



EGR 131

Introduction to Electrical Circuits

ONLINE

SYLLABUS

Credit hours: 4

Prerequisite(s) and/or Corequisite(s):

Pre-requisite: Intermediate Algebra Competency or high school algebra II.

ONLINE SYLLABUS: Introduction to Electrical Circuits

Instructor: Prof. Jahangir Rahman, Ph.D.

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Class time& location: EGR131 44H Online

EGR131 44L B220 Thurs 4:00 PM – 9:50 PM

Online Office Hours: Wednesday 6:00 PM – 7:30 PM

Even though this is an online course it does not mean that you cannot visit with me during my “live” office hours. Please feel free to drop by or make an appointment if you have any questions regarding the course content.

I prefer that you email me through the course space. If you cannot login for some reason, please email me directly at Jahangir.Rahman@bristolcc.edu. I will respond to you in a timely fashion, usually within 24 hours, excluding weekends and holidays.

This is a Web-based course so it is essential that students have dependable Internet access. Modifications to coursework cannot be made for personal technical issues. The syllabus, course schedule, assignments, exams, and grades will be posted on our course site. Students are encouraged to navigate the site at the start of the course and become familiar with all areas of the site.

Our course week begins on Monday and ends on Sunday. The first week of classes is Week 1.

Course Description:

This course is an introduction to electrical circuits. It examines physics and laws of voltage, current, and power; series and parallel circuit analysis, including equivalent circuit concepts; magnetic circuits; and electromagnetic induction. This course also introduces students to principles of capacitive and inductive reactance, phase shift and analysis of capacitor and inductor defects. Online and six laboratory hours per week.

Note: It is a student’s responsibility to ensure that they meet the prerequisites for the course for which they are registered; if they do not meet the prerequisites as outlined in the course description they should discuss it with their instructor, ASAP.

Student Textbook and Materials:

Text: Introductory Circuit Analysis (w/DVD) Edition: 12th
Author: Boylestad ISBN: 9780137146666 Copyright Year: 2010
Publisher: PEARSON EDUCATION

Lab Manual: Experiments in Basic Circuits: Theory & Applications Edition: 9th
Author: Buchla ISBN: 9780135063347 Copyright Year: 2010
Publisher: PEARSON EDUCATION

Course Objectives

This course is designed to introduce the student to DC circuit analysis and applications. The following objectives will be accomplished:

1. Introduce the mathematical concepts required to solve DC circuits.
2. Conduct circuit analysis on series and parallel DC circuits.
3. Develop the ability to apply Ohm's law to analyze simple one loop circuits to complex mesh circuits utilizing network theorems such as Thevenin, Norton and Superposition.
4. Discuss principles of transient capacitive and inductive circuits.

Teaching Strategies

Curriculum is designed to promote a variety of teaching strategies that support the outcomes described in the course objectives and that foster higher cognitive skills. Delivery makes use of various media and delivery tools in the online and labs including online materials, participation in labs, and on-line resources will be used whenever possible to reinforce key concepts. The following approaches will be used in teaching this course: online lectures, labs, demonstrations, online discussion, and open question and answer.

As an 8 week Hybrid class, this will be an extremely fast paced course and students should be prepared to spend a minimum 16 to 24 hours a week on reading and on course assignments. **“For a college level class, a general rule of thumb is that a student should do between two and three hours of work outside of class for every one hour in class.”** While you may feel that I'm throwing a lot of information at you on a weekly basis remember that in a traditional 16 week “live” course you would be coming to class for 4 hours per week and then spending an additional 8 – 12 hours (at least) outside of class on assignments and reading. Please be sure to budget your time accordingly!

All class related questions must be posted to the **Weekly Discussion Forum**. I will check the Weekly Discussion Forum on a daily basis and will answer questions as needed. I also highly encourage students to read and respond to postings from their classmates. Part of the nature of this class is for students to help each other troubleshoot problems and develop critical-thinking skills and working through questions on the forum is an excellent method to develop proficiency in these areas.

Attendance Policy

In accordance with the attendance policy of the college, attendance is mandatory and will be taken at each week. Students should participate in Weekly Discussion Forum and arrive for class/lab on time and in a prepared manner. If an absence is unavoidable it should be discussed with the professor prior to the class/lab and an alternate assignment will be determined. Any excessive or unexplained absences or tardiness may result in withdrawal or failure of this course.

Weekly Discussion Forum postings are an integral part of the course. As the attendance policy states, you must post your own responses weekly to the discussion board and **must read and respond to at least one other student's posting and my posting**. Responses must be more than "I agree." They should be substantive and should reference reading assignments, web references, lecture notes or outside resources. If you have any questions about the course please be sure to ask!

All assignments are due on the day collected regardless of attendance. Assignments will be penalized 10% if late & 25% if more than one week late. Assignments will not be accepted after the last class. All missed assignments will receive a grade of "0". There will be no make-up quizzes, Midterm, and Final Exam; however students may be excused if prior arrangements have been made with the instructor.

Classroom Policy

While in class/lab or online, students should be courteous to the instructor and their fellow students. Any cell Phones/Pagers should be quickly quieted and taken outside the classroom. **Computers are to be used for class work only, if you must go on-line please do it before class, after class or go to one of the many computer labs.**

Academic Integrity

Per BCC Policy on www.Bristolcc.edu

Disability Accommodations

If you are a student who would normally seek accommodations in a traditional, face to face classroom, please speak to me and the Office of Disability Services as soon as possible. You may contact the Office of Disability Services to arrange for appropriate accommodations by calling 508-678-2811--Fall River, ext. 2955; Attleboro, ext. 2996; New Bedford, ext. 4011) or by stopping by L109. You may also contact the Office of Disability Services online at http://www.bristolcc.edu/Students/ods/request_forms/ods_contact_us.cfm

Technical Help

If you have any technical problems or questions about eLearning BCC please contact CITE lab at 508-678-2811 x2081 or email elearning@bristolcc.edu .

Evaluation Criteria and Grade Weights

Quizzes	15%
Discussion Forum	10%
Homework	15 %
Midterm Exam	20 %
Lab exercises	20 %
Final exam	20 %

Online Course Outline

Week 1: Introduction & Voltage and Current	Chapter 1 & Chapter 2
Week 2: Resistance & Ohm's law, Power and Energy	Chapter 3 & Chapter 4
Week 3: Series Circuits & Parallel Circuit -1	Chapter 5 & Chapter 6
Week 4: Parallel Circuit -2 & Series – Parallel Circuits	Chapter 6 & Chapter 7 Midterm Exam
Week 5: Methods of Analysis – 1 & Methods of Analysis – 2	Chapter 8
Week 6: Network Theorem – 1 & Network Theorem – 2	Chapter 9
Week 7: Inductor & Capacitors	Chapter 10 & Chapter 11
Week 8:	Review Final Exam

As this is only a proposed outline, deviations may occur.