

Project Description

Class Project

The purpose of the project is for students to learn how to formulate a simple design problem and to experience how to solve it using methods, algorithms and techniques taught in class. The students will evaluate design, analyze and obtain results using digital simulation software.

Grading of Course Project

- Project design: (60% of the project grade)
- Final project report: (25% of the project grade)
- Presentation: (15% of the project grade)

Project Proposal

The proposal should try to answer the following questions:

- What is the problem you are solving?
- Why is it interesting and who would use it when solved?
- What leads you to this design?
- Which techniques do you plan to use for project completion? Be as specific as you can!
- How will you test your design, what simulation software you will use?
- What challenges you expect in implementation of your design?

Final Project Report

The final report should follow the IMRD format and guidelines (Introduction, Method, Results and Discussion). During grading I will assess your work based on:

- Introduction/Motivation/Problem Complexity
- What is it the problem you are solving?
- Why is it interesting?
- Why is it challenging?
- What are the shortcomings and limitations of the existing work?
- Does your design operate as stated in Project proposal?

Include maximum 3-5 minute video of your design, demonstrating all functionalities of your project. Prepare to answer questions from your instructor on your design.

Project Timeline

- Select Project topic
- Project report due date

Sample Projects:

- Musical piano (full octave) including 7 programmed notes
- Digital Clock with selection 12/24 hours and weekday
- Two way traffic light with pedestrian crossing
- Train controls and operation across two stations
- Elevator controls and operation