ENGR 201
Electrical Fundamentals
Tuesday & Thursday, 1100-1150, Kearney 112
Tuesday & Thursday, 1400-1450, Gilbert 224

Instructor: Matthew Shuman
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Website: www.engr.oregonstate.edu/~shuman (Don’t copy and paste the ~.)
Office Location: KEC 1115
Office Hours: Tuesday & Thursday 1300-1350
Office Hours: Wednesday 1200-1400
Office Phone: (541) 737-1072

This statement is the original plan of the course. Plans can change through the course of the term, and changes will be sent out to the class email list. Check your ENGR email account daily.

Course Description: ENGR 201 is an introduction to the fundamentals of electricity. This class focuses on electrical current, voltage, power, energy, KVL, KCL, mesh analysis, nodal analysis, superposition, Thevenin and Norton equivalent circuits, RC and RL circuits, and Operational Amplifiers.

Prerequisite(s): MTH 251 and 252

Course Objectives:
At the completion of this course, students will be able to:

1. State and utilize the current-voltage relationships of resistors, capacitors, inductors, and independent and dependent current and voltage sources in solving dc circuits and calculating power and energy. (ABET outcomes: A, e, m)

2. State Ohm’s and Kirchoff’s laws, and apply these to voltage and current division, series/parallel and Wye-Delta transformations, mesh analysis, and nodal analysis for resistive circuits. (ABET outcomes: A, e, m)

3. State Superposition, Thevenin’s and Norton’s theorems, and apply these for the analysis of dc circuits. (ABET outcomes: A, e, m)

4. Analyze circuits made up of ideal opamps and resistors. (ABET outcomes: A, e, m)

5. Analyze first-order circuits, which contain resistors, capacitors, or inductors. (ABET outcomes: A, e, m)

6. Perform laboratory experiments utilizing the above concepts. (ABET outcomes: A, B, e, Q)
Grade Distribution:

- Recitation 20%
- Homework 10%
- Design Problem 10%
- 2 Midterms 40%
- Final Exam 20%

Letter Grade Distribution:

<table>
<thead>
<tr>
<th>Score Range</th>
<th>Letter Grade</th>
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<tbody>
<tr>
<td>&gt;= 92.50</td>
<td>A</td>
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<tr>
<td>89.50 - 92.50</td>
<td>A-</td>
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<tr>
<td>86.00 - 89.50</td>
<td>B+</td>
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<tr>
<td>82.50 - 86.50</td>
<td>B</td>
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<tr>
<td>79.50 - 82.50</td>
<td>B-</td>
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<tr>
<td>76.50 - 79.50</td>
<td>C+</td>
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<tr>
<td>72.50 - 76.50</td>
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<tr>
<td>69.50 - 72.50</td>
<td>C-</td>
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<tr>
<td>66.50 - 69.50</td>
<td>D+</td>
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<tr>
<td>62.50 - 66.50</td>
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<tr>
<td>59.50 - 62.50</td>
<td>D-</td>
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<tr>
<td>&lt;= 59.50</td>
<td>F</td>
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</tbody>
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Course grades can be curved up based on class attendance, participation in lecture or office hours, or helping others with posts on the lab forum. Grades will not be curved down, everyone can earn an A.

Course Policies:

- **General**
  - Laptops, phones, and campus newspapers or other distractions are not to be used during lecture, for reasons stated in this article. Tablets and other devices that lay flat on the desk will be allowed in the first three rows of the lecture hall. Participate in class, take notes, engage in your learning and the lecture minutes will go by quickly.
  - You are responsible for preparing for each lecture and reviewing your notes after each lecture. It’s your responsibility to contact a classmate to get notes if you miss a lecture.
  - **Use the lecture time efficiently.**

- **Grades**
  - Grades in the C range represent performance that meets expectations; Grades in the B range represent performance that is substantially better than the expectations; Grades in the A range represent work that is excellent. You are not entitled to an A, but preparation, hard work, and maturity can help you earn a good grade in this course.
  - Grades will be maintained in the Canvas LMS. Students are responsible for tracking their progress by referring to the online gradebook. Grading concerns should be brought to the instructors attention within a week of the grade being posted onto Canvas.

- **Labs and Assignments**
  - Students are expected to work independently, unless specified to submit work in groups. Cheating, fabrication, assisting, tampering, and plagiarism are all forms of academic dishonesty and will be penalized according to the Student Conduct and Community Standards. Here is the process for dealing with academic dishonesty, and here are the forms. Discussion amongst students is encouraged, but when in doubt, direct your questions to the professor, tutor, or lab assistant.
– **No late assignments will be accepted under any circumstances.** Homework assignments can be submitted several days before the due date, but assignments submitted through TEACH will not be accepted even one second late. Assignments can be submitted multiple times, and old assignments will automatically be renamed with a .old extension within TEACH. Only the most recent submission will be graded.

• **Attendance and Absences**

  – Attendance is required. Attendance will not be taken, but you are responsible for all content discussed in lecture. Extra credit opportunities and in class assignments might be held during lecture without prior announcement.

  – Students are responsible for all missed work, regardless of the reason for absence. It is also the absentee’s responsibility to get all missing notes or materials.