

Department of Electrical & Computer Engineering
The University of Kansas

EECS 611- Electromagnetic Compatibility

Fall 2026

Description: A study of the sources of noise in electronic systems and how the effects of the noise can be reduced. Topics include radiated and conductive emissions, shielding, grounding strategies, bypassing, filtering, PCB layout effects on EMC, and governmental regulations. Prerequisites: EECS 312, EECS 220. Three hours credit.

Instructional Mode:

In person class. Learned 1136, 9:30-10:45pm Tu Th

Objective: To develop design rules that allow electronic systems to operate without interfering with themselves, or other systems.

Text: **Electromagnetic Compatibility Course Notes**, by Todd H. Hubing. Published by LearnEMC, LLC, 2026.

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

Exam I	25
Exam	25
Final	25
Measurement project	7
Class Participation	8
Homework	10

Final letter grades are determined from the above grade scores according to a scale that is dependent on the instructor's perception of the overall class performance vs. the difficulty of the exams, but letter grade cutoffs are similar to the typical 90-100 A, 80-90 B, etc.. A passing cumulative exam score must be maintained in order to pass this course.

Homework: Homework will be collected at the beginning of class on specified dates. Late homework is not accepted, except for unusual circumstances. Collaboration with classmates is permitted. Copying and using outside sources on exams is *not* permitted.

Instructor: Kenneth R. Demarest
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Office Hours: 9:00 - 10:30 , 3:00-4:00 MWF
1:30-3:00 Tu,Th

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

Tentative Schedule

Week #	Topic
1	Introduction, decibel scale, governmental regulations
2-3	Parasitic Impedance Parameters
4-5	EM Coupling Mechanisms
6	Signal Spectra
7	Transmission Lines
8	Crosstalk
	Exam I
9	Propagation Modes and Electrical Balance
10-11	Grounding
12	Filtering and Transient Protection
13-14	Shielding
	Exam II
15	PCB layout
16	System EMC Design
	Final Exam: Wednesday, December 16, 7:30 – 10:00 am

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 Harassment 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>.