SYLLABUS

ASYNCHRONOUS COURSE

SYST 630 – Systems Engineering Management II 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: 630 Systems Engineering Management II (3:3:0) Prerequisite: SYST 471 or SYST 530. Study of more advanced topics in systems engineering management. Students are expected to read a number of selections from current literature as well as make presentations and produce papers on engineering management topics. Students will also execute a project involving developing a Systems Engineering Management Plan, a Risk Management Plan, and a Product Assurance Plan for a complex System. Topics include multiproject management (Task Orders, IDIQ, CPAF, CPFF, T&M, and FFP), quality and product assurance programs, independent reviews, risk management, and the impacts of process change on an organization. The class focuses strongly on the practical aspects of various system engineering management techniques and practices on projects, organizations, and personnel. Students will be required to research systems engineering topics and present their findings in class. 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: Information Technology Project Management, Seventh Edition. Kathy Schwalbe, Ph.D., 2014, Course Technology.

Grades: 45% - Group Project:

- 15% SEMP
- 10% Risk Management Plan
- 10% Product Assurance Plan
- 10% Final Group Presentation

25% - Research Paper and Final Presentation
15% - Mid-Term Exam
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 purpose of project management in the systems engineering environment

2. Understand the purpose of the Systems Engineering Plan, the Risk Management Plan and the Product Assurance Plan in systems engineering

3. Create a Systems Engineering Plan, Risk Management Plan and Product Assurance Plan for a given Statement of Work

Group Deliverables

The Group Project is 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 to produce three systems engineering planning documents:

- Systems Engineering Management Plan (SEMP),
- Product Assurance Plan (PAP)
- Risk Management Plan (RMP).

The System Requirement Specification (SRS) for the system from which the groups will be writing the plans is the SRS they wrote for SYST510. The group will need to agree on which SRS they would like to use since the members of the group were probably not in the same group in SYST510. The group must only choose one SRS for the group.

Criteria and guidance for these documents will be reviewed. Example of the three plans may be found in the Student Resource Content area in Blackboard. Each group will be responsible to create a video presentation of their plans. Materials used in the presentation and the written plans should be submitted in Blackboard by **ONE** member of the group. In addition, the groups will be expected to meet and then upload status

reports into Blackboard during the semester. Due dates are in the calendar.

Individual Research Paper and Presentations:

Each student will be required to write a paper and give a video presentation on a relevant systems management topic. There will be several deliverables for this paper (refer to calendar below). The first deliverable will be a written summary of the paper including an annotated outline. The second deliverable will be a written status update of the In the middle of the semester. The final deliverable will be both a video presentation and a written paper due near the end of the semester. The final deliverable must be at least 8 to 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. You must submit materials in Blackboard in the Assignment section.

Additional Resources – for Paper

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 Wednesday and ends on Tuesday. Student assignments are due on Sunday evenings. Grading will be completed and posted on Tuesday evening unless otherwise notified and noted. New Weekly Modules will be release each Wednesday morning.

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 software written 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.

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].

CLASS SCHEDULE

Week 0>		♦ **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>	20 – 26 January	♦ Review course requirements ♦ Lecture: Chapter 1 Introduction to Project Management ♦ **Group: Review Group Assignments**
Week 2>	27 – 2 February	♦ Lecture: Chapter 2: The Project Management and Information Technology Context ♦ Lecture: Chapter 3 The Project Management Process Groups: A Case Study [32] ♦ **Group: Give overview of SRS to be used for group project [10 minutes]** ♦ Due: G- SRS - Presentation ♦ G-SRS – Paper ♦ Due: IN - Information Sheet ♦ IN – Honor Code
Week 3>	3 February – 9 February	♦ Lecture: SE Products [19] ♦ Review: Systems Engineering Management Plan and example (both document and presentation) ♦ Lecture: Chapter 4: Project Integration Management ♦ **Individual: Written Annotated Outline of Research Paper** ♦ Due: IN - Research Paper Annotated Outline - Paper
Week 4>	10 February – 16 February	♦ Lecture: Chapter 11, Project Risk Management ♦ Review: Risk Management Plan and example ♦ Lecture: Chapter 5: Project Scope Management ♦ **Group: Program Management Meeting - Written Interim Status 1**
Week 5>	17 February – 23 - February	♦ Lecture: Chapter 6: Project Time Management ♦ Review: Product Assurance Plan and example
Week 6>	24 February – 1 March	♦ **Exam 1**
Week 7>	2 March – 8 March	**SPRING BREAK – NO CLASS**
Week 8>	9 March – 15 March	♦ Lecture: Chapter 7, Project Cost Management ♦ **Group: Program Management Meeting - Written Interim Status 2**
Week 9>	16 March – 22 March	♦ Lecture: Chapter 8: Project Quality Management ♦ Lecture: Chapter 9 Project Human Resource Management ♦ **Groups: Turn in SEMP** ♦ Due: G- SEMP - Paper ♦ **Individual: Written Research Paper: Status Update** ♦ Due: = IN - Research Paper Status Update - Paper
Week 10>	23 March – 29 March	♦ Lecture: Chapter 10: Project Communications Management ♦ **Groups: Turn in RMP** ♦ Due: G - RMP - Paper
Week 11>	30 March – 5 April	♦ Lecture: Chapter 12: Project Procurement Management ♦ **Groups: Turn in PAP** ♦ Due: G - PAP - Paper ♦ **Group: Program Management Meeting – Written Interim Status 3** ♦ Due: G - Interim Status 3 - Presentation
Week 12>	6 April – 12 April	♦ **Exam 2**
Week 13>	13 April –	♦ **Final group project presentations**

	19 April	♦ Due: G - Final Presentation
Week 14>	20 April – 26 April	♦ **Students Research Paper Presentations** ♦ Due: IN – Final Research Paper - Presentation
Week 15>	27 April – 3 May	♦ **Students Research Paper Paper Due** ♦ Due: IN – Final Research Paper - Paper