

COSC4406E: Software Engineering

Instructor: Haibin Zhu, PhD

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Office Hours: Mon.: 3:00pm-6:00pm, or by appointment

Course Description:

This course provides an in-depth study of the fundamental principles underlying Software Engineering. It covers the software lifecycle starting with requirements engineering, continuing through design, and implementation, and with integration and testing. It also examines key cross-lifecycle activities such as project management, measurement, and quality assurance. In particular, the material presented will address management issues associated with people, product, and process. A systematic approach to evolve software is emphasized recognizing the dependencies between software development and maintenance activities. Specific topics will focus on software process and project measurements, project planning, risk analysis, project scheduling and tracking.

This course will present modern approaches to the current techniques used in software design and development.

Textbook:

Roger S. Pressman, Software Engineering: A Practitioner's Approach, McGraw-Hill Science/Engineering/Math; 6th edition (April 2, 2004)
ISBN: 007301933X

Reference:

- Ian Sommerville, Software Engineering (7th Edition) (International Computer Science Series), by Addison Wesley; 7th Edition (May 10, 2004). ISBN: 0321210263
- Eric J. Braude, Software Engineering: An Object-Oriented Prospective, 10/e, John Wiley & Sons Inc., @2001. ISBN: 9-471-32208-3
- John W, Satzinger, Robert B. Jackson, and Stephen D. Burd, Systems Analysis and Design, 10/e, Course Technology, @ 2002. ISBN: 0-619-06309-2

Website: www.mhhe.com/pressman

Course grade:

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|-------------------|-------------|
| • Project: 40% | • A: 100-80 |
| • 2 Tests: 30% | • B: 79-70 |
| • Final Exam: 30% | • C: 69-60 |
| • | • D: 59-50 |
| • | • F: 49-0 |

Schedule for COSC4406E
(Mon.: 6:00pm-7:50pm, Thur.: 4:00pm-5:50pm, A120, Fall 2019)

Date	Lectures/Labs (2-hours)	Contents
09/05	Lect1	Software and Software Process
09/09	Lect2	Software Process and Agile Development
09/12	Lect3	Project Management
09/16	Lab 1	Project Initiation and Plan
09/19	Lect4	Practice and System Engineering
09/23	Lect5	Requirements Engineering (Project Plan Due)
09/26	Lect6	Analysis Modeling
09/30	Lect7	Design Engineering
10/03	Lect8	Architectural Design
10/07	<i>No Lecture, Test 1</i>	Take-home test
10/11	Lab 2	(Requirement Analysis Report Due)
10/14	No Lecture	Study Week
10/18	No Lecture	Study Week
10/21	Lect9	Component-Level Design and User Interface Design
10/25	Lab 3	(Design Report Due)
10/28	Lect10	Software Testing Strategies
11/02	Lect11	Software Testing Techniques
11/04	<i>Test 2</i>	Written Tests (Closed Book/Closed Notes).
11/07	Lect12	Product Metrics for Software
11/11	Lect13	Web Engineering (Coding Plan Report due)
11/14	Lect14	Project Estimation and Scheduling
11/18	Lect15	Risk Management and Quality Management
11/21	Lect16	Formal Methods
11/25	Lect17	Component-Based Software Engineering
11/28	Final report presentation	(Revised final report and user's manual due)
12/02	Review	
12/??	Final Exam	

Note: Everything may be subject to change, please pay attention to the class declarations.