

**ELEC 90A Course Outline as of Fall 2012****CATALOG INFORMATION**

Dept and Nbr: ELEC 90A      Title: ELEC MATHEMATICS I  
 Full Title: Electronic Mathematics I  
 Last Reviewed: 11/5/1997

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	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:**

Literal numbers, fundamental algebraic processes, equations, electronic units, special products and factoring, fractions, fractional equations, right triangle trigonometry, simultaneous equations, determinants Kirchhoff's Law and Thevenin's Theorem applied to circuits with two power supplies.

**Prerequisites/Corequisites:**

First year of HS Algebra (or MATH 150A or equivalent) with a grade of 'C' or better.

**Recommended Preparation:****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, determinants Kirchhoff's Law & Thevenin's Theorem applied to circuits with two power supplies. (Grade Only)

Prerequisites/Corequisites: First year of HS Algebra (or MATH 150A or equivalent) with a

grade of 'C' or better.

Recommended:

Limits on Enrollment:

Transfer Credit:

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:
<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
<b>CSU Transfer:</b>		Effective:	Inactive:
<b>UC Transfer:</b>		Effective:	Inactive:

**CID:**

**Certificate/Major Applicable:**

Certificate Applicable Course

## **COURSE CONTENT**

**Outcomes and Objectives:**

The student will be able to:

1. identify, add, subtract, multiply, and divide signed numbers.
2. identify, add, subtract, multiply, and divide algebraic expressions.
3. identify and factor algebraic expressions.
4. identify factors in algebraic expressions.
5. interpret metric notations.
6. calculate linear first order equations, fractional and non-fractional.
7. analyze the standard and impedance right triangle.
8. solve impedance triangle problems.
9. analyze and calculate problems within the four quadrant system.
10. solve two or three unknown simultaneous equations.
11. develop and solve loop equation in electronic circuit.

**Topics and Scope:**

1. Power's of ten.
2. Metric units.
3. Addition and subtraction of algebraic expressions.
4. Multiplication and division - binomial and polynomial.
5. Factoring.
6. Equations.
7. Fractions.

8. Fractional equations.
9. Right angle trigonometry.
10. Angles.
11. Simultaneous equations.
12. Determinants.
13. Loop equations.

**Assignment:**

1. Skill exercises.
2. Problem solving.

**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, Quizzes, Exams

Problem solving  
0 - 100%

**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.

None

Exams  
0 - 0%

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

None

Other Category  
0 - 0%

**Representative Textbooks and Materials:**