El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA	**Computer-Aided Design**
COURSE RUBRIC AND NUMBER	**DFTG 2321**
COURSE TITLE	**Topographical Drafting**

COURSE CREDIT HOURS	**3**	**2**	:	**4**
	Credits	Lec		Lab

I. Catalog Description

Teaches plotting of surveyors field notes. Includes drawing elevations, contour lines, plan and profiles, and laying out traverses. **Prerequisite: DFTG1309. (2:4).**

II. Course Objectives

Upon successful completion of each unit, the student will be able to:

A.   Unit I. Measurements and Conversions
1. Draw lines indicating correct measurements of directions given specifications of azimuths and bearings expressed as sketches, notes, and verbal instructions.
2. Layout specified angles to the right, interior angles, and deflection angles from given points of departure on lines given specifications expressed as sketches, notes, and verbal instructions.
3. Convert directions specified as bearings or azimuths to a variety of other forms expressing directions given specifications expressed as sketches, notes, and verbal instructions.
4. Convert between different units of measure, i.e., architectural to decimal, decimal to engineering.

B.   Unit II. Traverses
1. Plot traverses, both open and closed, using a variety of direction and distance measuring methods including tangents, latitudes and departures, and coordinates given parameters and engineering sketches.
2. Derive curve information from specified data and element relationships given parameters, engineering sketches and formulas.
3. Determine the area and perimeter of closed traverses using CAD commands and functions.

C.   Unit III. Land Survey Drawings
1. Determine legal descriptions using Metes and Bounds, Lot and Block, Township and Sections given parameters and engineering sketches.
2. Draw Plats of parcels of land with applicable dimension and conventions given specifications, sketches, notes and verbal instructions.
3. Apply good design principles and local standards to draw subdivisions of land given use of standards, specifications, sketches, notes, and verbal instructions.

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    D.   **Unit IV. Topographic Drawing**
1. Draw contour lines using grid systems, leveling notes, and other methods to represent the topography of parcels of land given specifications, sketches, notes, and verbal instructions.
2. Draw profiles of ground surface along specified lines from a given contour lines given specifications, sketches, notes, and verbal instructions.
3. Draw cuts and fills of a proposed road given the contours of the terrain, the road parameters and route, and the angles of repose for the material at the site along with specifications, sketches, notes, and verbal instructions.

Unit V. Introduction to Software Application
1. Perform Drawing Setup
2. Set up Basic Data Groups – Points
3. Perform Line and Curve Data Setup
4. Perform Parcels Setup
5. Perform Surfaces Setup
6. Manage XREF's and overlays

Unit VI Analysis/Design Using Civil Software
1. Determine Site and Parcel Volume
2. Produce Roadway Design Horizontal Alignment (Profile drawing)
3. Produce Roadway Design Vertical Alignment (Profile drawing)

III.   **THECB Learning Outcomes (WECM)**
1. Interpret survey data and topographic symbols.
2. Produce topographical drawings.

IV.   **Evaluation**

    A.   Challenge Exams

    There is a challenge exam available for this course.   Coordination for any challenge exam should be made through the Drafting Coordinator.

    B.   Post- assessment

1. The instructor will maintain a continuous record of each student's progress on an institutionally approved grade sheet or computerized substitute.   All instructors must keep records in such a way that information would be clear to a second party having to check grade computation in special cases.   An explanatory legend should be provided on the grade sheet.
2. Students should be evaluated periodically throughout the semester.
3. It is recommended that six graded drawings assignments be administered.   However, the instructor will be responsible for determining the actual number and complexity of the graded drawing assignments.
4. Instructors are required to administer a minimum of four evaluations.   They can be in the form of the instructors choosing such as, quizzes, practical/written drawing exams, or formal exams.
5. Instructor will determine the weight of each graded assignment and exam.

    C.   Remediation

Make-up exams will only be given upon the student-initiated request and at the discretion of the instructor.   Make-up work and tests must be arranged with the instructor immediately after an absence.

    D.   Grading scale.

    A.   = 92.5 – 100

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

E.   Grading Percentages

For grade percentages 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.