

**Department of Electrical & Computer Engineering**  
**The University of Kansas**

**EECS 212- Circuits II**

**Spring, 2026**

**Catalog Data:** EECS 212 Circuits II (4). Continued study of electrical circuits: Steady state power analysis, three-phase circuits, transformers, frequency response, two-port network analysis. Prerequisites: EECS 202

**Textbook:** **Fundamentals of Electric Circuits**, 7<sup>th</sup> edition by Alexander and Sadiku, McGraw Hill, 2021

**Instructional Mode:**

In person class. G415, LEEP2, 2:00-2:50 pm, MWF

**Software:** **Cadence** (which includes Pspice and PCB Layout) is available on EECS network computers under the program heading “Cadence PSD”

**Course Objectives:**

This course is to complete the study by sophomores in electrical engineering and computer engineering of the basics of the analysis of linear electrical circuits and to provide an introduction to their design.

**Prerequisites by Topics:**

Basic dc and ac circuit analysis  
Pspice computer program for circuit analysis

**Course Topics:**

Review of steady state sinusoidal analysis  
Frequency response, Bode diagrams  
Magnetically coupled networks  
ac power analysis  
Polyphase circuits  
Two-port networks  
Distributed Circuits & Transmission Lines

**Tools Usage:**

Pspice circuit analysis and pcb layout software  
Circuit test equipment

**Laboratory topics:**

AC/DC circuits  
Transient circuits  
Operational Amplifiers  
Transformers  
Frequency response and filters  
Two-port network measurement techniques

**Estimated Course Content:** Engineering science: 4.0 hours or 100%

**Instructor:** Kenneth R. Demarest

3028 Eaton Hall 864-7395

email: demarest@ku.edu website: <http://people.eecs.ku.edu/~demarest>

Office Hours: 9:00 - 9:30 , 3:00-3:45 MWF  
1:30-3:00 Tu,Th

Zoom: Meeting ID: 955 1144 2187 Passcode: 411316 (arrange with email)

**Lab TA:** Shima Mohaghegh email: shima@ku.edu

**Grading:** The following percentages will be used to arrive at the final grade scores

Exam I . . . . .	22.5
Exam II . . . . .	22.5
Final Exam . . . . .	25
Laboratory . . . . .	20
Homework. . . . .	10

Course grades will be A, B, C, D, and F. Final letter grades are determined from the final grade scores using a scale similar to the traditional 90-100 A, 80-90 B, etc. scale, but the break points between letter grades may be a point or two higher than the traditional scale to ensure that the final grades properly reflect the exam scores. **A passing score (60%) must be earned in all categories (exams, quizzes, homework) to earn a passing grade for the course. In addition, a composite exam score of C (70%) or above must be attained to earn a course grade of C or above.** Changes announced in class supersede these written instructions. EECS 212 will *not* utilize +/- grading system. Changes announced in class supersede these written instructions.

**Homework:** Homework will be collected at the beginning of class on roughly a weekly basis. Late homework is not accepted, except for unusual circumstances. Collaboration with classmates is permitted. Copying from any source is *not* permitted and will be penalized.

**Special Needs:** Any student who has a disability that demands special accommodations should contact the instructor personally in order to make arrangements. Also, members of KU sanctioned organizations (band, athletic teams, etc.) that have special needs should also contact the instructor as the need arises.

**Attendance Policy:** Attendance at all class meetings is expected. Although there is no direct grading component based on attendance, anything presented in class is considered required material.

**Make-ups:** Make-up exams are given rarely, and only if: 1) I am informed IN ADVANCE, and 2) I deem the reason to be sufficiently meritorious (job interviews and pleasure trips are not). If the reason is illness, I REQUIRE documentation of the illness from a health-care professional. I do not consider a cold to be an illness.

**Academic Misconduct:** Instances of cheating failure of class and referral to the Dean. Cheating includes, but is not limited to: copying another exam or lab report, copying of hardcopy or online solution manuals or previously worked homework papers, having another person do your work, etc.

**Course Evaluation:** A course evaluation will be available to students at the end of the semester.

### **Schedule**

<b><u>Week</u></b>	<b><u>Topic/Chapter</u></b>
1	Laplace/Phasor Analysis Review/ Chapter 10, 16 & Instructor Notes
2	AC power / Chapter 11
3-4	3-phase power / Chapter 12
5	Magnetically coupled circuits and Transformers/ Chapter 13
	..... <b>Exam I</b> (Wednesday, March 4- tentative).....
6-9	Network Transfer Functions/ Frequency response / Chapter 14
10-11	Two-port networks/ Chapter 19
	..... <b>Exam II</b> (Wednesday, April 15 - tentative).....
12-15	Distributed circuits & transmission lines
	..... <b>Final Exam</b> (comprehensive, Monday, May 11 from 1:30 – 4:00pm)....

**Important Resource and Policy Information**

- Explanation of instructional time expected for out-of-class student work per credit:  
see <https://policy.ku.edu/registrar/credit-hour>.
- Accommodations and/or information for students with disabilities:  
see <https://access.ku.edu/syllabus-statement>.
- Sexual Harrassment Policy:  
see <https://policy.ku.edu/civil-rights/sexual-harassment>.
- Nondiscrimination, Equal Opportunity, and Affirmative Action Policy:  
see <https://policy.ku.edu/IOA/nondiscrimination>.
- KU Statement on Diversity and Inclusion: see <https://policy.ku.edu/provost/diversity-inclusion>.
- Academic Misconduct (USRR 2.7.1):  
see <https://policy.ku.edu/governance/USRR#art2sect6>.
- Change of Grade:  
see <https://policy.ku.edu/registrar/grade-change> and  
<https://policy.ku.edu/governance/USRR#art2sect3>.
- Code of Student Rights and Responsibilities:  
see <https://policy.ku.edu/student-affairs/student-code>.
- Commercial Note-Taking:  
see <https://policy.ku.edu/provost/commercial-note-taking>.
- Mandatory Reporting:  
see <https://policy.ku.edu/civil-rights/mandatory-reporting>.
- Racial and Ethnic Harassment Policy:  
see <https://policy.ku.edu/civil-rights/racial-ethnic-harassment-policy>.