

Software Modeling and Analysis

COURSE SYLLABUS

Fall Semester 2008

BASIC INFORMATION

Instructor: JUNBEOM YOO
Office: New Millennium Bldg. Room 904
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Homepage: <http://dslab.konkuk.ac.kr>
Course Page: <http://dslab.konkuk.ac.kr/Class/2008/08SMA/08SMA.htm>
Class Hours: Class A: 09:00 ~ 11:00 (Monday), 15:00 ~ 17:00 (Thursday)
Class B: 15:00 ~ 17:00 (Monday), 09:00 ~ 11:00 (Thursday)

DESCRIPTION

This course introduces an introduction to software engineering from basic theory to practical software development. It is composed of two parts. The former focuses on introduction to software engineering, and the latter explains a software development process and performs team projects on the basis of the process.

COURSE ORGANIZATION

This course is a lecture-lab course in which topics are presented by the instructor, and assigned practices are completed by students during the lab periods. Each group of 4 students performs a team project, and presents its progress two times (Two among Planning, Analysis, and Final). Each group also presents reading-log two times.

COURSE OBJECTIVE

1. To introduce the fundamentals of software engineering
2. To introduce a practical example of software development process.
3. To provide software analysis and modeling experience using CASE tools.

COURSE TOPICS

1. Fundamentals of Software Engineering

2. Object Space Process (OSP)
3. Case Studies: Library Management System / Case Studies: Flight Reservation System

TEXT

1. Required Text: "SOFTWARE ENGINEERING (8th)", by Ian Sommerville
2. Auxiliary Text:
 - A. *Software Engineering: A Practitioner's Approach*, by Roger S. Pressman
 - B. *The Rational Unified Process Made Easy*, by Grady Booch
 - C. *Software Engineering, The Development Process*, by Richard H. Thayer, Mark J. Christensen

GRADING PLAN

1. Attendance 10%
2. Mid-term Exam. 30%
3. Practice 20%
4. Team Project 40%
(Reading Log Presentation + Team Project Presentation)

Reading Log

1. Software Engineering - Roger S. Pressman
2. Software System Engineering: A Tutorial - Richard H. Thayer
3. Recommended Skills and Knowledge for Software Engineers - Steve Tockey
4. Software Chronic Crisis - W. Wayt Gibbs
5. Professional Software Engineering: Fact or Fiction - Steve McConnell and Leonard Tripp
6. Software Requirements - Jane Cleland-Huang
7. Software Requirements - Pete Sawyer
8. Traceability - James D. Palmer
9. Prototyping: Alternative Systems Development Methodology - J. M. Carey
10. Software Design: An Overview - Guy Tremblay and Anne Pons
11. Software Design: An Introduction - David Budgen
12. Modern Software Design Methods for Concurrent and Real-Time Systems - Hassan Gomaa
13. Safety-Critical Software: Status Report - Patrick R. H. Place and Kyo C. Kang
14. Object-Oriented Development - Linda M. Northrop
15. Object-Oriented Systems Development: Survey of Structured Methods - A. G. Sutcliffe
16. A Review of Formal Methods - Robert L. Vienneau
17. A Brief Essay on Software Testing - Antonia Bertolino and Eda Marchetti
18. Software Testing - Claire Lohr

19. A Review of Software Testing - P. David Coward
 20. Software Maintenance: A Tutorial - Keith H. Bennett

TENTATIVE SCHEDULE

WEEKS	DATE	PRACTICE (Monday)		THEORY (Thursday)	
1	09.01 / 09.04	Introduction		Part 1. Overview - Chapter 1 Introduction - Chapter 2 Socio-technical systems - Chapter 3 Critical systems	
2	09.08 / 09.11	Reading-Log Presentation #1	Team 1,2,3,4	Part 1. Overview - Chapter 4 Software processes - Chapter 5 Project management	
3	09.15 / 09.18	(추석연휴)		Part 2. Requirements - Chapter 6 Software requirements - Chapter 7 Requirements engineering processes - Chapter 8 System models	
4	09.22 / 09.25	Reading-Log Presentation #2	Team 5,6,7,8	Part 3. Design - Chapter 13 Application architecture - Chapter 14 Object-oriented design - Chapter 15 Real-time software design	
5	09.29 / 10.02	Reading-Log Presentation #3	Team 9,10,1,2	Part 4. Development - Chapter 17 Rapid software development - Chapter 18 Software reuse - Chapter 19 Component-based software engineering	
6	10.06 / 10.09	Reading-Log Presentation #4	Team 3,4,5,6	Part 5. Verification and Validation - Chapter 22 Verification and validation - Chapter 23 Software testing	
7	10.13 / 10.16	Reading-Log Presentation #5	Team 7,8,9,10	Part 6. Managing People - Chapter 26 Software cost estimation - Chapter 29 Configuration management	
8	10.20 / 10.23	Mid-Term Exam.		-	
9	10.27 / 10.30	Software Process Model OSP Stage 1000 - Plan & Elaboration Case Study - LMS Case Study - FRS		(성·신·의 예술제)	
10	11.03 / 11.06	Team Practice #1		Team Practice #2 (Continued)	
11	11.10 / 11.13	Team Project Presentation #1	Team 1,2,3,4,5	OSP Stage 2030 - Analyze Case Study - LMS Case Study - FRS	
12	11.17 / 11.20	Team Practice #3		Team Practice #4 (Continued)	
13	11.24 / 11.27	Team Project Presentation #2	Team 6,7,8,9,10	OSP Stage 2040 - Design Case Study - LMS	
14	12.01 / 12.04	Team Practice #5		OSP Summary	
15	12.08 / 12.11	Final Presentation #1 (Eng.)	Team 1,2,3,4,5	Final Presentation #2 (Eng.)	Team 6,7,8,9,10
16	12.15 /12.18	(Reserved)		-	