COURSE INFORMATION FORM

DISCIPLINE: Engineering Technology
COURSE TITLE: Introduction to Structural Steel Design
CR.HR: 3  LECT HR: 3  LAB HR: 0  CLIN/INTERN HR: 0  CLOCK HR: 0

CATALOG DESCRIPTION
Introduction to structural steel and structural steel blueprints. Topics include steel as a material, structural steel shapes, drawing types, connection methods and fabrication methods. The AISC Manual of Steel Construction will be introduced and used in reference to structural members and drawings.

PREREQUISITES
ETEC 152

EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)
Upon completion of this course, the student will be able to:
1. Describe properties of structural metals.
2. Identify structural steel shapes.
4. Locate and identify structural steel shape dimensions and qualities.
5. Describe structural grids.
6. Interpret column plans.
7. Interpret beam plans.
8. Interpret structural details and sections.
9. Describe connection methods used for structural steel.
10. Interpret connection details.
11. Interpret column and beam details
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>
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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. AISC Manual exercises (3-4)
2. Discussion board research posts (1,4,9)
3. Print reading exercises (2, 6-8, 10-11)
4. Periodic quizzes (1-11)
5. Final Exam (1-11)
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. Structural Steel in Construction
   A. Metal types and properties
   B. Structural steel shapes
   C. Construction methods and processes

II. AISC Manual of Steel Construction
   A. Section 1
   B. Section 2

III. Structural Steel Field Drawings
    A. Column plans
    B. Beam plans
    C. Sections

IV. Connection Methods
    A. Bolting
    B. Riveting
    C. Welding

V. Connection Details

VI. Structural Steel Shop Drawings
    A. Beam details
    B. Column details

*VII. Three-Dimensional Prototyping and Scanning
   A. Preparing files for the prototyping process
   B. Printing and post-processing of prototypes
   C. Three-dimensional scanning