ELEC 90B Course Outline as of Fall 2004

CATALOG INFORMATION

Dept and Nbr: ELEC 90B Title: ELECTRONIC MATH 2
Full Title: Electronic Mathematics 2
Last Reviewed: 11/3/2003

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	17.5	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00 Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable
Grading: Grade Only
Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:
Formerly:

Catalog Description:
Fundamental operations of trigonometry, periodic functions, harmonics, vectors, phasor algebra as applied to a series, parallel, series parallel, and bridge circuits. Includes a discussion of logarithms, decibels, and transients, and binary math.

Prerequisites/Corequisites:
Course Completion of ELEC 90A OR Course Completion of ELEC 191 (or ELEC 91)

Recommended Preparation:
Course Completion of MATH 27 (or MATH 57)

Limits on Enrollment:

Schedule of Classes Information:
Description: Fundamental operations of trigonometry, periodic functions, harmonics, vectors, phasor algebra as applied to a series, parallel & series parallel & bridge circuits. Includes a discussion of logarithms, decibels, transients, and binary Math. (Grade Only)
Prerequisites/Corequisites: Course Completion of ELEC 90A OR Course Completion of ELEC 191 (or ELEC 91)
Recommended: Course Completion of MATH 27 (or MATH 57)

Limits on Enrollment:
Transfer Credit: CSU;
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**		Effective:	Inactive:
	B	Communication and Analytical Thinking	Fall 1981	Spring 2011
	MC	Math Competency		
CSU GE:	**Transfer Area**		Effective:	Inactive:
IGETC:	**Transfer Area**		Effective:	Inactive:

CSU Transfer:	Transferable	Effective:	Fall 1981	Inactive:	Spring 2011
UC Transfer:		Effective:		Inactive:	

CID:

Certificate/Major Applicable:
Both Certificate and Major Applicable

COURSE CONTENT

Outcomes and Objectives:
Upon successful completion of the course the student will be able to:
1. Analyze vectors graphically and mathematically.
2. Identify and analyze periodic functions.
3. Calculate electronic circuit problems using phasor algebra.
4. Apply logarithms to AC circuits.
5. Calculate bridge circuits with loop equations and Thevinin's Theorem.
6. Identify mathematical functions concepts related to computer circuitry.

Topics and Scope:

1. Vectors.
2. Periodic functions.
3. Phasor algebra.
4. AC circuits.
   a. series
   b. parallel
   c. series - parallel
5. Logarithms with applications.
6. Math for the computer.
7. Bridge circuits - loop equations and Thevinin's Theorem.

Assignment:

1. Skill exercises: numerical problems applied to electronic circuits.
2. Problem solving assignments: numerical problems in preparation for application exercises.

3. Four to eight quizzes; midterm; final exam.
4. Reading in assigned text: 30-35 pages per week.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments are more appropriate for this course.	Writing 0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems	Problem solving 40 - 60%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None	Skill Demonstrations 0 - 0%

Exams: All forms of formal testing, other than skill performance exams.

Multiple choice, True/false, Matching items, Completion	Exams 40 - 60%

Other: Includes any assessment tools that do not logically fit into the above categories.

None	Other Category 0 - 0%

Representative Textbooks and Materials:
Kramer, Arthur D. Mathematics for Electricity & Electronics. Delmar, 2002.