Form Version: February 2001 EFFECTIVE TERM: FALL 2002_____

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 211 Advanced Printed Circuit Board Design

UNIT VALUE: 3

MINIMUM NUMBER OF SEMESTER HOURS: 96

BASIC SKILLS REQUIREMENTS: Appropriate language and computational skills.

ENTRANCE REQUIREMENTS

PREREQUISITE: DT210

COREQUISITE: None

RECOMMENDED PREPARATION: None

SCOPE OF COURSE:
Advanced problems and instruction in printed circuit board design generally required for entry-level position in the electronic industry. Special emphasis will be placed on advanced applications including surface mount technology. Includes artwork and complete documentation for analog and digital multi-layer, flexible and high-speed boards using current IPC standards. Drafting will be performed on the computer using AutoCAD and PADS software.

SPECIFIC COURSE OBJECTIVES:
The successful student will:

1. Compare and contrast advanced layout design problems for a printed circuit boards to 100% accuracy given a configuration drawing, a schematic and a parts list.

2. Create a advanced camera ready artmasters, using PADS design software, accurate to +/-.005 an inch.

3. Draw a complete package of related drawings for the fabrication and assembly of an advanced printed circuit board to industry standards, given a configuration drawing, photo package and parts list.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

I. Advanced Analog Component Layout
II. Advanced Digital Component Layout
III. Compete Artwork for an Advanced Printed Circuit Board
IV. Advanced Fabrication, Parts List and Assembly Drawings
IV. Advanced Flexible Circuits
V. Advanced Multi-layer Circuits
VI. Advanced Electro-Magnetic Interference Problem Solving

REQUIRED READING:

Solberg. Design Guidelines for Surface Mount Technology. Blue Ridge Summit, PA: TAB Books Inc., 1995.

SUGGESTED READING:

Trade journals and other publications as assigned by instructor.

REQUIRED WRITING:

Skills demonstration of competencies identified in Specific Course Objectives.

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.

Textbook readings and course handouts in preparation. Library readings as assigned such as articles published in a variety of trade journals.

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):

60% Weekly or biweekly assignments are submitted and evaluated based on previously provided information and criteria. Several assignments include along with drawings, a written account of the analysis for solving the problem and a written procedure for efficiently and correctly producing the drawing.

25% Two examinations at approximately the 6th week and the 12th week of the course to test for general knowledge of material studied in the interim.

15% A comprehensive final examination primarily of a performance nature reviewing the skills and knowledge of the subject matter presented in the course.

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?
Yes _X_ No ____ Number of times course may be taken for credit: _2__

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

CONTACT PERSON: Anne Reiss x2765

SIGNATURES ON FILE