
course	CS 325-01 Software Engineering, SIUE School of Engineering
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	Description: Introduction to the concepts and techniques required in developing complex software systems and managing software projects. Emphasis on process, object-oriented methodologies, and design.
	Prerequisites: CS 240 – Introduction to Computing III
	Meeting: MW, 12:00PM – 1:15PM EB 2011

instructor	Gary R. Mayer, Ph.D.
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Office Hours: **MW 1:30 PM – 3:30 PM** & by appointment

textbooks	<ol style="list-style-type: none"> 1. (TK) Tsui, F. and Karam, O. Essentials of Software Engineering, 2007. 2. (MH) Miles, R. and Hamilton, K. Learning UML 2.0, 2006. 3. (ST) Shalloway, A. and Trott, J. R. Design Patterns Explained: A New Perspective on Object-Oriented Design, 2nd ed., 2005. 4. (B) Brooks, F. P., Jr. The Mythical Man-Month: Essays on Software Engineering, anniversary ed., 1995. 5. (H) Humphrey, W. S. PSP: A Self-Improvement Process for Software Engineers, 2005.
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other resources	<ul style="list-style-type: none"> • Moodle: http://classes.siue.edu/
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attendance	You are responsible for all course material whether you are present for class meetings or not. Contact other students to learn what was missed when you are absent.
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special learning situations	Students who believe that they may need accommodations in this class are encouraged to contact the office of Disability Support Services as soon as possible. It is the student's responsibility to alert the instructor to SIUE sanctioned accommodations.
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classroom behavior policy	Students are expected to conduct themselves in a professional manner, and to maintain an atmosphere that does not distract other students from learning. Students whose behavior the instructor deems to be disruptive will be asked to leave. This includes, but is not limited to, cell phones ringing, talking on a cell phone or text messaging, use of a laptop computer, consuming food or beverage, and/or having conversations with other students that is not part of the class instruction. If for some reason you feel that one or more of these items is necessary, you must get express permission from the instructor beforehand. A student who is requested to leave will not be excused from missing any class activities whether, for example, this is discussion material that appears on exams, in-class quizzes, or an exam itself.
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academic misconduct	Collaboration is encouraged in order to gain a better understanding of the general course material , not in devising solutions to course assignments (see "projects policy" and "homework policy", below, for
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exceptions). Exceptions to this are allowed if explicitly stated in writing on individual project assignment sheets. You are required to write your assignment solutions in your own words (no direct quotes or paraphrasing). You must cite any resource (person or publication) upon which you base your solution.

Academic honesty is a serious issue at SIUE, in the School of Engineering, in the Computer Science Department, and with the instructor. Students will be held to the SIUE Student Academic Code. Penalties for dishonest behavior will be severe and may include academic discipline, notation in the student's academic record, and/or a letter grade of F for the course.

grading policy

Each student's final grade score is determined on a 100-point scale and calculated as a weighted sum of the average of each of following activities:

<u>Activity</u>	<u>Quantity</u>	<u>Weight in Final Grade</u>
individual projects (IP1 - IP5)	5	25%
group project 1 (GP1)	1	10%
group project 2 (GP2)	1	15%
homework (HW1 - HW _n)	8 to 15	10%
quiz	5 to 10	10%
mid-term exam	1	15%
final exam	1	15%

Note that individual activities may be scored on a scale that differs from the final grade. However, assignments within each activity will all have equal weight both within the activity and as an impact on the final grade.

A student's final grade in the course will be determined from the weighted sum of the average score received for each of the activities as follows:

<u>Final Grade Score (Weighted Sum of Averages)</u> †	<u>Course Grade</u>
[100 - 90]	A
(90 - 80]	B
(80 - 70]	C
(70 - 60]	D
less than 60	F

† '[' or ']' includes the endpoint, '(' excludes the endpoint.

Please see the descriptions of each activity below for notes and other activity-specific information. **Note that no make-up exam, homework, or quiz will be given, nor will a late project submission go unpenalized, unless a valid and verifiable reason is provided (e.g., documented illness or injury).**

projects policy

Individual projects are to be completed by each student with no collaboration with other individuals. Assistance on individual projects should be sought from the instructor or TA (if any).

The instructor will assign students groups of classmates who will work together to complete group projects. Students may only collaborate with members of the group to which they are assigned and group members should collaborate on devising a single solution to the assignment. All group members are responsible for all content of the solution, regardless of which specific group member(s) devised and/or implemented the solution. Group project evaluations, such as rating members of your group, may be provided to allow students the opportunity to identify group member contributions (or lack thereof). These evaluations will reflect on an individual student's group project grade. Additional assistance for group projects may only be sought from the instructor or TA (if any).

All projects are due at the beginning of the class period of the designated due date. Any projects

submitted within 24 hours of this time will be penalized 10% of the possible points. Projects submitted between 24 and 48 hours of the due date/time will be penalized 25% of the possible points. No projects will be accepted more than 48 hours after the submission deadline. Any projects not received, or received after the 48 hour limit, will receive a score of zero for that project. If it is a group project, all group members will receive the same penalty regardless of who the group members deem to be 'at fault'. If a project is submitted late, it is the students' responsibility to make arrangements to ensure that the submitted project is recorded as being submitted to the instructor by a specified time.

