify viable new product or product improvement.
2. Formulate list of design requirements.
3. Recognize limitations of design based on available materials, technology, equipment and expertise.
4. Prepare a preliminary drawing set.
5. Determine costs of prototyping and testing.
7. Conduct physical tests on prototype based on requirements of the design.
8. Determine improvements to a design.
9. Review and revise drawing set based on design improvements.
10. Construct final, refined prototype (digital and physical)
11. Summarize and present the design and testing process as it applies to the project.
GENERAL EDUCATION OUTCOMES (ESO)
Specify which general education outcomes, if any, are substantially addressed by the course. Numbers in parentheses identify the Expected Student Outcomes linked to the specific General Education Outcome.

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>ESO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
</tr>
</tbody>
</table>

PROGRAM-LEVEL OUTCOMES

CAREER AND TECHNICAL EDUCATION PROGRAM OUTCOMES
Specify which Career and Technical program outcomes, if any, are substantially addressed by the course by completing the “Career and Technical Education template” to show the relationship between course and program outcomes to assessment measures.

1. 

CLASS-LEVEL ASSESSMENT MEASURES
Student accomplishment of expected student outcomes may be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

1. Design journal (1-3, 5, 8, 11)
2. Drawing set(s) (4,9)
3. Preliminary prototype (6)
4. Final prototype (10)
5. Final presentation (11)
Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An *asterisk can be used to mark an item as optional.

I. Project Identification
   A. Market research
   B. Design/construction capabilities
   C. Design/construction limitations

II. Initial Design
    A. Preliminary sketches
    B. Design notebook
    C. Design calculation
    D. Drawing set
    E. Digital prototype

III. Testing
     A. Setting up tests
     B. Performing tests
     C. Recording results
     D. Interpreting results

IV. Improvement
    A. Implementing results of initial testing
    B. Drawing revisions
    C. Digital prototype revisions

V. Final prototype
   A. Budgeting/purchasing
   B. Construction and fabrication

VI. Project Documentation
    A. Design journal
    B. Presentation

Revised 10/9/12