Kainan University
Department of Computer Science
(Fall/Spring) __Spring_Semester__1996__Year _Course Syllabus

Course Code No.	Course Title	Instructor	Subject	Level of Course
	Chinese: 物件導向程式設計	Garry Jyh-Chian Chang	■ required ☐ elective	Year: Fresh Class(AorB):
	English: Introduction to Object-Oriented Programming	e-mail/phone ext: garrychang@mail.knu.edu.tw/6205	Credits:3	

Teaching Goals and Content	- This course familiarizes the students with the principles and techniques for object-oriented software development. The students will use UML and an object-oriented language such as Java or C++ to complete a term programming project. Course contents: 1. Object-oriented modeling with UML, 2. Object-oriented languages and environments, 3. Object-oriented software development process: 3.1 Object-oriented analysis - requirement analysis, use case analysis, activity diagram, 3.2 Object-oriented design – sequence diagram, class diagrams, component diagram, deployment diagram, design patterns, 3.3 Construction - mapping design to object-oriented codes, 4. Term project. - An introduction to the full UML notation. - An explanation of the object-oriented development process. - An introduction to object-oriented software patterns. - A single, coherent example application, methodically developed to show the application of the UML notation, object-oriented development process, and software patterns.
Teaching Methods	■ lectures ■ practical training ☐ discussion ☐ question-and-answer ☐ other (details _____)
Grading and Evaluation Criteria	midterm __30__ % final __30____ % class participation ___10___ % other__30_____ %(details: homework, quizzes, and projects)
Textbooks	(author, title, edition, publisher, place of publication, year of publication, pages covered) Craig Larman, "Applying UML And Patterns", 3rd Edition, Prentice Hall, CHWA Book Store (Taiwan).

Course Description (including outline and course schedule):

Part I Introduction

1. Object-oriented Analysis and Design
2. Iterative, Evolutionary, and Agile
3. Case Studies

Part II Inception

4. Inception is Not the Requirement Phase
5. Evolutionary Requirements
6. Use cases
7. Supplemental Requirements

Part III Elaboration Iteration I –Basic

8. Elaboration Iteration I –Basic
9. Domain Modeling
10. System Sequence Diagrams
11. Operation Contracts
12. Requirement to Design – Iteratively
13. Logical Architecture and UML Package Diagrams
14. On to Object Design
15. UML Interaction Diagrams
16. UML Class Diagrams
17. GRASP: Design Object with Responsibilities
18. Object Design Examples with GRASP
19. Design for Visibility
20. Mapping Design to Code
21. Test-Driven Development and Refactoring

Elaboration Iteration

22. UML Tool and UML as Blueprint
23. Quick Analysis Update
24. Iteration 2 - More Patterns
25. GRASP: More Object with Responsibilities
26. Applying GoF Design Patterns

Elaboration Iteration

27. Iteration 3 - Intermediate Topic
28. UML Activity Diagrams and Modeling
29. UML State Machine Diagrams and Modeling

Instructions:
Teachers should fill out this form before the semester begins. After it has been verified by the curriculum committee, the original should be given to the office of curriculum planning and a copy to the head of the department to which the course belongs. In addition, the teacher should explain this syllabus to students at the beginning of a semester.

資科系 主任 邱瑞滿

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signature of the convener of the curriculum committee

Garry Jyh-Chian Chang

signature of the teacher