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

**COURSE** **NUMBER**: 1142 **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 with the basics of manual drafting techniques and the use of drafting equipment. Students are introduced to fundamental knowledge and skills such as line work, lettering, scale use, and sketching, multi-view drawings, sectional views, auxiliary views, descriptive geometry, patterns and developments, and dimensioning and notation are emphasized. Welding drawings are covered. Experience with view visualization will prepare the student for CAD fundamentals.

 **V.** **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

 **VI.** **ADOPTED** **TEXT**:

TECHNICAL DRAWING

6th or Current 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

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

* + Learn the proper use of drafting equipment, drafting terminology, instruments, and drafting regulation,
	+ Develop the ability for manual lettering, sketching, line techniques, and geometric construction.
	+ Student will develop ability to draft detail drawings, using spatial visualization and

Orthographic projection.

* + Student will create, read, and interpret technical drawings, including sections.
	+ Student will define the concept of an auxiliary view and its advantages.
	+ Describe and use the reference plane, folding line, round/curved surface, secondary and partial view methods to draw an auxiliary view.
	+ Be able to explain the descriptive geometry method of projection that includes list the steps to solve descriptive geometry problems using fold lines.
	+ Define and list the major kinds of pattern developments. Create drawings utilizing parallel and radial line developments, while understanding notch and bend calculations.
	+ Explain the three main dimensioning systems used in the United States.
	+ Demonstrate proficiency in properly using dimension components and concepts.
	+ Demonstrate proficiency in creating weld drawings.

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

WEEK: MATERIAL:

 1. Introduction

Fundamentals

 2. Sketching

 Lettering, Line Construction, and Geometric Construction

 3. Spatial Visualization and Orthographic Projection

Test One

 4. Sectional Views

 Sectional Views -continued

5. Sectional Views –continued

 Auxiliary Views

 6. Auxiliary Views- continued

 Auxiliary Views- continued

 7. Test Two

 Descriptive Geometry

8. Descriptive Geometry –continued

 Descriptive Geometry –continued

 9. Descriptive Geometry –continued

 Test Three

 10. Pattern Development

 Pattern Development -continued

11. Pattern Development -continued

 Pattern Development -continued

12. Test Four

Dimensioning

13. Dimensioning -continued

 Dimensioning -continued

14. Dimensioning –continued

 Welding

15. Welding

 Review

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

Scientific calculator, graph paper, compass, protractor, and a graduated scale, typical drafting equipment, a personal drawing board is optional for work outside of class.

**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 will not be accepted without two week prior written approval from instructor. The instructor will furnish the students with a detailed schedule at the beginning of the course.

Typical weight assigned:

 Assignments/Attendance = 50%

 Periodic Examinations (Tests) = 30%

Comprehensive Final Examination = 20%

**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.