GEORGE MASON UNIVERSITY
Department of Systems Engineering and Operations Research
SYST 699/OR 699 – Masters Project

Spring 2016 Syllabus

Contents

Instructor:

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Virtual Office Hours: By appointment in person or via Blackboard Collaborate.
I am available Monday at 9 am to Friday at 5 pm for student inquiries. During this 5 day period, I will respond to student inquiries within 24 hours.

Course Description:

This course serves as the synthesis activity for students completing a masters degree in Operations Research (OR 699) or Systems Engineering (SYST 699). Students will complete a major applied and realistic project in their field. Work will be done in small groups. Depending on the nature of the problem, the groups 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 study sponsor, as well as a briefing to the sponsor and the entire SEOR department faculty. Regular in-progress review sessions in which students will report their progress will be held.

Course Prerequisites:

21 graduate credits in Systems Engineering and/or Operations Research.

Course Expectations:

1. Proper preparation is expected every week. You are expected to log in to the course each week and complete the assignments and activities on or before the due dates.
2. Students must check their GMU email messages on a **daily** basis for course announcements, which may include reminders, revisions, and updates.
3. It is expected that you will familiarize yourself with and adhere to the Honor Code. Student members of the George Mason University community pledge not to cheat**,** plagiarize**,** steal**,** and/or lie in matters related to academic work.
4. It is essential to communicate any questions or problems to me promptly.

Online Learning Community:
The online section of this course is taught via Blackboard Courses (Log into http://mymason.gmu.edu, select the Courses Tab, and the course can be found in the Course List). Blackboard Collaborate will be used for remote student participation. **You must be at a computer with a microphone in order to participate in the class and the final presentation.** The process for accessing Collaborate is given below.

Technology Requirements for Online Students
The technology requirements for this online course are listed below:

Hardware:
You will need access to a Windows or Macintosh computer with at least 2 GB of RAM and to a fast, reliable broadband Internet connection (e.g., cable, DSL). For optimum visibility of course material, the recommended computer monitor and laptop screen size is 13-inches or larger. You will need computer speakers or headphones to listen to recorded content. A headset microphone is recommended for live audio sessions using course tools like Blackboard Collaborate. For the amount of computer hard disk space required to take an online course, consider and allow for the space needed to: 1) install the required and recommended software and, 2) save your course assignments.

For hardware and software purchases, visit Patriot Computers.

Software:
Web browser (See Blackboard Support for supported web browsers)
Blackboard Courses (Log into http://mymason.gmu.edu, select the Courses Tab)
Blackboard Collaborate (select from the course menu)
Adobe Acrobat Reader (free download)
Flash Player (free download)
Microsoft Office (purchase)

Note: If you are using an employer-provided computer or corporate office for class attendance, please verify with your systems administrators that you will be able to install the necessary applications and that system or corporate firewalls do not block access to any sites or media types.

Blackboard Collaborate: The class sessions and final presentation will take place on Blackboard Collaborate, a synchronous videoconferencing platform. In addition, I will make a Collaborate Session available to each project group for their use during the semester. Login in to mymason.com with your Mason NetID and password. Select the Courses Tab. Choose the course SYST699 or OR699. Click on Collaborate on the left menu. Under Blackboard Collaborate Click on the Collaborate Image to be redirect to your Collaborate

Please make sure to update your computer and prepare yourself to begin using the online format BEFORE the first day of class. The IT Support Center can be found online here.

Navigate to the Student Support page on your MyMason page and select the Courses Tab:

Click on the link as shown in picture.

 In the menu bar to the left you will find Blackboard Collaborate; you need to become familiar with Blackboard Collaborate for this course. Make sure you run a system check a few days before videoconference day. To do this, click on Bb Collaborate and a dropdown menu will appear. Become familiar with the attributes of Collaborate and online learning.

**On project presentation day, make sure to log on at least 10 minutes before online session and check that you are set to go before class starts.

Learning Outcomes:
At the end of this course, students will be able to:

1. Organize or structure complex decision problems for analysis.

2. Model the system in question to estimate its performance.
3. Perform analysis to develop the best possible system within constraints that exist.
4. Communicate the results both orally and in writing.

Required Text and Software: None

Performance-based Assessments and Grading:
1. **Proposal (10%):** A written proposal and a presentation will be prepared that includes the following components:
    a. **Problem Statement:** A comprehensive description of the problem as elicited from the sponsor and including the information described in the "Defining the Problem" lecture.
    b. **Literature:** The results of a search of the relevant literature that deals with related problems and methodology.
    c. **Initial Approach:** A description of the methodology that will be employed to solve the problem. This portion includes any data that must be collected.
    d. **Schedule:** A rough schedule that describes the various activities that will be performed and the timing of those activities.

