



Department of Computer Science and Software Engineering

Software Project Management

CSSE 372 Fall Term 2012

Class Times: 1st and 2nd Periods in Myers 107

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Course Assistants/Advisors: Alex Mullans, Kevin Risdien, Dharmin Shah, and Andrew Siegle

Introduction: Managing software projects entails fundamental principles from mainstream project management plus key practices that support the everydayness of software change. For the Software Engineering program, this course provides context for many of the other software engineering courses showing the integration of methods and tools to control software. Students examine the basics of project management (planning, organizing, staffing, directing, and controlling) in the context of software projects. Through the text, a series of directed readings, active learning exercises, and case studies, students will be exposed to a blend of classic and emergent techniques to grasp a thorough understanding of key software project management principles. Topics to be covered in this course include:

1. Basic principles of project management
2. Software life cycle processes
3. Software estimation
4. Forming and managing Project Team
5. Software risk planning and management
6. Software project planning
7. Managing software projects to a plan
8. Adv. Topics: Earned Value, Critical Chain

Course Description: Major issues and techniques of project management. Project evaluation and selection, scope management, team building, stakeholder management, risk assessment, scheduling, quality, rework, negotiation, and conflict management. Professional issues including career planning, lifelong learning, software engineering ethics, and the licensing and certification of software professionals.

Learning Outcomes: Upon successfully completing this course, a student should be able to.

1. Explain fundamental elements of Software Project Management
2. Explain and employ contemporary software life cycle processes, activities, and work products
3. Estimate software project effort, cost, and schedule for an intermediate size project
4. Identify, analyze, and manage software project risks
5. Create and maintain a software project schedule
6. Create a plan for an intermediate size software project and manage to the plan as project evolves
7. Formulate software project teams in terms of roles and responsibilities
8. Plan, organize and conduct effective meetings

Prerequisites: CSSE 230, RH 330, and Junior standing; co-requisite with CSSE 371.
(Software development and/or maintenance experience, and an ability write and communicate effectively will make this course more meaningful.)

Textbooks: "Applied Software Project Management" by Andrew Stellman and Jennifer Greene; O'Reilly Media (2005). ISBN-10: 0596009488
Readings will be also be assigned from relevant papers (e.g., case studies).

Course Evaluation and Feedback: Please feel free to provide feedback about the course at any time. If you feel uncomfortable talking with me directly, there is an anonymous feedback box under the ANGEL account for this course where you can provide feedback throughout the term; I check it regularly and will try respond to feedback in a reasonable time. There will also be two anonymous plus-delta evaluations of the course where you can offer suggestions on how to improve the course and its delivery.

Grading:

Examination(s)	30%	Quizzes	5%
Homework/Case Studies	25%	Participation	10%
Final Project & Presentation	30%		

Expectations: Students will be expected to attend and participate in class. Students will be required to use the CSSE372 course website on Angel to obtain relevant information, and interact with instructor and other students. Announcements and assignments will be conveyed via Rose-Hulman email addresses and/or posted on the website. Students will be expected to work on some assignments with other team members.

Assignments: Homework or project assignments will be assigned regularly. Unless otherwise requested, please post these on Angel in the associated drop boxes. Homework and projects are necessary instruments for tracking progress of students. A typical student will work approximately 8 hours outside of lectures each week on this course (depending on background). This is a demanding course covering a great deal of material -- please avoid falling behind on the assignments. While this course is demanding, it is also rewarding for those that want strong understanding of software engineering as a discipline.

Case Studies: We will be doing case studies in class. You should prepare (and submit) a brief write-up of your understanding and opinion of the case study. The write-up should be no more than 1/2 page in length and will be collected in class. If you have an excused absence from class, this can be sent to me via email the day of the class.

Late Submissions: Please note that homework and project deliverables will be due at the specified time on the specified day, in the specified format. Late quizzes, homework assignments, and project deliverables will also not be accepted late (receiving a zero for grade), with the following exception: You have three "late day" credits. You may use one of them on any homework or project assignment, which will allow you to submit that assignment up to 24 hours after the due time. You may earn a maximum of one additional "late day" by submitting an assignment or a project deliverable 24 hours before the due date. Please send me an email alerting me to the same to obtain the "late day" credit. All requests for late day usage and redemption must be accounted for using the class Angel "Late Day" facility before the due date of the assignment.

Academic Integrity: CSSE Honesty Policy (see <http://www.cs.rose-hulman.edu/index.php/courses-mainmenu-28/82-honesty-policy.html>) governs class and performance. Joint study is allowed (even encouraged) on some items as expressed by the instructor; however, each student must produce his or her solutions individually. Students must not collaborate on tests or homework that is passed in unless directed by the instructor.

Attendance Policy: Attendance is mandatory (unless with a legitimate excused absence such as illness). If you cannot make it to class or lab, you are still responsible for all materials covered in class as well as all announcements. Students who have more than 2 unexcused absences will receive a final course grade reduced by up to one full grade level; a student whose total absences (excused and unexcused) exceed 8 will fail this course.

Valid Excuses: A valid excuse consists of a memorandum on Institutional letterhead from the Dean of Students. Job and graduate/professional school interviews, attending scientific conferences and Institute-sponsored activities are also valid excuses provided that every attempt has been made to avoid missing major assignments and examinations, and the student notifies the course instructor in writing at least one week in advance of the event. Illness and exceptional circumstances are, of course, valid excuses if a confirming memorandum from the Dean of Students is provided within one week of the illness/circumstance.

