PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

_X_ Transfer Course _X_ A.A. Degree applicable course
(check all that apply)

COURSE NUMBER AND TITLE: DT 110 Technical Drafting I with AutoCAD

UNIT VALUE: 3.0

MINIMUM NUMBER OF SEMESTER HOURS: 96

BASIC SKILLS REQUIREMENTS: Appropriate language and computational skills.

ENTRANCE REQUIREMENTS

PREREQUISITE: Completion of, or concurrent enrollment in, DT 125/R DT 125

COREQUISITE: None.

RECOMMENDED PREPARATION: None.

SCOPE OF COURSE:
Fundamentals of drafting including lettering, sketching, instruments, geometric constructions, orthographic projections, dimensioning, sectional and auxiliary views. Drafting will be performed on the computer using AutoCAD software.

SPECIFIC COURSE OBJECTIVES:
The successful student will:

1. apply plane geometry in current drafting use.
2. identify graphic drawing symbols, formats and media commonly used in technical drawings.
3. identify and apply correct techniques in lettering and lines.
4. apply correct techniques and use of drafting instruments.
5. develop detailed drawings of a variety of technical parts using third angle multi-view orthographic projection.
6. demonstrate elementary constructions with plane geometry.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

I. Lettering
   A. Standardization (ANSI)

- B. AutoCAD Fonts
- C. Technique
  1. Hand lettering
  2. Computer lettering

II. Sketching Techniques
- A. Tools and Paper
- B. Straight and Curved Line Skills
- C. Proportion v. Scale

III. Line Symbols
- A. Standardization
- B. Representation
- C. Application

IV. Instruments and Their Use
- A. Drafting Station Set-up
  1. Computers and software
  2. Conventional drafting
- B. Scales
  1. Architects
  2. Engineers
  3. Mechanical drafts
  4. Metric
  5. Plotting to scale
- C. Templates
- D. Instruments and Sets
  1. Compasses
  2. Trammel Points

V. Plane Geometry
- A. Geometric Nomenclature
- B. Basic Constructions
- C. Tangent Constructions
- D. Polygon
- E. More Complex

VI. Orthographic Multi-View Drawing
- A. First and Third Angle Projection
  1. Projection planes
  2. View development on planes
  3. View alignment
- B. Object Visulation
  1. Normal lines and surface analysis
  2. Inclined lines and surface analysis
  3. Oblique/skew line and surface analysis

VII. Sectional Views
- A. Full and Half Sections
- B. Revolved and Removed Sections
- C. Offset Sections
- D. Broken-out Sections
- E. Ribs and Spokes in Sectional View Drafting

VIII. Auxiliary Views
- A. Primary Auxiliary Views
  1. True size and shape of a plane
  2. Angle between planes

3. True length of a line
4. Point view of a line

B. Introduction to Secondary Auxiliary Views

IX. Basic Dimensioning

A. General Terms and Principles

B. Technique

REQUIRED READING:

Giesecke, F. E. Engineering Graphics. 6th edition. New Jersey: Prentice-Hall Inc., 1998.

SUGGESTED READING:

ANSI Drafting Manual Y14. California: Globe, 1990.

Pare, E.G. Descriptive Geometry. New York: MacMillan Publishing Company, 1980.

REQUIRED WRITING:

Lecture, log procedural analysis of drawing layouts, procedural analysis of plane geometry problem solving and the definition of terms are required which should consist of not less than five pages.

Demonstration of technical drafting skills is more appropriate.

OUTSIDE ASSIGNMENTS:

Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short-term classes.

Library and outside research for technical drawing problem solving.

Text reading and review of class notes.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

_____ lecture
_____ laboratory
_X_ lecture-laboratory combination
_____ directed study

DISTANCE LEARNING:

This course may be offered as a distance learning course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.

Yes ____ No X

If yes, check all that apply:

_____ Television Course (Video one-way, e.g. ITV, video cassette, etc.)
_____ Online Course (Text one-way, e.g. newspaper, correspondence, electronic file, etc.)
_____ Two-Way Video Conferencing (Two-way interactive video and audio)
_____ One-Way Video Conferencing (One-way interactive video and two-way interactive audio)
_____ Computer Assisted Instruction (A specialized form of mediated instruction relying primarily on student access to information and prepared lessons or teaching materials through a computer terminal, but not under immediate supervision of a qualified instructor.)

GRADING POLICY AND STANDARDS (include methods of determining whether the stated objectives have been met by students):

80% Weekly or biweekly assignments are submitted and evaluated based on previously presented information and criteria.

10% One mid-term testing for general knowledge of material studied in that interval.

10% A comprehensive final exam.

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?
Yes ____ No X Number of times course may be taken for credit: 1

If yes, identify specific provision of Title 5 Division 2 section(s), 55761-55763 and 58161 which qualifies course as repeatable:

CONTACT PERSON: Dennis Lutz, ext: 2560

SIGNATURES ON FILE: