Syllabus

Professor: *Dr. Stephen V. Stephenson*
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Office Hours: *By appointment*
Home Page: *Class Web Site: https://mymasonportal.gmu.edu/webapps/portal/frameset.jsp*
 (required username and password)
Public Web Sites: *http://www.gmu.edu/departments/seor/syllabi/spring12.htm*

Course Description: *Prerequisite: SYST 510 or SYST 520.* Principles of strategic quality, including TQM. Quality standards including ISO9000 and 14000. Organizational leadership, cultures, and process maturity, re-engineering. Quality, organization learning and re-engineering approaches to enable information integration and management and environment and framework integration in the systems engineering of knowledge intensive systems. Emphasis is placed on the role of integrated product and process design teams, standard and commercial off the shelf products in enterprise integration. Architecture driven system characteristics are studied, as is transition management of legacy systems. In addition, the professor will present topics related to "real-life" enterprise architecture, enterprise integration, systems engineering, enterprise engineering, and some practical issues with solutions from his experience in large scale systems development, operating systems, data communications, computer networks, and distributed systems integration. The TRIZ methodology will be used for identifying process reengineering options and the associated solutions. This practical approach to design/re-design of the enterprise architecture will allow the student to understand the theory of innovative problem solving. The quantum improvements in the areas of product and process design, using TRIZ, are presented in this course.

Honor Code
Honor Code procedures will be strictly adhered. Students are required to be familiar with the honor code. You must not utilize unauthorized material or consultation in responding to your tests, homework, and assignments. There are several web sites that published homework solutions, project assignment programs, etc. Numerous professors used the homework solutions from the textbook as their standard grading keys and also published the solutions on the Internet. You may use those solutions as references but you are not allowed to copy them. Violations of the honor code will be reported. Obvious honor code violations (exact copy of work, etc) will be graded as 0/100 (zero percent).

Textbook:
 Required (T1): Systems Engineering, Principles and Practice by Alexander Kossiakoff and William N. Sweet, John Wiley and Sons, 2011.

References: Lectures and assigned materials will be made available on the GMU web site
https://mymasonportal.gmu.edu/webapps/portal/frameset.jsp

Grades 10% - Team Presentation (Concept Stage), 15% - Midterm, 15% - Final Team Presentation, 20% - Final Team Project, 35% - Final Exam, 5% - Class Participation. Two exams will be given, one approximately at the middle of the semester and one at the end of the semester. There will be team presentations and term paper for each team project assignment. The following table is used to convert the final numerical grade to a letter grade:

Grade G	Letter Grade
97 - 100	A+
93 - 96	A
90 - 92	A-
87 - 89	B+
83 - 86	B
80 - 82	B-
51 - 79	C
0 - 50	F

Schedule:
Jan 23: Course overview, administrative matters, and introduction; Part I: Foundations of Systems Engineering (Ref: Chapters 1-2, T1); *Assign SE Project Teams*
Jan 30: Part I: Foundations of Systems Engineering (Ref: Chapters 3-4, T1)
Feb 6:   Part I: Foundations of Systems Engineering (Ref: Chapter 5, T1 and TRIZ Lecture);
Final Project Selections Due
Feb 13: Part II: Concept Development Stage (Ref: Chapters 6-7, T1)
Feb 20: Part II: Concept Development Stage (Ref: Chapters 8-9, T1)
Feb 27: *Team Presentations (Concept Stage) and Midterm Review*
Mar 5: Midterm Exam
 *********** Note: Spring Break - March 12, 2009 – No class ***********
Mar 19: Part III: Engineering Development Stage (Ref. Chapters 10-11, T1)
Mar 26: Part III: Engineering Development Stage (Ref. Chapters 12-13, T1)
April 2:   Part IV Post-Development Stage (Ref. Chapters 14-15, T1)
April 9: *Team Final Presentations (Engineering and Post Development Stages)*
April 16: *Team Final Presentations (Engineering and Post Development Stages)*
April 23: System Engineering Lectures
April 30, 2012 – *Final Exam Review and Project Submissions Due*
May 14, 2012 - Final Exam (Monday, 7:30pm – 10:15pm)