

ECE202 Circuit Theory Applications

Course Syllabus for Spring 2024,
Preliminary, posted 1/15

Class time: TH 2:00-3:15 Engr 100

Office hours: in-person, or via Zoom if individually arranged

Instructor: Olivera Notaros, olivera@colostate.edu
Lab TAs: Rohan Kanigere Umesh, rohanku@colostate.edu
Sekar Prasetya, prasetya@colostate.edu
Math foundations TA: Milton Kundu Milton.Kundu@colostate.edu
KI / RED TA: Jose Catalan Jose.Catalan@colostate.edu

- Please send questions to instructor and TAs via email; do not send messages through Canvas, as replying to Canvas messages is tedious.
- Always start email subject with ECE202: (brief text follows...)

Homework office hours: Mon 9:00 - 10:30 and Fri 9:00-10:30 in BC Infill, or as individually arranged
Upcoming lab office hours: Mon 12:30 - 1:30 in BC Infill, the week of the new lab
Instructor's office hours: Mon 4:00 - 4:45 and Tue 12 - 1:30 in C201F, or as individually arranged
Recitations (optional): Fri afternoon 2:15-3:45 Engr E203, recitation dates and topics are on Canvas/Modules/Calendar
Math Foundations lectures time and place tba

Textbook: C. K. Alexander and M. N. O. Sadiku, *Fundamentals of Electric Circuits*, 7th edition, McGraw Hill

Connect for textbook: not required; recommended for your personal learning

To access and read textbook from ECE103, go to <https://www.mheducation.com/> and type old username and password. The book should be visible.

Rough outline of the topics taught and most important dates:

1/18 First class
First-order circuits and step response (ch.7), LSM1
Second-order circuits and step response (ch.8), LSM1
Sinusoids and phasors (ch.9), LSM2
Sinusoidal steady-state analysis (ch.10), LSM2
AC power analysis (ch.11), LSM3A
Three-phase circuits (ch.12), LSM3B
Magnetically coupled circuits (ch.13), LSM4
Frequency response (ch.14), LSM5
Filters (ch.14), LSM6
Laplace transform and convolution (ch.15), LSM7
Use of Laplace transform and convolution to solve circuits (ch.16), LSM7

asap, by 1/29 Team members' names and project title, if known, due (e-mail instructor)
Subject of an email: ECE202: Team members info
Attach preliminary project proposal to email
and upload one per team to Canvas, by Canvas due date

Before 2/12 Meet w/ assigned EIR Mentor and upload Meeting Form (plan timing!)
2/20 Exam#1

- 3/4 Mid-project report due (one upload to Canvas per team), approved by EIR Mentor
3/5 Attend KI-1 lecture in ECE303 3:30-4:45, Natural Resources 140
Before 3/25 Meet w/ assigned EIR Mentor and upload Meeting Form (plan timing!)
4/9 Exam #2
4/17 Course project demos in BC Infill – most likely 10 am – 2 pm; time tbd
4/19 Course project report due (one upload to Canvas per team); report must be approved by EIR Mentor
4/30 Attend KI-2 lecture in ECE202 2:00-3:15
Final Exam: Tue, 5/7, 9:40 – 11:40 am (based on CSU exam schedule)
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Grading policy:

- 20% Lab
- 10% Homework & Quizzes*
- 35% Partial exams
- 20% Final exam
- 10% Course project
- 5% Knowledge Integration (KI)
- 2% course bonus for Math Foundation (extra credit)

Late work policy:

- One day late: -50%
- More than one day late: no credit

Passing ECE202 laboratory is mandatory! You must *attend* all labs, *turn-in* all lab assignments, and get an *overall-passing* grade.

Labwork grading policy:

- 10% Pre-lab work (individual)
 - 20% Lab work (individual)
 - 70% Lab report (team)
- All students must complete all labs and receive an overall-passing lab grade, to be eligible to pass the course.

Homework:

Homework must be uploaded to Canvas on time and in presentable condition. Solutions with no work shown will be assumed wild guesses and therefore receive *no credit*. Late homework may be submitted within 24 hours from the assigned due time for (-50%) of the earned grade.

Please use highlighter or colored pencil to color-in/mark numbers of problems you have worked on.

Homework grading policy:

At least 50% will be based on the number of questions attempted; shown work must make sense
The rest of the percentage, usually 50% will be based on the correctness of the questions chosen by instructor for grading

Course project should be completed in groups of two or three students. It will be discussed in detail during second lecture and more info will be posted on Canvas before second lecture.

Course project grading policy:

- 20% Proposal and Mid-project report
 - 15% Creativity and design
 - 15% Meetings w/EIR Mentor and TA
 - 25% Final report
 - 30% Demo
- Project grade total: 105%*

Knowledge integration (KI)

KI grade consists of three components: pre-work, video presentation, and self-reflection. Video presentations are peer-assessed. The KIs are performed with ECE 303.

Math foundation

Math foundation extra credit consists of two components: attending lectures and solving problem sets.

- 1% extra credit for any student who attends at least seven math foundation lectures,
- 1% extra credit for any student who receives an average grade of 85% or more on math foundation problem sets.

CSU Student Conduct Code and the Academic Integrity Policy should be followed. Working with the group of classmates is highly encouraged in our course. In order to avoid any misunderstandings, always list names of colleagues you have worked with, and any resources you may have used to complete the assignment (write this information below your name on the first page of the assignment).

Use of solution manual is strictly forbidden. If cheating or plagiarism is found on exams or assignments, a zero will be given to the exams or assignments.

Exams will be in-person, in the classroom. Calculators are allowed. Formula sheet is allowed: one-sided, hand-written letter-size paper with formulas and/or notes is allowed on partial exam; two-sided, single letter-size paper is allowed on the final exam.

Grades will be assigned from A through F, with plus or minus categories (no C-, D+, and D-)

F: 0-60; **D:** 60-70; **C:** 70-77; **C+:** 77-80; **B-:** 80-83; **B:** 83-87; **B+:** 87-90; **A-:** 90-93; **A:** 93-97; **A+:** 97 and up

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Lab Procedures and Expectations

All students are expected to show-up for the lab session they have registered for. Anyone missing a lab session due to justifiable reasons, must email their TA before session start time and arrange for alternate plans and submission dates.

Lab sessions are offered on:

Mon 2:00-4:50

Tue 8:00-10:50

Wed 9:00-11:50

Wed 5:00-7:50

Thu 8:00-10:50

Timeline for each lab:

- Lab assignment will be posted the week prior to the lab.
- Students need to download the assignment and finish Pre-lab section before coming to the Lab. This is important, to prepare students for lab work
- Read lab assignment and steps before lab session
- You may choose to work on parts of the lab even before session starts, and come to your lab session to collaborate with other students and get help from TA
- Showing TA your connected circuit and results is mandatory. Students that do not show for lab session will be marked as absent, and receive no credit, even if they submit report.
- Lab report will be due on Friday of the following week, midnight.

There are three components of each lab grade:

- Pre-work (individual) should be completed before the lab session. Student must show TA their work at the beginning of lab session, and TA will assign 0/5/10 points
- In-Lab (individual) work will depend on preparedness for the session (if student has read directions and is aware of needed steps) and if all materials are in-place to complete the lab – up to 20 points
- Students will work on the labs in pairs. While Pre-Lab is individual effort and submission, Lab Reports should be completed and submitted as a team. If any one of the team members misses the lab session, then the remaining student will submit their own work. Names of students submitting the report must clearly be stated on the front page.