ELEC 191 Course Outline as of Spring 2011

CATALOG INFORMATION

Dept and Nbr: ELEC 191 Title: INTRO ELEC MATHEMATICS
Full Title: Introduction to Electronic Mathematics
Last Reviewed: 2/10/2003

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	6	Lab Scheduled	0
		Contact DHR	1.00		Contact DHR	17.50
		Contact Total	4.00		Contact Total	70.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00 Total Student Learning Hours: 175.00

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:	ELEC 91

Catalog Description:
Literal numbers, fundamental algebraic processes, equations, electronic units, special products and factoring, fractions, fractional equations, right triangle trigonometry, and simultaneous equations.

Prerequisites/Corequisites:

Recommended Preparation:
1st yr. HS algebra or MATH 150A with grade of "C" or better or equivalent coursework.

Limits on Enrollment:

Schedule of Classes Information:
Description: Literal numbers, fundamental algebraic processes, equations, electronic units, special products & factoring, fractions, fractional equations, right triangle trigonometry & simultaneous equations. (Grade Only)
Prerequisites/Corequisites:
Recommended: 1st yr. HS algebra or MATH 150A with grade of "C" or better or equivalent coursework.

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

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**	Effective:	Inactive:
CSU GE:	**Transfer Area**	Effective:	Inactive:
IGETC:	**Transfer Area**	Effective:	Inactive:

CSU Transfer:	Effective:	Inactive:
UC Transfer:	Effective:	Inactive:

CID:

Certificate/Major Applicable:
Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:
Upon successful completion of this course the student will be able to:
1. Identify, add, subtract, multiply, and divide signed numbers, with application to series aiding and series opposing batteries.
2. Identify, add, subtract, multiply, and divide algebraic expressions.
3. Identify and factor algebraic expressions commonly used with Ohm's law.
4. Identify factors in algebraic expressions.
5. Interpret metric notations with applications to Scientific and Engineering notation as commonly used in electronics.
6. Calculate linear first order equations, fractional and non-fractional.
7. Solve simultaneous equations with two or three unknowns.

Topics and Scope:

1. Powers of ten, as related to electronics
2. Metric units, as applied to laboratory test equipment
3. Addition and subtraction of algebraic expressions
4. Multiplication and division - binomial and polynomial
5. Factoring
6. Equations, as related to Ohm's and Watt's Laws
7. Fractions
8. Fractional equations
9. Right angle trigonometry, as applied to measurement of sine wave voltages
10. Angles, as applied to the measurement of phase angles between dissimilar voltages
11. Simultaneous equations

Assignment:

1. Skill exercises to apply power of 10 notation to test equipment and application to possible laboratory testing of circuits.
2. Problem solving: apply Ohm's Law to a fundamental series and parallel resistive circuits; apply simultaneous equations necessary to determine the intersection of voltage and current measurements.
3. One-on-one or group meetings with instructor to review mathematics topics.

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 30 - 35%

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

Skills exercises.	Skill Demonstrations 10 - 20%

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

Problem solving exams.	Exams 30 - 35%

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

One-on-one or group meetings with instructor.	Other Category 10 - 20%

Representative Textbooks and Materials:
Cooke. Basic Mathematics for Electronics, 7th Edition. Glencoe, 2000.