

Capstone Project Guidelines and Instruction

Due Date

See course calendar in the syllabus for due dates for the project proposal and the final project report. Due dates are firm and a 5 points deduction per day could apply for any late submittal.

Project Selection

Consider a situation and/or scenario from the university, your place of work, home, health spa, a theme park, a shopping mall, telephony system, etc., which would lend itself to discrete event simulation modeling and analysis and show how simulation may be used to model the situation / scenario. Be careful and judicious in your model selection, as you want to have a firm control over the breadth/scope by identifying the various components: process steps, activities, variables, measures of performance and other relevant points appropriate to the chosen scenario. Ideally, you want to select a manageable scenario such that you can develop an ARENA model of it, generate results which you can analyze and suggest solutions or recommendations per the initial objectives. However, if you were unable to develop the ARENA model of the chosen scenario due to its complexity and scope, your description of the scenario to be modeled should be clear and detailed enough so that one could develop an ARENA model, given the appropriate input and constraints. You may make appropriate assumptions regarding input data, which may not be readily available for your modeling needs. You are encouraged to use any reference material available to you, study the syllabus and peruse the corresponding chapters from the text **early on** so that you are more knowledgeable for your project selection. I will be happy and ready to help you in your selection as you share your thoughts with me in person, by phone or via e-mail. You must start right away - NOW.

Project Proposal

You must submit a formal proposal by the due date indicated in the Course weekly schedule. The proposal will be no more than two pages with a project title, your name, course number, date and a description of the project (problem, situation, scenario) you propose to work on as your project.

Project Final Report

Your report should about 8-10 pages long (1.5 lines spaced, 12 cpi font, excluding pages containing tables, charts, or figures if applicable). It, however, should contain the following components:

- a. Project title, affiliation, name, etc.
- b. Abstract -A brief (200 words or less) summary of your overall work (usually referred to as the Abstract).
- c. Introduction – Background and description of the problem (situation) you have selected for your project. This section must include reference material from at least two articles related to your project topic.
- d. Model development and approach – this section includes the model flowchart, Arena implementation (if any), input and any discussion of the input and its preparation.
- e. Results – the outcome of the simulation model. (This must be prepared, not just tables or copies of the output from Arena simulation output)
- f. Discussion of the results and your findings, conclusion and/or summary as appropriate.
- g. References – at least two articles (papers) that are related to your project that you must search and obtain from the various sources (Journals, professional magazines, newspapers, etc.)

You must include at least two references related to your project topic from the literature. I look forward to seeing some novel applications and ideas of using simulation modeling from your point of view. **Be prepared to discuss your progress in every Lab meeting.**

Project Update and Presentation

You will be asked early in the semester to submit a brief [50 (±) words] project update. This will be due by 6:00 pm the night before the Lab. The updates may be graded and counted towards the project grade in the end. In addition, please be prepared to make a brief (about 1-2 minutes oral presentation on the progress of your project weekly, when asked. You will then submit a written report and make a 10-minute presentation on the last day of the course.

Plagiarism, submittal of previous semesters' work of others will be dealt with following the university's code of ethics and conduct.