COURSE INFORMATION FORM

DISCIPLINE  ETEC
COURSE TITLE  Descriptive Geometry
CR.HR  3  LECT HR.  2  LAB HR.  2  CLIN/INTERN HR.  _______  CLOCK HR.  _______

CATALOG DESCRIPTION
Graphic solutions of spatial relationships between points, lines, angles, planes and solids. Includes mechanical, architectural and civil problems and concepts. Determining true length, angle, visibility, bearing, slope, intersections, parallelism and perpendicularity using CADD and technical sketching.

PREREQUISITES
ETEC 152

EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)
Upon completion of this course, the student will be able to:
1. Define Descriptive Geometry terms and concepts.
2. Identify rules of visibility.
3. Determine visibility of lines in primary orthographic and auxiliary views.
4. Produce orthographic views using fold lines.
5. Produce auxiliary views using fold lines.
6. Determine true length of a line using auxiliary views.
7. Determine true length of a line using revolutions.
8. Determine angle, bearing and slope of lines using auxiliary views.
9. Identify rules of parallelism.
10. Identify rules of perpendicularity.
11. Produce views that show parallel lines and planes.
12. Produce views that show perpendicular lines and planes.
13. Determine distances between points and lines.
14. Determine distances between lines and planes.
15. Determine distances between planes.
16. Formulate piercing points between lines and planes.
17. Formulate piercing points between planes and planes.
18. Illustrate the intersection of two solids.
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>
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<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. Demonstrate knowledge of drafting and CADD standards and procedures.
2. Demonstrate basic design knowledge in the civil, mechanical and architectural fields.
3. Demonstrate basic design knowledge in the civil, mechanical and architectural fields.
4. Demonstrate appropriate interpersonal skills and written communication related to obtaining and retaining employment in a technical field.
5. Demonstrate appropriate oral, written, and technical/electronic communication skills.
6. Demonstrate skill using mathematical equations to solve problems in the field of engineering technology.
7. Demonstrate ability to utilize various CADD systems.
8. Demonstrate ability to troubleshoot various CADD and design files.

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. Daily projects and assignments (3-7, 10-18)
2. Daily quizzes (1,2,8,9)
3. Written exams (1,2,8,9)
4. Drawing/performance exams (3-7, 10-18)
5. Portfolio (1-18)
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. Orthographic projection review
   A. Fold line method
   B. Labeling conventions

II. Visibility
   A. Rules of visibility
   B. Determining visibility

III. Auxiliary views
   A. Fold line method
   B. Primary and successive auxiliary views
   C. Visibility

IV. True length and angle
   A. True length rules
   B. Determining true length by auxiliary views and revolution
   C. True angle rules
   D. Determining true angle
   E. Determining bearing
   F. Determining slope

V. Parallelism
   A. Parallelism rules
   B. Creating parallel lines and planes
   C. Determining distance between points, lines and planes

VI. Perpendicularity
   A. Perpendicularity rules
   B. Creating perpendicular lines and planes
   C. Determining distance between points, lines and planes

VII. Piercing points and intersections
   A. Determining piercing points between lines and planes
   B. Determining the intersection of planes
   C. Determining the intersection of solids