Video Lecture

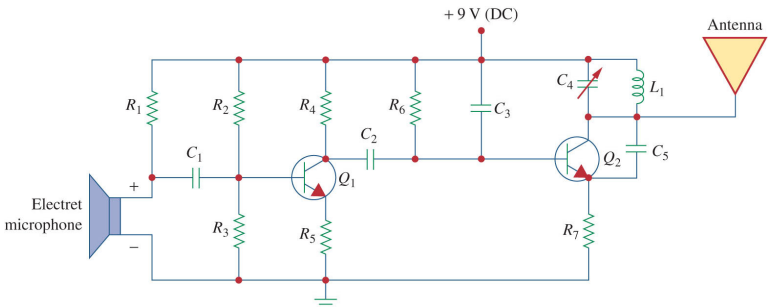
ENGR 260: Circuits and Devices

TOPIC: Introduction to course

Prof. Ramki Kalyanaraman, Redwood City, CA
Content and Figures from Various Sources

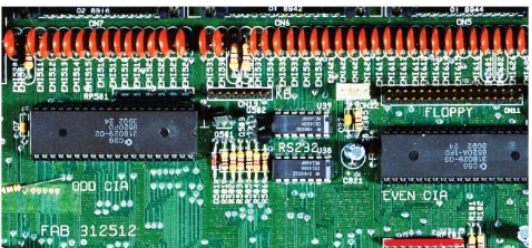
Circuits and Devices

Analyze DC and AC circuits containing basic electrical components using foundational laws of circuit theory



1. What is this class about?
2. What will you learn?
3. How will content be delivered?
4. How will you be assessed?
5. Tips to get a good grade

Basics of important circuit quantities and components



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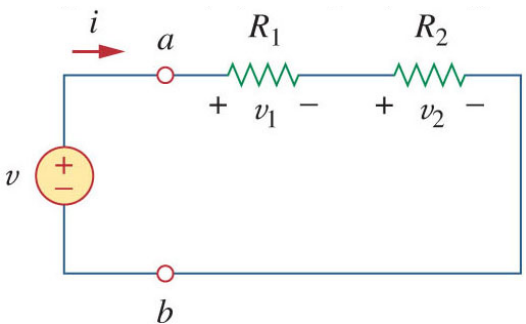
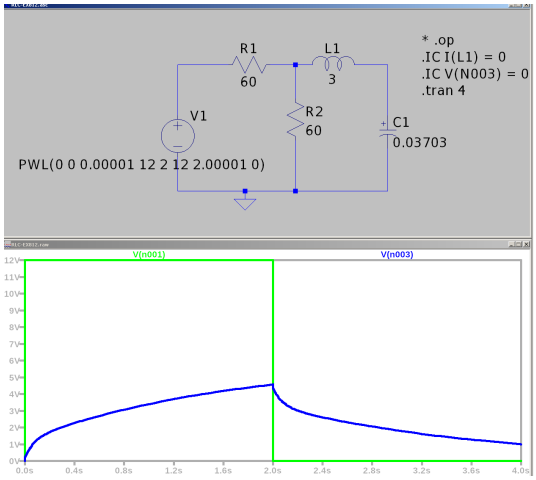
- Basics of electrical quantities like charge, current, voltage, power and efficiency
- Basic Components that are used to build circuits: Resistors, Capacitors, Inductors
- Advanced device: Operational Amplifier
- Sources: Voltage and current

Analysis of circuit behavior using foundational laws



- Ohm's law
- Kirchhoff"s laws
- Superposition principle
- DC and AC behaviors

Use SPICE software to design and/or analyze circuit behavior



- Install LTSpice - a free and open source circuit simulator
- We will learn to use it here

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Canvas Learning Management System

- All the content will be available through canvas
  - The textbooks are free and available to use/download from Canvas
  - The various assignments, quizzes, tests and/or exams
  - All the lesson videos (youtube links) and lesson slides
- Make sure to become comfortable with Canvas!
- To get the most out of this class attend class regularly (if in in-person section) and/or follow lessons regularly (if online section)
  - Please check syllabus file for timings
- Office Hours
  - please check syllabus file for updated timings

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Several different activities

- The activities and the distribution of weight can vary from semester to semester.
- Check canvas and syllabus for your current activities and distribution of weightage to each

Category	Assessment Method	Weight (%)
Formative	Class Discussions and surveys	5
	Homework	30
	LVRQ: Lesson Video/Reading Quizzes	20
Summative	Tests and Exam	45
Extra Credit	Advanced Problems OR STEM Series	10

Table: Assessment methods

Grading scale

- The grading scale varies from semester to semester.
- Check canvas and syllabus for your current grading scale

≥ 95	A+
90 to <95	A
85 to <90	B+
80 to <85	B
75 to <80	C+
70 to <80	C
65 to <70	D+
60 to <65	D
<60	F

Table: Letter grade scheme to be used

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    1. Complete all the LVRQ's on time!

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3. Participate in class by asking questions and discussing with your fellow students
4. Do not lag behind!
5. Use the Calendar that will be available through canvas to plan your work!

Wrap-up and Reading resources

- Please make sure to go through the following resources
  - Go through the syllabus carefully and complete the syllabus survey
  - Go through the course calendar (subject to minor changes)
- Make sure to complete any exercise and activities related to content for this week.