Laptop Policy: You may need to use your laptops during some portion of the class period. Please be sure to bring your laptop, a power brick, and a network cable to class. During class discussion, please do not use your laptops. Laptop use during discussions can be distracting to your classmates, the instructor, and may also keep you from focusing on the material. If you typically use your laptop for note taking, please get permission from the instructor in advance so arrangements can be made.

Writing: Written communication is important in CSSE 372, as it is in the software profession in general. Remember that a software document has several unique and important characteristics:

1. Technical documents are often the result of group authorship, thus it requires planning and final tweaking.
2. Specificity and organization are more important than flow; hence technical documents are often ordered around lists and tables rather than paragraphs.
3. Documents are often the reader's only source of information on the particular subject or product; hence they must be thorough and complete.
4. Documents are often used to answer specific questions; hence, they should facilitate finding specific pieces of information (navigation).
5. Documentation must bridge from general specifications to particulars of implementation and operation, hence it must make abstract concepts concrete and make concrete facts fit generalized concepts.
6. Documentation can be presented in many forms: online via HTML, MS help files, just plain text, and on paper as reference manuals, tutorial, quick reference guides, etc. It is important to choose the correct medium and even more important to write to fit the medium.

You can always drop by my office or consult with your project manager, if you have any questions regarding your document. We would be happy to look at it and suggest some changes. You should also be aware of the service provided by the Learning Center.

Tangible Distractions (Sights/Smells/Sounds): As would be expected in the workplace, please be respectful of those around you. If your visual appearance (e.g., offensive computer desktops), smell (e.g., halitosis or hygiene), or sounds created (e.g., cell phone or snoring) are disruptive to class, you will be asked to leave until the issue can be corrected.

Caveat: I reserve the right to modify the course content, schedule, policies, etc. outlined in this syllabus.

Tentative Schedule of Classes: Please check online Class Schedule for latest updates daily.

Week /Day	Date	Reading for Next Class	Homework & Project Assignments	Due Date	Topic Content & Notes
0/1	8/30	Syllabus Preface & Chap-1	Quiz0: Survey (on Angel)	8/31	Intro. to CSSE 372. Software Proj. Mgt
0/2	8/31	SW Project Failures paper	HW1: Preliminary Task Schedule for Classes	9/4	Anatomy of a Software Project
1/1	9/3		Case Study 1: SW Project Failure	9/4	SW Failures
1/2	9/4	Hard Choices Game Rules			SW Project Failures
1/3	9/6	Business Case Paper	Case Study 2: Business Case	9/7	Hard Choices – The Game of Choice!
1/4	9/7	Chap-2			SW Project Business Cases
2/1	9/10	Software Process Paper			Anatomy of a SW Project Plan
2/2	9/11	SimSE Intro. & Tutorials	HW2: SimSE Game Exercises	9/18	SW Processes Introduction
2/3	9/13				SimSE Demonstration and Exercise
2/4	9/14	Chapt-3	Download, install, & play with COCOMOII.		SW Process Development
3/1	9/17		Assign Project Teams		SW Estimation Fundamentals
3/2	9/18	Estimation Paper	HW3: Estimation with COCOMO II	9/25	Estimating with COCOMO-II
3/3	9/20		Case Study 3: Estimation Approaches	9/20	More on Estimation
3/4	9/21	Software Risks Paper			SW Risk Analysis
4/1	9/24	Chapt-4			SW Risk Management
4/2	9/25		HW4: Software Risk Table and Sheets	10/2	Work Breakdown Structures (WBS)
4/3	9/27				1 st Exam Review
4/4	9/28	SW Project Scheduling Paper			1 st Examination
5/1	10/1				Exam 1 Results and Project Scheduling
5/2	10/2	Critical Chain Paper	HW5: SW Project Schedule	10/9	Critical Path Method
5/3	10/4				Critical Chain Method
5/4	10/5	EVA Paper			Monitoring and Controlling SW Projects
6/1	10/8		Final Project Assigned		Earned Value Analysis
6/2	10/9	Chapt-9	HW6: Earned Value Analysis	10/16	Earned Value Exercise
Fall Break October 11th and 12th					

Week /Day	Date	Reading for Next Class	Homework & Project Assignments	Due Date	Topic Content & Notes
7/1	10/15	Human Side of PM Paper		11/2	Managing with Measures
7/2	10/16	Conflict Management paper			Human Side of Project Management
7/3	10/18	Chap 10	Case Study 4: Teams and Conflict		Teams and Conflict Management
7/4	10/19				Effective SW Project Communication
8/1	10/22	Agile Book: Chap-1&2			From Traditional to Agile Project Mgt.
8/2	10/23	Agile Book: Chap-4			Agile Project Management
8/3	10/25				Extremely Agile PM
8/4	10/26		Final Proj. Plan Presentation Assignment	11/6	Program Mgt. and SW Project Portfolios
9/1	10/29				Team Project Lab
9/2	10/30				Team Project Lab
9/3	11/1				Team Project Lab
9/4	11/2		HW7: Review another Team's SPMP	11/6	Guest Speaker <i>Final Project Plan Due</i>
10/1	11/5				Team Project Lab
10/2	11/6				Course Summary and Final Exam Review
10/3	11/8				Day 1: Teams Present Final Project Plan
10/4	11/9				Day 2: Teams Present Final Project Plan
Finals Week	TBD				Final Exam