ELEC 90B Course Outline as of Spring 2011

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)

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area B	Communication and Analytical Thinking	Effective: Fall 1981	Inactive: Spring 2011
CSU GE:	Transfer Area	Main Competency	Effective:	Inactive:
IGETC:	Transfer Area		Effective:	Inactive:
CSU Transfer:		Effective:	Inactive:	
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 parallel5. 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.

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

Homework problems

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

None

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

Multiple choice, True/false, Matching items, Completion

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

None

Representative Textbooks and Materials:

Kramer, Arthur D. Mathematics for Electricity & Electronics. Delmar, 2002.

0 - 0%	
Problem solving	
40 - 60%	

Writing



Exams	
40 - 60%	

Other Category 0 - 0%