

## FLORIDA STATE COLLEGE AT JACKSONVILLE

## COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER:	EET 1084
COURSE TITLE:	Survey of Electronics
PREREQUISITE(S):	None
COREQUISITE(S):	None
CREDIT HOURS:	3
CONTACT HOURS/WEEK:	4
CONTACT HOUR BREAKDOWN:	
Lecture/Discussion:	3
Laboratory:	1
Other _____:	
FACULTY WORKLOAD POINTS:	3.67
STANDARDIZED CLASS SIZE ALLOCATION:	24

## CATALOG COURSE DESCRIPTION:

This course is designed to be an introduction for the understanding of basic direct current electricity theory, basic alternating current electricity theory, and the fundamentals of electronics. Topics include terminology, definitions, Ohm's Law, series and parallel circuit measurement, evaluation, electrical safety, electrical symbols, and the math skills that are relative for calculations to determine the values of various electrical components. The principles behind how magnetism is used in generating electricity are explored, the molecular structure of materials, concepts of work and energy, and the properties inherent to DC and AC circuits. Some of the aspects of DC and AC electrical circuits will be introduced in lab "hands-on" experiments and applications.

## SUGGESTED TEXT(S): (CHANGE)

Foundations of Electronics: Circuits and Devices

By: Russell L. Meade and Robert Diffenderfer, latest edition

Publisher: Thomson Delmar Learning

ISBN: 1-4180-0537-1

## IMPLEMENTATION DATE:

Fall Term 2006 (20071)

## REVIEW OR MODIFICATION DATE:

Fall Term, 2009 (20101) - Proposal 2009-11

COURSE TOPICS	<u>CONTACT HOURS PER TOPIC</u>
I. Basic Concepts of Electricity	4
II. Electrical Quantities and Components	3
III. Ohm's Law	3
IV. Series Circuits	3
V. Parallel Circuits	3
VI. Series-Parallel Circuits	3
VII. Basic Network Theorems	3
VIII. Network Analysis Techniques	2
IX. Magnetism and Electromagnetism	2
X. Measuring Instruments	3
XI. Basic AC Quantities	3
XII. The Oscilloscope	2
XIII. Inductance	3
XIV. Inductive Reactance in AC	3
XV. RL Circuits in AC	3
XVI. Basic Transformer Characteristics	3
XVII. Capacitance	3
XVIII. Capacitive Reactance in AC	3
XIX. RC Circuits in AC	3
XX. PLC Circuit Analysis	3
XXI. Series and Parallel Resonance	2

PROGRAM TITLE: Engineering Technology

COURSE TITLE: Survey of Electronics

CIP NUMBER: 1615.061300 AS

LIST PERFORMANCE STANDARDS ADDRESSED:

NUMBER(S): TITLE(S):

03.0 DEMONSTRATE A FUNDAMENTAL UNDERSTANDING OF ELECTRONICS AND ELECTRICITY -  
The student will be able to:

- 03.01 Use appropriate grounding techniques.
- 03.02 Demonstrate knowledge of AC/DC theory.
- 03.03 Solve circuit problems using unit conversion and scientific notation.
- 03.04 Solve problems involving electric charge, electric current, potential difference, energy and Ohm's Law.
- 03.05 Solve problems in electric circuits involving work and power.
- 03.06 Solve problems involving series and parallel resistance circuits.
- 03.07 Solve problems involving capacitance in DC circuits.
- 03.08 Solve problems involving magnetic circuits.
- 03.09 Solve problems involving inductance in DC circuits.
- 03.10 Solve A.C. problems involving peak value, instantaneous, average value and RMS value of a sine wave.
- 03.11 Solve problems on factors governing reactance in A.C. circuits.
- 03.12 Solve impedance problems in A.C. circuits.
- 03.13 Prepare and complete concise, neat and accurate lab reports.



NOTE: Use either the Tab key or mouse click to move from field to field. The box will expand to accommodate your entry.

Section 1		
COURSE PREFIX AND NUMBER: <b>EET1084</b>		SEMESTER CREDIT HOURS: <b>3</b>
COURSE TITLE: <b>Survey of Electronics</b>		
Section 2		
TYPE OF COURSE: (Click on the box to check all that apply)		
<input type="checkbox"/> AA Elective	<input checked="" type="checkbox"/> AS Required Professional Course	<input type="checkbox"/> College Prep
<input type="checkbox"/> AS Professional Elective	<input type="checkbox"/> AAS Required Professional Course	<input type="checkbox"/> Technical Certificate
<input type="checkbox"/> Other _____	<input type="checkbox"/> General Education: (For General Education courses, you must also complete Section 3 and Section 7)	
Section 3 (If applicable)		
INDICATE BELOW THE DISCIPLINE AREA FOR GENERAL EDUCATION COURSES:		
<input type="checkbox"/> Communications	<input type="checkbox"/> Social & Behavioral Sciences	<input type="checkbox"/> Mathematics
<input type="checkbox"/> Natural Sciences	<input type="checkbox"/> Humanities	
Section 4		
INTELLECTUAL COMPETENCIES:		
<input checked="" type="checkbox"/> Reading	<input checked="" type="checkbox"/> Speaking	<input checked="" type="checkbox"/> Critical Analysis
<input checked="" type="checkbox"/> Writing	<input checked="" type="checkbox"/> Listening	<input type="checkbox"/> Information Literacy
<input checked="" type="checkbox"/> Quantitative Skills	<input type="checkbox"/> Ethical Judgment	<input checked="" type="checkbox"/> Scientific Method of Inquiry
<input checked="" type="checkbox"/> Working Collaboratively		
Section 5		
	<b>LEARNING OUTCOMES</b>	<b>METHOD OF ASSESSMENT</b>
• 1	Demonstrate knowledge of AC/DC theory.	Hands-on application exercises. Written quizzes, or test.
• 2	Solve problems involving electric charge, electric current, potential difference, energy and Ohm's Law.	Hands-on application exercises Written quizzes, or test.
• 3	Solve problems involving capacitance in DC circuits.	Hands-on application exercises
• 4	Solve problems in electric circuits involving work and power	Hands-on application exercises
• 5	Solve problems involving series and parallel resistance circuits.	Hands-on application exercises
• 6	Solve problems involving magnetic circuits.	Hands-on application exercises
• 7	Solve A.C. problems involving peak value, instantaneous, average value and RMS value of a sine wave.	Hands-on application exercises Written quizzes, or test.
• 8	Solve impedance problems in A.C. circuits	Hands-on application exercises Written quizzes, or test.
Section 6 Name of Person Completing This Form: <u>Evan Kuharich</u>		Date: <u>05/7/08</u>