

Objective: The purpose of this project is to develop or modify a simulation model then run it to help solve a real problem. The simulation model can be implemented with any of the following languages: OOSimL, Java, or C++. Submit with results, source code, in addition to the complete documentation.

You are required to submit a short one or two-paragraph description of your project **proposal** (first deliverable) by March 22. A progress report is due April 26. Your final project is due May 1 (see course schedule).

Students are also required to present a poster in the Spring Student Poster Presentation event (organized by the Student ACM Chapter and by the CS Department).

Tentative Project list:

1. Develop one or more simulation models and the appropriate simulation runs to analyze different configuration of Multi-processor Computer Systems.
2. Write a detailed comparison of the method in this course for developing simulation models, and DEVS (a formalism for simulation).
3. Develop the tanker simulation model (see document).
4. Develop an enhanced simulation model for an automobile assembly line. See the documentation in file: "assembly_plant.pdf".
5. Develop a simulation model of a network/communication system that uses a simple communication protocol.
6. Extend and enhance the simulation model on Denial of Service, a very common problem in Information Security.
7. Extend and enhance the simulation model of the Routing Facility and Network.
8. Extend and enhance the simulation model of the Train-Gate Crossing.
9. Develop a complete simulation model of a traffic problem.
10. Develop a complete simulation model of the computer system in Problem 5, on page 361 of the book.
11. Develop a complete simulation model of a system that you observe in the real-world (you need first to provide a short proposal description of the problem).