

# George Mason University

## School of Information Technology and Engineering

Rev. 3JAN07

### SYST 371-001 Systems Engineering Management

Instructor: Dr Jeffrey E. Humphrey

Lecture: Tuesdays, 4:30-710PM, Rm Krug Hall 242

Office Hours: Immediately following class or by arrangement

Prerequisite: SYST 210; corequisite: SYST 330

Course objectives: Study of basics of systems engineering management. Includes engineering economics, planning, organizing, staffing, monitoring, and controlling process of designing, developing, and producing system to meet stated need in effective and efficient manner. Discusses management tools, processes, and procedures, including various engineering documentation templates, managerial processes, and dealing with personnel issues. For the first ~ 2/3 of the class the students will individually demonstrate skills with various systems engineering and management tools. The last ~1/3 of the semester is focused on a group project – preparing a engineering proposal.

Text: Mantel, Meredith, Shafer, and Sutton, “Project Management in Practice, 2<sup>nd</sup> Ed. 2005

You will need some access to a PC (not a Mac) to load and use Crystal Ball software.

#### Semester Schedule:

All assignments due start of class. Please read chapters before they are discussed in class.

Week 1, 22Jan - Review syllabus, In class statistics quiz (not gradable)

Assignment: Take Myers Briggs at <http://www.humanmetrics.com/cgi-win/JTypes1> bring printout (due in class 29Jan)

Week 2, 29Jan - Text Chapter 1 The World of a PM

Assignment: HW Problem Chapter 1 (due 5Feb)

Week 3, 5Feb - Text Chapter 2 Manager, Organization, and Team

Assignment: Chapter 2 (due 12FEB)

Week 4, 12Feb - Text Chapter 3 Planning the Project (WBS)

Assignment: HW Chapter 3 (due 19Feb)

Week 5, 19Feb - Text Chapter 4 Budgeting

Assignment: HW Chapter 4 Use Crystal Ball to do Photostat case problems - 1,2,3 (due 26Feb)

Week 6, 26Feb - Text Chapter 5 Scheduling, Exam 1 (take home, chapters 1-4) distributed at end of class

Assignment: Begin on Exam 1 (due 4Mar)

Week 7, 4Mar - Text Chapter 6 Allocating Resources

Assignment: Turn in Exam 1, HW Chapter 5 and Chapter 6 (due 18Mar)

Week 8, 10-16Mar - Spring Break, No Class

Assignment: Have fun

Week 9, 18Mar - Text Chapter 7 Monitoring and Controlling Project

Assignment: HW Chapter 7 (due 25Mar)

Start team engineering Project proposal (due 22apr-13May), team formation starts (final teams due 1Apr)

Week 10, 25Mar - Text Chapter 8 Evaluating and Terminating the Project

Assignment: Chapter 8 (due 1Apr)

Week 11, 1Apr - Project status briefings, Review for Exam

Assignment: Study for exam

Week 12, 8Apr – Exam 2 (in class exam, chapters 5-8), Project status summary only

Assignment: Informal team project summary status only

Week 13, 15Apr - Project status briefings

Assignment: Present project status

Week 14, 22Apr – Team Presentations I\*

Week 15, 29Apr - Team Presentations II\*

Week 17, 13May – Team Presentations III\*(Date TBD, during final exam week) lessons learned and course evaluation

\* Actual presentation sequence will be by random draw

## Grading

10% Systems Engineering Tools Individual Presentation

25% Exam 1 (take home)

25% Exam 2 (in-class)

25% Final Project Proposal, team effort (written report, presentation, self evaluations)

15% Class Participation, Homework

100%

Overall Grade Scale (in % of total available points):

A+ 99-100

A 92-98

A- 90-91

B+ 88-89

B 82-87

B- 80-81

C+ 78-79

C 72-77

C- 70-71

D+ 68-69

D 62-67

D- 60-61

F <60

Further details:

Systems Engineering Tools Individual Presentation:

Select one system engineering related software package and describe its manufacturer, method of use, ease of use/need for training, benefits, weaknesses, qualitative cost/benefit ratio, situations where it would be useful/not useful. >8 charts and 13-15 minutes, Powerpoint or actual use of the tool. Turn-in one hard copy of Powerpoint charts or screen shots just before presentation. Example software packages: Mathcad, Statistica, Decsioneer, Doors, Winsight, Suretrack, TeamScope, SourceForge.NET, @Risk etc

Graded 50% on clarity of points presented and 50% on depth of analysis.

Engineering Proposal Group Project:

Develop a proposal to buy and install a wireless network in a office building that currently houses ~600 employees.

This proposal should include the necessary cost schedule and performance details necessary to judge the completeness and correctness of the proposal. Further details to be provided later in the semester.