2. **In Progress Review Presentations (IPR) (20%)** During the semester, 2 IPRs will be given. The first will describe the students' understanding of the problem that is to be solved in their project. The second will explain the progress that has been made up to that point, unanticipated problems that have been encountered, and changes in scope or methodology/approach that have been made based on what the team has learned about the problem as work has been done. In addition to the presentation, a short (2-3 page) write up summarizing the presentation will be prepared and handed in.

3. **Website (10%)** Each team will prepare a website that will eventually be included in the SEOR Department website. The contents of the website should include the problem statement, a list of participants, and the sponsor. Links to the final presentation and final report will be provided.

4. **Project Report (30%)**:
   A full report describing the conduct of the project will be due one week before the final presentation. This report will have all the same components as the proposal, updated to reflect what was actually done. The report will also include results, conclusions, and recommendations. The report should be written so that it can be provided to the sponsor for their use.

5. **Project Presentation (30%):**
   The final presentation will be held on May 6, 2016 at 12:00 pm. All project groups will give a briefing on their projects to the entire faculty of the SEOR Department. This session is mandatory. Remote students can present via Collaborate, but they are welcome to attend in person.

Schedule:

Date	Topic	Assignment
1/25	Introduction, Project Descriptions	Team organization
2/1	Problem Definition IPR	Team Presentation (<15 mins)
2/8	Working Session	
2/15	Proposal	Team Presentation (20 mins)
2/22	Working Session	
2/29	Working Session	
3/7	Spring Break	
3/14	IPR	Team Presentation (approx 20 mins)
3/21	Working Session	
3/28	Working Session	
4/4	Individual Team Meeting w/ instructor	Status and draft of final presentation
4/11	Working Session	
4/18	Working Session	
4/25	Dry run of final presentation	Team Presentation
5/2	Dry run of final presentation	Team Presentation, **Final report due**
5/6	Final presentation to Faculty	

Student Expectations:

Academic Integrity
Students must be responsible for their own work, and students and faculty must take on the responsibility of dealing explicitly with violations. The tenet must be a foundation of our university culture. [See http://academicintegrity.gmu.edu/distance].

Late Submission of Assignments
It is very important to maintain the schedule for the project course. The semester goes by very quickly and it is easy to fall behind. No late work will be accepted without prior coordination with the instructor.

Honor Code
Students must adhere to the guidelines of the George Mason University Honor Code [See http://oai.gmu.edu/honor-code/masons-honor-code/].

MasonLive/Email (GMU Email)
Students are responsible for the content of university communications sent to their George Mason University email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students solely through their Mason email account. [See https://thanatos.gmu.edu/masonlive/login].

Patriot Pass
Once you sign up for your Patriot Pass, your passwords will be synchronized, and you will use your

Patriot Pass username and password to log in to the following systems: Blackboard, University Libraries, MasonLive, myMason, Patriot Web, Virtual Computing Lab, and WEMS. [See https://thanatos.gmu.edu/passwordchange/index.jsp].

University Policies
Students must follow the university policies. [See University Policies].

Diversity: George Mason University promotes a living and learning environment for outstanding growth and productivity among its students, faculty and staff. Through its curriculum, programs, policies, procedures, services and resources, Mason strives to maintain a quality environment for work, study and personal growth.

Responsible Use of Computing
Students must follow the university policy for Responsible Use of Computing. [See http://universitypolicy.gmu.edu/1301gen.html].

University Calendar
Students must follow the university policies. [See Catalogue].

Students with Disabilities
Students with disabilities who seek accommodations in a course must be registered with the George Mason University Office of Disability Services (ODS) and inform their instructor, in writing, at the beginning of the semester [See http://ods.gmu.edu].

Students are expected to follow courteous Internet etiquette.

Student Services:

University Libraries
University Libraries provides resources for distance students. [See http://library.gmu.edu/distance].

Writing Center
The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing. [See http://writingcenter.gmu.edu]. You can now sign up for an Online Writing Lab (OWL) session just like you sign up for a face-to-face session in the Writing Center, which means YOU set the date and time of the appointment! Learn more about the Online Writing Lab (OWL) (found under Online Tutoring).

Counseling and Psychological Services
The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide

range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance [See http://caps.gmu.edu].

Family Educational Rights and Privacy Act (FERPA)
The Family Educational Rights and Privacy Act of 1974 (FERPA), also known as the "Buckley Amendment," is a federal law that gives protection to student educational records and provides students with certain rights. [See http://registrar.gmu.edu/privacy].