Course title: Circuits and Signals I
Instructor: Dr. Anders M. Jorgensen
Office hours: TBD
Instructor: Dr. Anders M. Jorgensen
Workman 227
Phone: 505-835-5450
e-mail: anders@nmt.edu
Class hours: TBD
Classroom location:
M 10-10:50 (A), W 10-10:50 (A)
A - Cramer 203
F 10-10:50 (A) (sometimes)
B - TBD
Exercises:
M 8:00-8:50 (B), M 15:00-16:00 (C),
C - TBD
T 13:00-13:50 (D)
D - TBD
Textbook:
Learning objectives:
1. You will learn the principles of circuit analysis.
2. You will learn about simple circuit components and how they are used.
3. You will learn about time-dependent circuit analysis
4. You will learn about operational amplifiers, a nearly universal component in modern circuits.
Prerequisites:
EE 101.
Topics covered:
In this course we will explore electrical circuits and develop tools for analyzing them. The specific topics that we will cover are
1. Kirchoff’s laws and equivalent circuits
2. Dependent sources
3. Node and mesh analysis
4. RLC components
5. Time-dependent signals
6. Operational amplifiers
Course work:
1. Reading. Stay current with assigned sections in the textbook.
2. Active participation in class. Show up, respond to questions, ask questions.


4. Tests. Take weekly tests.

5. Exams. Take exams. Three highest exam scores will be counted.

**Grading policy:**

1. Weekly 15-minute tests 40%.

2. Four exams 60%. The lowest exam score is dropped.

**Approximate Schedule (subject to change, see website for actual schedule):**

<table>
<thead>
<tr>
<th>Week of</th>
<th>Lecture</th>
<th>Exam</th>
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<tbody>
<tr>
<td>Aug 20</td>
<td>Kirchof’s laws</td>
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<tr>
<td>Aug 27</td>
<td>Node and mesh analysis</td>
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<tr>
<td>Sep 3</td>
<td>Operational amplifiers</td>
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<td>Sep 10</td>
<td>The ideal op-amp</td>
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<td>Sep 17</td>
<td>Non-ideal sources</td>
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<td>Sep 24</td>
<td>Inductors and capacitors</td>
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<tr>
<td>Oct 1</td>
<td>Inductors and capacitor circuits</td>
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<td>Oct 8</td>
<td>First-order circuits</td>
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<td>Oct 15</td>
<td>Analysis of first-order circuits</td>
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<tr>
<td>Oct 22</td>
<td>RLC circuits</td>
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<td>Oct 29</td>
<td>Second-order circuits</td>
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<td>Nov 5</td>
<td>Time-domain analysis</td>
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<td>Nov 12</td>
<td>Complex numbers and frequency analysis</td>
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<td>Nov 19</td>
<td>Frequency analysis</td>
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<td>Nov 26</td>
<td>Power analysis</td>
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<tr>
<td>Dec 3</td>
<td>Review</td>
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