

ENGT 110/111/112

2012-2013

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KYTech-Garrard ATC

CIRCUITS I

I. COURSE DESCRIPTION

COURSE INCLUDES AN INTRODUCTION TO BASIC THEORY OF DC AND AC CIRCUITS, CIRCUIT ANALYSIS TECHNIQUES, INTRODUCTORY MAGNETISM, AND TRANSFORMER PRINCIPLES.

II. CO-REQUISITE

ENGT 111/113 CIRCUITS I LAB

III. TEXTBOOK

DELMAR'S STANDARD TEXTBOOK OF ELECTRICITY BY STEPHEN HERMANN

IV. REQUIRED MATERIALS

PENCIL AND PAPER. IT WOULD BE TO THE STUDENTS BENEFIT TO HAVE A NOTEBOOK OR FOLDER FOR NOTE TAKING AND INFORMATION STORAGE.

V. CREDIT HOURS

ONE (1) CREDIT HOUR

VI. COURSE OBJECTIVE

UPON COMPLETION, STUDENT WILL HAVE DEMONSTRATED AN UNDERSTANDING OF SIMPLE ELECTRICAL CIRCUITS AND LAWS, AS WELL AS A PROFICIENCY IN THE USE OF ELECTRICAL LABORATORY EQUIPMENT.

VII. COURSE OUTLINE

Task	Explanation	Days
1	Solve series and parallel DC circuits.	8
2	Demonstrate an understanding of electrical safety principles.	5
3	Describe the use of hand tools and basic test equipment.	5
4	Explain simple DC voltage and current divider circuits.	3
5	Demonstrate an understanding of resistance, capacitance, and inductance.	3
6	Solve simple time-constant circuits, both R-C and R-L.	3
7	Use Kirchhoff's Laws to analyze DC circuits.	3
8	Demonstrate an understanding of basic magnetism and AC principles.	5
9	Demonstrate an understanding of basic transformers.	5
10	Demonstrate proficiency in the use of common electrical laboratory instrumentation.	5
11	Exhibit verbal and written communication skills through teamwork and technical reports.*	*
12	Demonstrate an understanding of basic electrical measuring instruments such as those used for: voltage measurement, current measurement, and resistance measurement.	5
13	Demonstrate an understanding of Ohm's law and be able to perform a basic calculation.	5
14	Understand basic theory of and applications to electric circuits for Series Circuits, Parallel Circuits, and Series-Parallel Circuits.	5

*- INDICATES LESSON WILL BE INTRICATE PART OF ALL SEMESTERS LESSONS

SCORING RUBRIC

40% OF FINAL GRADE BASED UPON DAILY PERFORMANCE AND ATTITUDE

20% OF FINAL GRADE BASED UPON TEST SCORES

20% OF FINAL GRADE BASED UPON COMPLETED TASK SCORES

10% OF FINAL GRADE BASED UPON DAILY ASSIGNMENTS

10% OF FINAL GRADE BASED UPON QUIZ SCORES

MAKE UP POLICY

STUDENTS WILL BE ALLOWED TO MAKE UP MISSED ASSIGNMENTS AND TEST AT A TIME CONVENIENT TO TEACHER AND LESSON SCHEDULE. STUDENTS WILL NOT BE ABLE TO MAKE UP MISSED TIME

AND TASK PRACTICE DURING CLASS TIME DUE TO THE FACT IT WILL TAKE AWAY FROM OTHER LESSONS/TASKS. TEACHER WILL WORK WITH STUDENTS TO MAKE UP MISSED TIME AT STUDENT'S REQUEST. THIS WILL BE SOLELY DEPENDANT UPON STUDENTS BEHAVIOR, ATTITUDE, AND DAILY MOTIVATION.