Tamkang University Academic Year 108, 1st Semester Course Syllabus

Course Title	OPERATING SYSTEMS	Instructor	CHEN PO-ZUNG
Course Class	TEIXB3A DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION ENGINEERING, 3A	Details	◆ General Course ◆ Required ◆ One Semester

Departmental Aim of Education

Ⅰ. Comprehend professional knowledge.

Ⅱ. Acquire mastery of Practical Skills.

Ⅲ. Establish creative achievement.

Subject Departmental core competences

C. Implementing computer systems ability.(ratio:100.00)

Subject Schoolwide essential virtues

2. Information literacy. (ratio:100.00)

Course Introduction	Operating system is an essential part of a computer system. The fundamental concepts and algorithms covered in this course are often based on those used in existing commercial systems. The aim is to present these concepts and algorithms in a general setting that is not tied to one particular operating system. This course covers four major parts: (a) process management and process coordination; (b) memory management; (c) storage management; and (d) protection and security.

The correspondences between the course's instructional objectives and the cognitive, affective, and psychomotor objectives.

Differentiate the various objective methods among the cognitive, affective and psychomotor domains of the course's instructional objectives.

 I. Cognitive : Emphasis upon the study of various kinds of knowledge in the cognition of the course's veracity, conception, procedures, outcomes, etc.

II.Affective : Emphasis upon the study of various kinds of knowledge in the course's appeal, morals, attitude, conviction, values, etc.

III.Psychomotor: Emphasis upon the study of the course's physical activity and technical manipulation.

No.	Teaching Objectives	objective methods
1	Students will be able to understand the overview,system organization and structure of operating system.	Cognitive
2	Students will be able to understand the concepts and implementation skills of process,multi-threads,process scheduling,synchronization,dea dlock detection, deadlock prevention and deadlock handling.	Cognitive
3	Students will be able to understand the memory hardware and organization,(virtual) memory management concepts and implementation skills including paging, page allocation and page replacement etc.	Cognitive
4	Students will be familiar to file system concept and implementation skills for file sharing, locking,protecting,directory structure and RAID	Cognitive
5	Students will be familiar to the hardware principle,complexity, and performance of I/O subsystem.	Cognitive
6	密機制並知道遇到安全性攻擊時的 對策。 Students will be able to understand the protection mechanism in operating system.	Cognitive

The correspondences of teaching objectives : core competences, essential virtues, teaching methods, and assessment

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	C	2	Lecture	Testing, Study Assignments
2	C	2	Lecture	Testing, Study Assignments
3	C	2	Lecture	Testing, Study Assignments
4	C	2	Lecture	Testing, Study Assignments
5	C	2	Lecture	Testing, Study Assignments

6	C	2	Lecture	Testing, Study Assignments

Course Schedule			
Week	Date	Course Contents	Note
1	108/09/09 ~ 108/09/15	Operating System Overview: Introduction	
2	108/09/16 ~ 108/09/22	Operating System Overview: Process	
3	108/09/23 ~ 108/09/29	Process Management – Process Concept	
4	108/09/30 ~ 108/10/06	Process Management – Multithreaded Programming	
5	108/10/07 ~ 108/10/13	Process Management – Process Scheduling	
6	108/10/14 ~ 108/10/20	Process Management – Process Scheduling	
7	108/10/21 ~ 108/10/27	Process Coordination – Deadlocks	
8	108/10/28 ~ 108/11/03	Process Coordination – Deadlocks	
9	108/11/04 ~ 108/11/10	Midterm Review	
10	108/11/11 ~ 108/11/17	Midterm Exam Week	
11	108/11/18 ~ 108/11/24	Physical Memory Management: Contiguous Memory Allocation	
12	108/11/25 ~ 108/12/01	Paging; Structure of the Page Table	
13	108/12/02 ~ 108/12/08	Segmentation; Segmentation with Paging	
14	108/12/09 ~ 108/12/15	Virtual Memory Management: Demand paging	
15	108/12/16 ~ 108/12/22	File System : File Concept	
16	108/12/23 ~ 108/12/29	Implementing File Systems	
17	108/12/30 ~ 109/01/05	I/O Systems: Kernel I/O subsystem	
18	109/01/06 ~ 109/01/12	Final Exam Week (Date:109/1/3-109/1/9)	

Requirement	
Teaching Facility	Computer
Textbooks and Teaching Materials	Abraham Silberschatz, Peter B. Galvin and Greg Gagne, "Operating System Concepts" 9th Edition, John Wiley & Sons. Inc

References	Lubomir F. Bic and Alan C. Shaw, "Operating System Principles" International Edition, Pearson Education Inc.
Number of Assignment(s)	(Filled in by assignment instructor only)
Grading Policy	◆ Attendance： ____ %　　◆ Mark of Usual：20.0 %　　◆ Midterm Exam： 30.0 % ◆ Final Exam： 30.0 % ◆ Other〈homework〉：20.0 %
Note	This syllabus may be uploaded at the website of Course Syllabus Management System at http://info.ais.tku.edu.tw/csp or through the link of Course Syllabus Upload posted on the home page of TKU Office of Academic Affairs at http://www.acad.tku.edu.tw/CS/main.php . ※ **Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.**