SYLLABUS Asynchronous

Online Course

SYST 530 - Systems Engineering Management I

Spring 2016

Professor: Dr. Rosana R. Stoica

Assignment Submission: Blackboard usage is required in the class; instructions are below.

Work Phone: (703) 993-1506 (with voice mail)

FAX: (703) 993-1521

E-mail: rstioica@gmu.edu

Office: GMU: Engineering Building - Room 2219

Office Hours: By appointment via Blackboard Collaborate. I am available Monday at 10 AM EST to Friday at 5 PM EST for student inquiries via email as well. During this 5 day period, I will respond to student inquiries within 24 business hours.

Course Description: Provides the necessary techniques for evaluating the cost and Operational effectiveness of system designs and systems management strategies. Performance measurement, work breakdown structures, cost estimating and quality management are discussed. Configuration management, standards, and case studies of systems from different applications areas are discussed.

Noting that class modules will remain flexible depending upon the level of experience of students and teams with the key subjects (some cohorts experience higher degree of challenges than others). The instructor will gage progress as the course evolves and adjust schedule in coordination with the 2016 cohort as needed. Conversely, very advanced cohorts may also schedule adjustments. The key concept is remaining open for necessary adjustments throughout the semester.

In coordination with the 2016 cohort, required presentations in this course may also take place “face to face” in accordance with an agreed upon time convenient to all key participants.

Necessary discussions and adaptions relayed in the previous paragraphs will take place throughout the semester.

Text: Project Management: A Systems Approach to Planning, Scheduling and Controlling, 11th edition (2013); Harold Kerzner. John Wiley and Sons ISBN: 978-1118022276

Grades: 20% - Group case study and Discussion Board thread

20% - Individual Discussion Board participation

10% - Individual Homework (WBS)

20% - Individual draft of paper and final paper

15% - Midterm

15% - Final

Grades are assigned as follows: A= 92 – 100 B = 84 – 91.9 C= 76 – 83.9 D= 68 – 75.9 F= 0 – 67.9

Exams

Closed book, closed notes, closed neighbor. Students must obtain a proctor for the exam. Proctoring materials may be found in Blackboard in "Proctoring Materials" to validate proctors and verify the taking of the exam. There will be both a midterm and a final.

Learning Outcomes

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

1. Describe the principles of systems engineering management
2. Identify differences between the three major organizational structures
3. Understand WBS and EVMS
4. Explain the rudiments of scheduling techniques including PERT, CPM and Gantt

Group Case Studies

The Group Case Studies are the focal point of student group effort within this course. Virtual Work Rooms will be set up in Blackboard for Groups to meet. There will be groups of several people self-formed during the first week of the class. Each group will be expected be the lead on 2 case studies during the semester. Each group will be responsible to create a video presentation of their case study and then create a Discussion Board thread asking questions to engage the rest of the class. You will be expected to elicit participation from the remainder of the class. Your group must monitor the thread you create and actively participate in the discussion. Materials used in the presentation should be submitted in Blackboard by ONE member of the group.

Individual Case Study Participation

You will be expected to view the video presentations created by the other groups and participate in the Discussion Board questions asked by those groups. You must view the presentation video and participate in the Discussion Board for every case study presented. If your group is presenting the case study you will be expected to create a thread (see previous section) and then monitor the Discussion Board.

Paper

Each student will be required to write a paper on an area pertinent to this class (e.g. leadership, performance measurement, etc.). There will be two deliverables for this paper. The first deliverable will be a draft of the paper including an annotated outline for the paper. The final deliverable will be due near the end of the semester. The final deliverable must be at least 10 pages, 1 1/2 spacing, with at least three references. The paper will be graded based on the original contribution of the author. It will not be satisfactory to just document leadership styles, for example. The author would be expected to compare and contrast leadership styles and give an opinion on the subject.

Additional Resources – for Paper

Additional Sources: There is a wealth of quality literature available on the subject matter of this course. There is a library resource, Theresa Calcagno, who is available to help with references. Her email is : tcalcagn@gmu.edu

Some potential references:

INCOSE Insight (informal and short, but educational articles)

INCOSE Systems Engineering Journal

Harvard Business Review (super for the leadership and management portion of the course)

PMI Project Management Journal

PMI PM Network

IEEE Transactions on Systems, Man and Cybernetics

IEEE Transactions on Engineering Management

IEEE Engineering Management Review

Note that there are three main bodies of knowledge that intersect in this course: systems engineering (INCOSE, IEEE), leadership and management (Harvard Business Review), and project management (PMI).

Course Expectations:

1. Working online requires dedication and organization. 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 the class announcements in Blackboard 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 George Mason University Honor Code. Student members of the Mason community pledge not to cheat, plagiarize, steal, and/or lie in matters related to academic work. Students must adhere to the guidelines of the Honor Code [See http://oai.gmu.edu/]

4. It is essential to communicate any questions or problems to me promptly.

Online Learning Community:

This online 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).

