ECE 301 – Signals and Systems
Spring 2019 – Course Syllabus

Text Book

Signals and Systems, 2nd Edition, Oppenheim, Willsky, & Young, Prentice-Hall, 1996, ISBN No. 9780138147570.

Covered Material

The course is planned to cover Chapters 1,2,3,4 and 7 and parts of Chapters 5,9 and 10.

Course Outcomes

Please check the course objectives at the following link:

https://engineering.purdue.edu/ECE/Academics/Undergraduates/UGO/CourseInfo/courseInfo?courseid=33&show=true&type=undergrad

Also, please find a below a list of important concepts that the course is focused on:

1- Frequency domain representation of signals and their interpretations (e.g., why a given signal is band limited or not, whether most of the energy is concentrated at low or high frequencies).
2- Interchangeable relationships between time and frequency domains (e.g., why a signal that is discrete in one domain, is periodic in the other).
3- Linear and Time Invariant (LTI) systems and why their analyses are tractable.
4- Fourier Series for Periodic Signals, and a historical perspective for how and why it was discovered.
5- Fourier Transform and its utility in analyzing stable LTI systems.
6- Filtering in frequency domain.
7- Amplitude modulation for communication systems.
8- Sampling theory.
9- Laplace Transform as a generalization of the Fourier Transform, that is applicable to unstable LTI systems.

Grade Assignment

35% **Homework Assignments**: 7 assignments, each has 5 problems. Each problem is assigned 1%

15% **Bi-weekly Team Quizzes** (3% Bonus): Starting Friday Jan. 18th. Students will form teams, each consisting of 4-6 members. Each team will deliver one solution. Each quiz is assigned 3%

50% **Exams** (5% Bonus): Midterm Exam 1 on Monday Feb. 11th 12.5%, Midterm Exam 2 on Monday Mar. 25th 12.5%, Final Exam 30%

Office Hours

MSEE 350, Monday/Wednesday 11 am - 12 pm

TA office hours: Tue, Wed, Thu 3.30 – 4.30 pm EE 209 Table 3

References

Prof. Zoltowski's Notes: https://engineering.purdue.edu/~mikedz/ee301/ee301.html

Prof. Bouman's Notes: http://dynamo.ecn.purdue.edu/~bouman/ee301/notes/

Authorized Calculator

Texas Instruments TI-30X IIS scientific calculator, $9.99 at Amazon

Academic Integrity

Incidents of academic misconduct in this course will be addressed by the course instructor and referred to the Office of Student Rights and Responsibilities (OSRR) for review at the university level. Any violation of course policies as it relates to academic integrity will result minimally in a failing or zero grade for that particular assignment, and at the instructor's discretion may result in a failing grade for the course. In addition, all incidents of academic misconduct will be forwarded to OSRR, where university penalties, including removal from the university, may be considered.

Please read carefully the guidelines at:
https://www.purdue.edu/odos/osrr/resources/documents/academic_integrity.html

Important Note

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances. In such an event, information will be provided through Blackboard Learn.

Also, please review the emergency procedure guideline:

https://www.purdue.edu/ehps/emergency_preparedness/flipchart/index.html