**I.** **COURSE** **TITLE**: Engineering Drawing I

**COURSE** **NUMBER**: 1141 **CATALOG** **PREFIX**: ENDS

**II.**  **PREREQUISITES**: None

**COREQUISITE**: None

**III.** **CREDIT** **HOURS**: 3 **LECTURE** **HOURS**: 3

**LABORATORY** **HOURS**: 0 **OBSERVATION** **HOURS**: 0

**IV.** **COURSE** **DESCRIPTION**:

This is a beginning drawing course. Students are introduced to fundamental knowledge and skills such as line work, lettering, scale use, and sketching, multi-view drawings, sectional views, with the basics of manual drafting techniques and the use of drafting equipment.

**V.** **ADOPTED** **TEXT**:

*TECHNICAL DRAWING*

6th Edition

By: Goetsch, D.L., Chalk, W.S., Rickman, R.L., and Nelson, J.A.

New York: Delmar Publishers, Inc. 2010

ISBN: 1-4283-3583-8

**VI.** **COURSE** **OBJECTIVES**:

* + Learn the proper use of drafting equipment.
  + Student will learn about drafting regulation.
  + Learn technical drawing with instruments.
  + Develop the ability for manual lettering, sketching, and line techniques.
  + Student will learn geometric construction.
  + Student will develop ability to draft detail drawings, using spatial visualization and
  + Orthographic projection.
  + Student will understand drafting terminology.
  + Student will make, read, and interpret technical drawings, including sections.

**VII.** **COURSE METHODOLOGY:**

Course Methodology is at the discretion of the instructor. The course material will be primarily delivered through the lecture/discussion method. Lecture experiences are included as well as hands-on demonstrations and in-class work.

**VIII. GRADING**:

Grading will follow the policy in the catalog. Typically, grading will be based on the

following:

100 – 90 = A

89 – 80 = B

79 – 70 = C

69 – 60 = D

59 – 0 = F

**IX.** **COURSE** **OUTLINE**:

WEEK: MATERIAL:

1. INTRODUCTION.

PROCEDURES IN GRAPHIC COMMUNICATION.

2. ARTISTIC AND/OR TECHNICAL DRAWING.

THE PURPOSE, APPLICATION, REGULATION OF TECHNICAL DRAWINGS.

3. CONVENTIONAL INSTRUMENTS. SCALES. TOOLS. PAPER SIZES.

TEST ONE.

4. MANUAL LETTERING.

THE FOUR TYPES OF SKETCHING.

5. SKETCHING TECHNIQUES.

TERMS IN GEOMETRIC NOMENCLLATURE.

6. ELEMENTAL PRINCIPLES OF GEOMETRIC CONSTRUCTION.

TEST TWO.

7. POLYGON CONSTRUCTION.

CIRCULAR CONSTRUCTION.

8. SUPPLEMENTARY CONSTRUCTION.

TEST THREE.

9. SPATIAL VISUALIZATION. ORTHOGRAPHIC PROJECTION.

FIVE STEPS OF PLANNING A DRAWING.

10. APPLY VISUALIZATION TECHNIQUES: CURVE PLOTTING, INTERSECTION.

THIRD- AND FIRST-ANGLE PROJECTIONS.

11. SECTIONAL VIEWS.

CUTTING PLANE.

12. SECTION LINING.

TEST FOUR.

13. KINDS OF SECTIONS: FULL, OFFSET, HALF, BROKEN-OUT, REVOLVED.

RIBS, WEBS, HOLES, SPOKES, FASTENERS, SHAFTS, and KEYWAYS.

14. ALIGNED SECTIONING.

INTERSECTIONS IN A SECTION.

15. REVOLVING MISSED FEATURES.

OBLIQUED SECTIONS OF OBJECTS.

**X.** **OTHER** **REQUIRED** **BOOKS, SOFTWARE,** **AND** **MATERIALS**:

Scientific calculator, graph paper, compass, protractor, and a graduated scale, typical drafting equipment.

**XI.** **EVALUATION**:

Assignments will be evaluated according to instructor directives.

Typically: The grade will be determined by periodic examination, comprehensive final examination, homework, participation, and reports.

Assignments are due on time. Late assignments penalized 10% per class period. Typical weight assigned:

CLASS ATTENDANCE = 10%

QUIZZES = 10%

ASSIGNMENTS = 30%

DRAFTING STANDARDS REPORT = 10%

PERIODIC EXAMINATION (TESTS) = 15%

COMPREHENSIVE FINAL EXAM = 25%

or discretion of instructor, furnished to students at the beginning of the course.

**XII.** **SPECIFIC** **MANAGEMENT** **REQUIREMENTS**:

Class attendance and participation are strongly recommended.

**XIII. OTHER INFORMATION:**

**FERPA:** Students need to understand that your work may be seen by others. Others may

see your work when being distributed, during group project work, or if it is chosen for demonstration purposes.

Students also need to know that there is a strong possibility that your work may be submitted to other entities for the purpose of plagiarism checks.

**DISABILITIES:** Students with disabilities may contact the Disabilities Service Office, Central Campus, at 800-628-7722 or 937-393-3431.