Course: ENSE626/ENPM646 – System Life Cycle Cost Analysis and Risk Management
Semester: Fall 2016
Day(s): WED
Time: 7:00-9:40PM
Location: JMP 2222
Instructor: Nidak Sumrean
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Course Description

Understanding the scope of work and related cost is perhaps the most fundamental knowledge required to start any activity. A solid understanding of both is the foundation for success. Inadequate planning and poor management often appears as the leading causes of business failure. Followed by learning a theoretical framework to define the scope of work and using classical systems engineering techniques, the student is exposed to the different methods used to identify and measure the cost elements as the first step to build a cost estimate. Finally, this knowledge is applied in a course project in which the student has the opportunity to prepare a cost estimate using the concepts learned in class and critique the estimate prepared by other students.

Course Objectives

It is expected that each student learn:

- basic concepts of cost estimation,
- different types of costs and their differences,
- methods used to estimate costs,
- how to gather information, compile and use a cost estimate,
- importance of having a credible, supportable, usable, accurate, achievable, competitive, complete and realistic cost estimate,
- how to work with others, critique an estimate and provide insight on how to prepare one,
- use of statistics and modeling techniques to improve the estimate.
- learn basic project management techniques and their relationship to cost estimation
- learn basic decision making tools as aids to cost reduction
- Importance of life cycle cost analysis and risk management, cost distribution over the life of a project, project phases and associated cost and risks
- Quantifying risks, including risk levels, and assessing their impact on life cycle costs, schedule and performance
- Basic principles of probability and their implications in risk analysis, correlation among risks
Data gathering, data analysis and statistical techniques for estimating cost components and risk levels

Required/Recommended Textbooks

- **Required course text:**

- **Library References:**

- **Supplementary optional text:**

- **Recommended Software:**
  Microsoft Project, Microsoft Office (Excel and PowerPoint) – Microsoft Corp.

Course Outline

Grading

- Homework and in-class participation 10% - Homework will be assigned according to the calendar and it is due at the beginning of the next lecture.

- Midterm 25% - In class examination closed book closed notes.

- Final 25% - In class examination open book, open notes covers all course material.

- Project 40% - Written report with intermediate deliverables

Bring a calculator to the exams! No laptop computers or wireless devices are allowed during the exams. No communications are allowed between students during the exams. No exchanging of tools, papers, books, pens or any other material is allowed during the exams.

The exam dates, homework assignments, presentations and reports are due on the date specified in the course calendar; these dates are fixed and non-negotiable. There will be no makeup exams, please check your calendar and report to the instructor any conflicts as soon as you become aware of them. Under no circumstances (except medical) the student is exempt from producing the deliverables on the date that they are due.

Course Policies
Casual discussion of course project is allowed and encouraged. However, each student should prepare the deliverables independently unless authorized to work in a team.

The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit http://www.studenthonorcouncil.umd.edu/whatis.html.

Class attendance is highly recommended. Please inform of any accommodations needed relative to disabilities. Also, please review the calendar and inform of any work that can’t be performed due to attendance to a religious event. **The student must submit all course assignments on time to receive credit; late assignments will not be accepted unless exceptional circumstances occur.** Exceptional circumstances including severe weather alert when recognized by the University of Maryland will be considered on a case-by-case basis. Business or leisure travel does not constitute exceptional circumstances. In the event of travel the student should take any necessary measures to submit deliverables electronically. Students with special needs should contact the instructor to discuss specific cases.