

Bossier Parish Community College
Master Syllabus

Course Prefix and Number: TEED 101

Credit Hours: 4-3-3

Course Title: Fundamentals of Electricity and Lab I

Course Prerequisite or Co-Requisite: MATH 099

Textbook(s): Electricity and Electronics 11th edition, Gerrish/Dugger/Roberts, Goodheart-Willcox. ISBN: 978-1-63563-870-7

Basic Electrical Circuits. Energy Concepts. ISBN: 1557561729

Course Description: Lecture and Lab in electron theory, basic circuits, cells and batteries, resistance networks, Ohm's law, Kirchoff's law, electromagnetism, alternating current, impedance, phase relationships, resonance, transformer, time constant principles, and use of measuring instruments. This course prepares the student to take the Precision Exams Electronics I exam.

Learning Outcomes:

At the end of the course, the student will:

- A. recognize and define fundamental terminology associated with basic DC and AC electricity such as voltage, current, resistance, power, magnetic field strength, and magnetic flux density;
- B. measure and record physical parameters such as voltage, current, resistance, capacitance, and power to support circuit analysis and troubleshooting;
- C. convert measurements of physical data into properly labeled and scaled graphs to support circuit analysis and troubleshooting;
- D. interpret and apply technical information contained in construction drawings or schematic diagrams; and
- E. interpret circuit analysis and information gathering instructions (function, materials, and schedule) and execute those instructions.

To achieve the learning outcomes, the student will or will be able to:

(The letter designations at the end of each statement refer to the learning outcome(s).)

1. measure current, voltage, resistance, and power in dc circuits; (A,B)
2. calculate energy, power, voltage, current, resistance, and cost of energy in dc circuits; (A, B, C)
3. construct electric circuits which fulfill the specifications given in a schematic diagram; (C)
4. troubleshoot dc circuits to locate shorts, opens, and overloads; (C, D)
5. measure inductance, capacitance, impedance, and phase shift; (B)
6. identify components used in ac circuits as to type, rating, and application; (D) and
7. analyze complex circuits by reducing them to equivalent circuits. (D, E)

Course Requirements: Complete all homework assignments, lecture tests, lab assignments and final exam.

Course Grading Scale:

90 – 100 = A
80 – 89 = B
70 – 79 = C
60 – 69 = D
0 – 59 = F

Attendance Policy: The college attendance policy is available at <http://www.bpcc.edu/catalog/current/academicpolicies.html>

Course Fees: This course is accompanied with an additional non-refundable fee for supplemental materials, laboratory supplies, software licenses, certification exams, and/or clinical fees. The exam certification fee is nonrefundable.

Nondiscrimination Statement: Bossier Parish Community College does not discriminate on the basis of race, color, national origin, gender, age, religion, qualified disability, marital status, veteran's status, or sexual orientation in admission to its programs, services, or activities, in access to them, in treatment of individuals, or in any aspect of its operations. Bossier Parish Community College does not discriminate in its hiring or employment practices.

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