This course is offered completely online. Each week begins on Wednesdays and ends on Sundays.

In our online learning community, we must be respectful of one another. Please be aware that innocent remarks can be easily misconstrued. Sarcasm and humor can be easily taken out of context. When communicating, please be positive and diplomatic. I encourage you to learn more about Netiquette.

The guides for Collaborate may be found at:
http://coursessupport.gmu.edu/data/upload/StudentsBb%20CollaborateFull%20Participant%20Guide.pdf

Technology Requirements

For a brief introduction to some of the services the Volgenau School of Engineering offers to our students, please review:

http://labs.vse.gmu.edu/uploads/FacultyFAQ/StudentWelcome.pdf

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:
Microsoft downloads:
This course uses Microsoft software available at no charge through the Microsoft DreamSpark program. You should have received notification of your access to this program when you first registered for a course in the Volgenau School of Engineering. If you can't find that notification email, please read the DreamSpark FAQ on:
http://labs.vse.gmu.edu

for instructions on activating your account or resetting your password.
Windows software on Macs:
Microsoft and many other software developers do not make Mac versions of many software titles. If you have a Macintosh computer on which you want to install softwarewritten for Windows, you will have to use Boot Camp or a virtual machine product and then install Windows. VMWare Fusion (a virtual machine host for the Mac) and Windows are available at no charge through your enrollment in Volgenau School courses.

Instructions for obtaining the software are in the Microsoft DreamSpark & VMWare FAQs on:
http://labs.vse.gmu.edu

There are some hints for Mac users on using Microsoft Windows in the FAQs.

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.

Performance-based Assessments: Discussion/End-

of-Discussion Syntheses Rubric

(1) Instructions: Discussion assignments will be included in your weekly modules on certain weeks.

(2) Discussion protocols:

Discussion postings should be evenly distributed during the discussion period (not concentrated all on one day or at the beginning and/or end of the period).

In discussion postings, I encourage you to:

- *Address the questions as much as possible (don't let the discussion stray).*
- *Use quotes that support your postings.*
- *If required, build on others' responses to create threads.*

Avoid discussion postings that are limited to 'I agree' or 'great idea', etc. If you agree (or disagree) with a posting then say why you agree by supporting your statement with concepts from the readings or by bringing in a related example or experience.

Include related prior knowledge (e.g., work experience, prior coursework, readings) Use

proper netiquette (i.e., the culture of communicating digitally). Learn more about Netiquette.

(3) End-of- discussion syntheses protocols:

If required, end-of-discussion syntheses should be submitted on the last day of the discussion period. End-of-discussion syntheses should be a minimum of 200 words and a maximum of 300 words. I encourage you to use quotes that support your postings. Include page numbers.

End-of-discussion syntheses should not summarize the discussions. Become familiar

with Ellin Keene's definitions.

• Summarizing is identifying key points and organizing thoughts, a listing of the parts. Summarizing usually occurs at the end.

• Synthesizing is the creation of a whole. It goes on throughout the process of reading—not just at the end. It is bringing together different ideas and facts and weaving them together into a tapestry, something much larger than all the threads.

Include related prior knowledge (e.g., work experience, prior coursework, readings) Use proper Netiquette (i.e., the culture of communicating digitally). Learn more about Netiquette.

(4) Grading rubric for evaluating discussions/end-of-discussion syntheses:

Discussion/End-of-Discussion Syntheses Rubric

Criteria Expected:	Sufficient	Insufficient	Not Evident	Not Completed
Timely discussion contributions	3 postings well distributed throughout the discussion period	2 postings distributed throughout the discussion period	1 posting somewhat distributed throughout the discussion period	1-3 postings not distributed throughout the discussion period
Responsiveness to discussions and demonstration of knowledge and understanding gained from assigned reading	very clear that readings were understood and incorporated well into responses	readings were understood and incorporated into responses	postings have questionable relationship to reading material	not evident that readings were understood and/or not incorporated into the discussion
Adherence to discussion protocols (see above)	all 5 protocols adhered to	3-4 protocols adhered to	1-2 protocols adhered to	0 protocols adhered to
Adherence to end-of-discussion syntheses protocols (see above)	all 5 protocols adhered to	3-4 protocols adhered to	1-2 protocols adhered to	0 protocols adhered to
Points	10	8-9	6-7	5 or less

Student Expectations:

Academic Integrity

The Honor Code will be read and signed by all students the first week of class and submitted in Blackboard. The Honor Code will also be the first page of the exam and must be signed before taking the exam.

