Syllabus SYST 699/OR 699
Master's Program Project Course

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Class Time:	Thursdays, 7:20-10:00 p.m.
Location	Nguyen Building Room 2008
Office Hours:	2:00-3:00 pm on Tuesdays and Thursdays, or by appointment
Text:	*None*

Course Objectives: This course serves as the synthesis activity for students completing a master's degree in Operations Research (OR 699) or Systems Engineering (SYST 699). Students will complete a major applied project. The assignments will be made in the first week after all projects are presented. To determine these assignments, each student provides a rank-ordered list of the projects along with a discussion of the skills that they bring to each project. The better the fit of the skill set to the project, the more likely that you will be chosen for that project.

You will work in teams and present all work as a team.

Depending on the nature of the problem, the teams will be comprised of a combination of operations researchers and systems engineers in the proportions appropriate to the problem at hand. The students will prepare a comprehensive final report to the sponsor and class instructor. The team will also provide a briefing to the sponsor and the entire SEOR department faculty. Class time will be used for regular in-progress review sessions in which students will report their progress and students not on that team will provide suggestions, help, and reviews of the work being done. All students benefit from feedback from the class so attendance at all presentations is mandatory**.** Distance learning students will attend on line.

How projects are chosen: Dr. Hoffman contacts various past sponsors, prior masters students, professional associates and SEOR advisory board members and solicits inputs to possible projects. She determines the projects that are appropriate for the class. The problem needs to use systems engineering and/or operation research analytic tools and methodologies and must be sufficiently open-ended to allow a team to take the project in a direction that will allow a challenging and rewarding experience. Once a project is chosen for presentation to the class, she works with the sponsor of that project to obtain Power Point slides that describe the problem. These are presented to the class on the first night of the course. It is essential that all students attend this first session since this session will determine each team's makeup.

How teams are chosen: Teams are chosen based on the interests of the students and the

individual talents of the members as it relates to the needs of the project. If there is little interest in the project, then it is unlikely that the project will be used during this semester. Each student rank orders each project and provides an explanation of why they (a) want to be chosen for a team and (b) what talents they will bring to the project. All projects are likely to have between three and four team members.

Distance learning: Teams are chosen based on the interest of the students and the talents needed to get the project done well. No consideration is given to whether members are registered as in-class or distance students. In today's world, all professionals must be able to communicate and function well in situations where their coworkers are not co-located. To help assist teams in meeting this requirement, blackboard provides collaborative tools that allow students to share files, have video and audio conferencing, and create work schedules that are shared by the team. If a team finds that they are in need of other tools, they are to contact the professor.

How students are evaluated: Each member of the team will be evaluated based on the overall quality of the team product and the amount that they contributed to that product. The components of this evaluation include:

(a) Part of the evaluation will be based on the evaluation of your presentations by the SEOR faculty and the sponsors of the projects for that semester. The evaluation sheets used for this evaluation are available on blackboard. Please note that part of the evaluation is for the clarity of the presentation by each team member, so every member of the team must give part of the final presentation.

(b) Part of the evaluation will be based on your presentations in class and your overall participation in helping other teams improve their projects.

(c) An important component of the overall evaluation will be based on your written documents. The final report is the most important product to your sponsor and will be evaluated accordingly. The report must include: background, problem statement, scope of the project, assumptions, methodology used, analysis, results, and conclusions and recommendations. Either within this document or as a separate document, you must report how the project was managed: this description must include who was assigned which project responsibilities, how the team evaluated risks and the mitigation strategies, and include any management/systems engineering tools used to assure the success of the project. All software, detailed data sets, etc. should be included either as appendices to the final report or as separate documents.

(d) Not all members of a team will necessarily receive the same grade. Each student's grade will partially be determined by how much they participated in class discussions, how much they contributed to the overall quality of the project, as well as the quality of the components of the project for which they were responsible. Part of this evaluation will be based on each member providing an evaluation of every other member of the team. The form for providing this evaluation is available on blackboard.

(e) Finally, each team will design and submit a website *in html format* that contains the final report, the final presentation, the signed proposal, a description of the team members, any relevant data and software developed, any background papers, and anything else relevant to the use of this work by the sponsor or a future class. The website cannot exist on some web platform. It must be able to be placed on the department web pages without any links to any other websites. This website serves as the archival documentation of this course. We cannot trust alternative websites to exist or to maintain this information in the future.

Below is a tentative schedule. This schedule is likely to change based on the progress of the projects and the resulting reports. It is each student's responsibility to remain aware of changes in the schedule.

