

EEE498 ENGINEERING DESIGN I

SPRING 2024

Course Description

EEE 498 Engineering Design I is a preliminary course for senior students as a preparation to EEE 499 Engineering Design II. EEE 498 is proposed with the purpose of providing students with necessary knowledge and skills for participating in and managing engineering design tasks and team projects.

Course content covers understanding engineering problems, fundamentals of engineering design, engineering design in electrical and electronics engineering, fundamentals of project management, design tools, ethics and safety in engineering design projects, written and oral communication in engineering design projects, design experience through team project.

Course Objectives

Main objectives of the course are to provide senior year students with,

1. The ability to understand, define, and analyse engineering problems,
2. Basic engineering design skills through project work and experience of collaboration in team projects,
3. Fundamental skills of project management, documentation and communication.

Important Dates

Week 0-1	Register for the course
Week 1-16	Attend weekly lectures online
Week 2	Follow announcements and find out who your project supervisor is
Week 2	Meet your supervisor in person, sign up for the design project, select/receive design project topic and relevant details
Week 8	Midterm examination
Week 16	Submit project report* to your supervisor at the final meeting
Week 17/18	Final examination

***Project report must be written in the required format. A template is provided at the course website in docx.**

Course Assessment

Midterm exam 20% / Project report 30% / Final exam 50%.

Topics

- 1 Introduction
- 2 The Need for Engineering Design
- 3 Engineering Design Principles
- 4 Engineering Design in Electrical and Electronics Engineering
- 5 Problem Formulation
- 6 Project Planning
- 7 Project Implementation
- 8 Midterm Exam
- 9 Design Guidelines
- 10 Design Implementation
- 11 Ethics in Engineering Design and Team Projects
- 12 Safety in Engineering Design and Team Projects
- 13 Written Communication and Documentation of Projects
- 14 Oral Communication of Projects
- 15 Final Exam, Design Project Assessment

Main Text

DYM, Clive L., et al. Engineering Design: A Project-Based Introduction. 2009. Wiley ISBN: 978-1-118-32458-5

Reference Books

Wilcox, Alan D., et al. Engineering design for electrical engineers. Vol. 1., 1990. Prentice Hall 1990 0132781360

Hyman, B. Fundamentals of Engineering Design Prentice Hall 2003 13: 978-0-13-046712-6

Pahl, G., Beitz, W., Feldhusen, J., Grote, K.-H. Engineering Design A Systematic Approach Springer 2007 978-1-84628-319-2

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Course Website

eee498.gantep.edu.tr