GMU is an Honor Code university; please see the University Catalog or http://oai.gmu.edu/ for a full description of the code and the honor committee process. The principle of academic integrity is taken very seriously and violations are treated gravely. What does academic integrity mean in this course? Essentially this: when you are responsible for a task, you will perform that task. When you rely on someone else's work in an aspect of the performance of that task, you will give full credit in the proper, accepted form. Another aspect of academic integrity is the free play of ideas. Vigorous discussion and debate are encouraged in this course, with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and traditions. When in doubt (of any kind) please ask for guidance and clarification.

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://oai.gmu.edu/students-responding-to-alleged-violations/distance-learners/].

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://masonlivelogin.gmu.edu/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://password.gmu.edu/index.jsp].

University Policies

Students must follow the university policies. [See http://universitypolicy.gmu.edu].

Responsible Use of Computing Students must follow the university policy for Responsible Use of Computing. [See http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/].

University Calendar Students must follow the university policies. [See http://registrar.gmu.edu/calendars/].

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].

Student Services:

University Libraries University

The Mason library 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].

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GMU EMAIL Accounts

Students must activate their GMU email accounts to receive important University information, including messages related to this class.

Disabilities Statement

If you are a student with a disability and you need academic accommodations, please see me and contact the Disability Resource Center (DRC) at 993-2474. All academic accommodations must be arranged through the DRC.

Other Useful Campus Resources:

WRITING CENTER: A114 Robinson Hall; (703) 993-1200; http://writingcenter.gmu.edu

UNIVERSITY LIBRARIES "Ask a Librarian"
http://library.gmu.edu/mudge/IM/IMRef.html

COUNSELING AND PSYCHOLOGICAL SERVICES (CAPS): (703) 993-2380;
http://caps.gmu.edu

UNIVERSITY POLICIES
The University Catalog, http://catalog.gmu.edu, is the central resource for university policies affecting student, faculty, and staff conduct in university affairs.

CLASS SCHEDULE

Week 0>	20– 24 January	♦ Course Welcome in Blackboard: About the Instructor and Getting Started ♦ NOTE: Contact me immediately if you are experiencing any difficulties in accessing course content
Week 1>	27 – 31 January	♦ Review Syllabus, Honor Code, Information Sheet ♦ Discussion Board: Student Introductions ♦ Form Groups ♦ Lecture: Kerzner Chapter 1 – Overview
Week 2>	3 – 7 February	♦ Lecture: Kerzner Chapter 2 - Project Management Growth: Concepts and Definitions ♦ Homework: Information sheet ♦ Homework: Honor Code
Week 3>	17 – 21 February	♦ Lecture: Kerzner Chapter 3 – Organizational Structures ♦ Lecture: Kerzner Chapter 4 - Organizing And Staffing The Project Office And Team
Week 4>	24 – 28 February	♦ Group Presentation: Jones and Shepherd Accountants, page 166 led by Group 1 ♦ Lecture: Kerzner Chapter 5 - Management Functions ♦ Homework: Theory X – Theory Y One-Page Test
Week 5>	2-6 March	♦ Group Presentation: The Trophy Project, page 327 led by Group 2 ♦ Lecture: Kerzner Chapter 6 - Management of Time and Stress ♦ Lecture: Kerzner Chapter 7 - Conflicts
Week 6>	9-13 March	• Recess
Week 7>	16-20 March	♦ Midterm ♦ Individual Homework: Myers-Briggs personality test at: http://www.humanmetrics.com/cgi-win/JTypes2.asp [Please email me the 4 letter result by 20 March]
Week 8>	23-27 March	♦ Group Presentation: Telestar International (pg.383), led by Group 3 ♦ Lecture: Myers-Briggs personality test
Week 9>	30 March- 3 April	• Individual: Draft of Paper: First deliverable due (in Blackboard) • Individual presentation: 10 minute presentation on Draft Paper
Week 10>	6-10 April	• Group Presentation: Corwin Corporation, (pg. 491), led by Group 1 • Lecture: Kerzner Chapter 9 - The Variables For Success • Lecture: Kerzner Chapter 11 - Planning

Week 11>	13-17 April	• **Lecture: Kerzner Chapter 12 - Network Scheduling Techniques** • **Lecture: Kerzner Chapter 14 - Pricing and Estimating** • **Due Next Week - Individual Homework: Gantt Chart of WBS case study**
Week 12>	20-24 April	• **Group Presentation: Crosby Manufacturing Corporation (pg. 656) led by Group 2** • **Individual Homework: Gantt Chart of WBS case study**
Week 13>	27 April – 1 May	• **Lecture on EVMS** • **Lecture: Chapter 17 – Risk Management** • **Group Presentation: Franklin Electronics (page 839) led by Group 3**
Week 14>	4-8 May	• **Individual Paper: Final paper due (in Blackboard)** • **Individual presentations: 10 minute presentation on final paper**
Week 15>	13 May	♦ **Final (On-site proctoring date and final date to be coordinated with students in the beginning of the semester)**