

# El Paso Community College

## Syllabus

### Part II

## Official Course Description

<b>SUBJECT AREA</b>	<u>Drafting &amp; Design Technology</u>
<b>COURSE RUBRIC AND NUMBER</b>	<u>DFTG 1429</u>
<b>COURSE TITLE</b>	<u>Electro-Mechanical Drafting</u>
<b>COURSE CREDIT HOURS</b>	<u>4                    3                    :</u> <u>3</u>
	Credits                    Lec                    Lab

### I. Catalog Description

Provides a basic course including layout and design of electro-mechanical equipment from engineering notes and sketches. **Prerequisite: DFTG1409. (3:3).**

### II. Course Objectives

Upon satisfactory completion of this course the student will be able to:

- A. Unit I. Block Diagrams**
  1. List and explain how each of the eight major types of electronic drawings is used given graphic representations of each.
  2. Draw a functional block diagram showing logical and intelligible flow in an industrial acceptable format given a description of the device or circuit to be represented.
  
- B. Unit II. Symbols and Schematic Diagrams**
  1. Draw the graphic symbol and reference designator for commonly used electronic components given a written or graphic description
  2. Draw a schematic diagram with effective symbol placement and arranged in proper logical sequence given a rough sketch.
  
- C. Unit III. Logic Diagrams**

Draw a logic diagram applying the correct symbols and conducting lines to industrial standards given a rough engineering sketch.
  
- D. Unit IV. Wiring Diagrams**
  1. Draw a highway or point-to-point wiring diagram with proper wire identification to industrial standards given a schematic and sketch of component layout.
  2. Draw a wiring harness from a schematic or component layout sketch.
  
- E. Unit V. Printed and Integrated Circuitry**
  1. Draw a design layout drawing of component arrangement and conductor pattern given a schematic drawing or sketch of the circuit.
  2. Draw the necessary artwork for a double-sided printed circuit board including a dimensioned drill plan from the previously drawn design layout drawing to correct industrial standards.
  
- F. Unit VI. Electronic Packaging**
  1. Arrange the components and circuit board for a specified electronics circuit given the

schematic and means of finding component specifications and drawings and necessary hardware.

2. Draw assembly drawing for the above mentioned circuit package with all components and hardware called out in a bill of materials and flagged in the field of the drawing to correct industrial standards.

### III. THECB Learning Outcomes (WECM)

1. Apply electro-mechanical layout and design factors.
2. Utilize unit and subassembly design elements.
3. Prepare detailed and assembly drawings of electro-mechanical parts and enclosures.
4. Layout fully dimensioned drawings of electro-mechanical hardware and flat patterns.

### IV. Evaluation

#### A. Challenge Exam

There is no challenge exam available for this course.

#### B. Post-assessment

1. The instructor will maintain a continuous record of each student's progress.
2. Students should be evaluated periodically throughout the semester.
3. The instructor will determine the weight of each graded assignment.
4. Instructors may require drawing assignments, quizzes, practical/written drawing exams, and formal exams.

#### C. Grading Scale

A	= 92.5 - 100
B	= 85.0 - 92.4
C	= 75.0 - 84.9
D	= 65.0 - 74.9
F	= below 65
I	= Incomplete
W	= Withdrew or Withdrawn

For grade percentage of individual assignments and exams refer to the Syllabus - Instructor's Course Requirements.

### V. Disability Statement (Americans with Disabilities Act [ADA])

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Offices located: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm M-54 (831-8815); and MDP Rm A-125 (831-7024).

### VI. 6 Drop Rule

Students who began attending Texas public institutions of higher education for the first time during the Fall 2007 semester or later are subject to a 6-Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information.