No make-up projects will be given. Any project not turned in will receive a zero for that project score.

homework policy

Each homework is due at the beginning of the class period of the designated due date. All homework must be neat and legible. Except as described above, late homework is not accepted for credit. Any homework not submitted on time will receive a zero as a score.

Students may collaborate on homework assignments in order to better understand possible approaches to devising solutions. However, each student must individually devise, construct, and implement their own solution to the homework (*e.g.*, code and written responses).

The lowest homework grade will be dropped from the calculation of the homework activity average. Each student that receives more than 80% of the possible points on **each and every homework assignment** (including the one that is dropped), will receive a bonus of 1.5% on the final grade score.

quiz policy

Quizzes may include any material covered since the last quiz; including material covered that day. The material may include topics from lectures, class discussion, homework material, projects, and reading. Quizzes may be unannounced. Missed quizzes may not be made up. Any quiz not taken will receive a zero.

Quizzes must be completed individually by each student and may be given at any time during the class period, even at the very start of class. Students who arrive to class after the start of the quiz will be allowed to take the quiz. However, students allowed to begin a quiz late will still be required to turn in their quiz at the same time as the rest of the class, and their quiz will be scored against the same criteria as the students who had the full amount of time to complete the quiz.

The lowest quiz score will be dropped from the calculation of the quiz activity average. Each student that receives more than 80% of the possible points on **each and every quiz** (including the one that is dropped), will receive a bonus of 1.5% on the final grade score.

exam policy

The mid-term exam may cover any of the material covered prior to the mid-term exam. The material may include topics from lectures, class discussion, homework material, projects, quizzes, and reading. The final exam will be a comprehensive exam with material covered throughout the entire course. The material on the final exam may include topics from lectures, class discussion, homework material, projects, quizzes, and reading.

All exams will be closed books and closed notes and must be completed individually by each student. No 'crib sheets' will be allowed. No cell phones, laptop computers, or portable data devices of any kind will be allowed.

Except as described above, a missed mid-term exam may not be made up. If the student arrives to class late during the day of the mid-term exam, the student shall only have the time remaining until all students are required to turn in their exams to complete the exam.

The final exam is mandatory. In the event that the final exam for this course should conflict with a student's final exam in another course, the student must make alternative arrangements with the instructor. These arrangements must be made a minimum of one week in advance of the scheduled course final exam or the student's desired date to reschedule, whichever comes first.

Wk	Mondays		Due	Wednesdays		Due
1	08/24	Software Systems (TK 1, 2)		08/26	PSP Introduction (H 1, 2) <u>Read</u> : B 1, 2, 3	HW #1
2	08/31	SW Engineering Intro (TK 3)	HW #2	09/02	SW Process Models (TK 4, 5)	IP #1
3	09/07	LABOR DAY (no class)		09/09	Project Management / Planning (TK 13; H 3 - 7)	IP #2
4	09/14	Project Management / Planning (TK 13; H 3 - 7)	HW #3	09/16	Requirements	IP #3
5	09/21	System Models (TK 7 - 9; H 10)		09/23	System Models (TK 7 - 9; H 10)	IP #4
6	09/28	Software Quality (TK 9; H 8 - 9)	HW #4	09/30	UML: Introduction (MH 1 - 3; ST 1 - 2)	
7	10/05	UML: Modeling Logical Structure (MH 4 - 6)	HW #5	10/07	UML: Modeling Interactions (MH 7 - 10)	IP #5
8	10/12	UML: Other Modeling Techniques (MH 11 - 15)	HW #6	10/14 MID-TERM EXAM		
9	10/19	Configuration Management (TK 11)		10/21	Specifications (H 11)	
10	10/26	Verification & Validation (Testing) (TK 10; H 12)	GP #1 (A)	10/28	Design Patterns: Intro & Structural Patterns (ST 3 - 8)	HW #7
11	11/02	Design Patterns: Creational Patterns (ST 9 - 11)		11/04	Design Patterns: Application (ST 12 - 16)	
12	11/09	Design Patterns: Behavioral Patterns (ST 17 - 25)	GP #1 (B)	11/11	Support and Maintenance (TK 12)	HW #8
13	11/16	PSP: Additional Topics (H 13 - 14)		11/18	Mythical Man-Month (B 4 - 9)	GP #2 (A)
14	11/23	THANKSGIVING BREAK (no class)		11/25	THANKSGIVING BREAK (no class)	
15	11/30	Lessons Learned: Software Documentation (B 10 - 15)		12/02	Lessons Learned: Software Documentation (B 10 - 15)	
16	12/07	Lessons Learned: Silver Bullets (B 16 - 19)		12/09	Lessons Learned: Silver Bullets (B 16 - 19)	GP #2 (B)
F	12/14 FINAL EXAM (10:00AM - 11:40AM)					

Schedule Notes:

1. See "textbooks" section for description of book titles and author abbreviations. Readings are specified by book author abbreviations and chapter numbers (e.g., "TK 1, 2" indicates the Tsui and Karam book, "Essentials of Software Engineering," chapters 1 and 2).
2. See "Activities" in "grading policy" section for description of assignments due and abbreviations.

Please note that this syllabus represents the most current plan for this course. The instructor reserves the right to modify any part of this syllabus, as deemed required by the instructor, throughout the course. Students will be given as much advanced notice as possible of any and all changes. Changes will be announced in class and posted on a Web site that is accessible to the students (such as Moodle). Students are responsible for keeping track of all announced changes.