DATE	TOPIC	ASSIGNMENT
1/23	Project Descriptions	Must have rank ordered list of project preferences to Dr. Hoffman by 1/25; Must contact client and set up meeting with client so that meeting takes place within one week of the first class.
1/30	Class does not meet; Each team meets and determines project statement and way forward for in class meeting on 2/6	Meet as a team; determine capabilities of team members and tentative assignments; Set up meeting with client; Send summary of activities to Professor by 2/4; Determine with client the scope and content of the project. Determine the data and tools that the client will need to supply. Determine a schedule for meeting regularly with the client.
2/6	Present project definition; Project scope and Likely Problem Concerns/Issues	Each team will present a PowerPoint presentation to the class indicating the project's problem definition; scope; and initial concerns/issues/direction. This presentation will be no more than 15 minutes long. There will be 5 minutes for discussion.
2/13	Class does not meet but prepares for major presentation for the 20th	Each team will create a problem proposal and have this signed off by client for meeting on the 2/20. This must include problem description; approach; requirements; and project plan *with team member assignments.* Part of your presentation should provide a time estimate of each component of the project with risks and risk mitigation strategies.
2/20	Class meets and presentation is provided (see assignment from 2/13 for requirements) Presentation must be sent to Dr. Hoffman by 2/18	Each student provides a written evaluation of each team's presentation. This evaluation should include suggestions for tools and procedures that might improve the team's overall product. These are sent to Dr. Hoffman and she will distribute them to the respective teams. Teams schedule a time to meet on 2/27 with Dr. Hoffman.
2/27	Each team has working session with Dr. Hoffman individually	Dr. Hoffman will provide a review to each team on the project proposal; on alternative solution strategies, on the likely risks in completion of project in timely fashion. This meeting will discuss any issues and concerns

		regarding the project. It is also designed to identify technical needs or guidance from other experts needed by the team.
3/5	Working session; Each team works individually.	Teams must review work schedule, review deliverables and provide a detailed progress report to Dr. Hoffman.
3/12	Spring Break – Classes do not meet this week	Continue to work on project – YOU ARE HALFWAY THROUGH THE SEMESTER. Review your progress! Make any necessary adjustments.
3/19	Class meets with Professor, if necessary.	Teams provide the following components of the final report on 3/19: introduction to the problem, the scope of project; problem and project assumptions, a description of the data that will be used in the problem; methodologies chosen to solve the problem and an evaluation of whether the team is "on schedule" and if not, the steps taken to correct any issues. You are also to prepare for your major presentation to the class (3/26). The presentation must be provided to Dr. Hoffman by 3/24.
3/26	Major Presentation to the Class – All students must attend and be prepared to stay late. Each team given 20 minutes for presentation and responses from class (15 min presentation and 5 min discussion)	All students provide reviews of the other team's presentations. As before, these are sent to Dr. Hoffman who distributes them to the respective teams. Part of each student's overall evaluation includes how well the student has helped other teams improve their product by providing constructive criticism.
4/2	Individual meeting with Dr. Hoffman	1 page status report due. If your draft final report will not be complete by 4/9, then you are to provide her with reasons for the delay, a date when the complete report will be provided, and what mitigation procedures are taking place to correct the problem. Regardless of whether the report is complete, a draft of the report must be provided by 4/9. This will impact your IR portion of your grade.
4/9	Dry run of final presentation with instructor	Draft of final report due 4/9. This must include all analysis and conclusions. If you cannot provide this on time, you should have updated the professor of the status of your final report by 4/2. Students are responsible for determining who of your sponsors will be attending the final presentations. You are to provide Dr.

		Hoffman with a list of who will attend, their names and titles (as they will be displayed on name tags), and any requests by your client for the timing of your talk on 5/8.
4/16	Final Presentation as it will be presented on 5/8	Final presentation provided to Dr. Hoffman by 4/14.
4/23	Last Dry run of Final Presentation to class	All students provide evaluations of each of the other teams using the form that the faculty will useon 5/9. The evaluations are available on blackboard. These evaluations are due back to Dr. Hoffman by 4/24
4/30	If necessary, students work with Professor Hoffman to finalize presentation and/or final report	FINAL REPORT and FINAL PRESENTATION are due to Dr. Hoffman on 4/30 Each team member provides an evaluation to Dr. Hoffman of all other team members using the form provided on blackboard. This is due 5/7.
5/8 FRIDAY!	Presentation to the Faculty; Lunch will be provided and there will be a reception after the talks.	ALL SHOULD ATTEND IN PERSON – Please let Dr. Hoffman know if this is not possible. Website is due on 5/7

NOTE: The final presentation will take place on a Friday afternoon. Please plan accordingly.

Distance Learning Students: If at all possible, please attend the Friday presentation to the faculty session ON CAMPUS,. The entire faculty will be attending this session. This is your opportunity to meet faculty that you have had for distance-learning courses. There will be refreshments and a celebration at the end of this last class.

The location of the final presentation to the faculty will be announced as soon as it is known.

Grading:	Written proposal signed by client	10%
	Interim presentations and reports	10%
	Website	10%
	Final Report	30%
	Final Presentation	15%
	Collaborative Behavior*	15%
		100%

*Collaborative behavior includes your willingness to help other teams improve their projects, your approach to client interactions (keeping sponsor informed but not overloading the client with undue requests), participating in all team meetings, and providing your team with quality work products in a timely manner.