

Tamkang University Academic Year 112, 2nd Semester Course Syllabus

Course Title	OPERATING SYSTEMS	Instructor	HUANG-WEN HUANG
Course Class	TEIDB2A DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION ENGINEERING (ENGLISH-TAUGHT PROGRAM), 2A	Details	<ul style="list-style-type: none"> ◆ General Course ◆ Required ◆ One Semester
Relevance to SDGs	SDG4 Quality education SDG9 Industry, Innovation, and Infrastructure		
Departmental Aim of Education			
I. Comprehend professional knowledge. II. Acquire mastery of Practical Skills. III. Establish creative achievement.			
Subject Departmental core competences			
A. Programming and application ability.(ratio:15.00) B. Mathematical reasoning ability.(ratio:15.00) C. Implementing computer systems ability.(ratio:40.00) D. Computer networking application skills.(ratio:15.00) E. Professional skills for information technology (IT) industry.(ratio:15.00)			
Subject Schoolwide essential virtues			
1. A global perspective. (ratio:10.00) 2. Information literacy. (ratio:30.00) 3. A vision for the future. (ratio:10.00) 4. Moral integrity. (ratio:20.00) 5. Independent thinking. (ratio:15.00) 6. A cheerful attitude and healthy lifestyle. (ratio:5.00) 7. A spirit of teamwork and dedication. (ratio:5.00) 8. A sense of aesthetic appreciation. (ratio:5.00)			

Course Introduction	<p>The purpose of this course is to describe the theory of operating systems. It concentrates on each of the “managers” in turn and shows how they work together. Then it introduces network organization concepts, security, ethics, and management of network functions. In the second half-semester we will introduce actual operating systems, how they apply the theories presented in the first half and how they compare with each other.</p>
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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 are able to get familiar with all “managers” in operating systems	Cognitive
2	Students are able to understand operation principles of all managers in operating systems.	Affective
3	Students are able to analyze manager’ s functionalities in operating systems.	Cognitive
4	Students are able to integrate or understand all parts in operating systems as a whole.	Cognitive
5	Students are able to understand the importance of resource management from operating systems and their performance.	Cognitive
6	Students are able to get familiar with recent technologies in operating systems.	Cognitive
7	Enhancing students’ ability to write read and speak technical English especially in the operating systems theory.	Psychomotor

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment

1	ABCDE	12345678	Lecture, Discussion, Imitation	Testing, Study Assignments, Report(including oral and written)
2	CE	2	Lecture	Study Assignments, Report(including oral and written)
3	C	2	Lecture, Discussion	Testing, Study Assignments, Report(including oral and written)
4	CE	2	Lecture, Discussion	Testing, Study Assignments, Report(including oral and written)
5	C	2	Lecture, Discussion	Testing, Study Assignments, Report(including oral and written)
6	C	2	Lecture	Testing
7	E	2	Lecture	Testing, Study Assignments, Report(including oral and written)

Course Schedule

Week	Date	Course Contents	Note
1	113/02/19 ~ 113/02/25	Introduction to operating systems(1.1);A Brief Story of Machine Hardware(1.8)	
2	113/02/26 ~ 113/03/03	Memory Management: Early Systems (2.1); Single-User Contiguous Scheme(2.2)	
3	113/03/04 ~ 113/03/10	Fixed Partitions (2.3); Dynamic Partitions (2.4);	
4	113/03/11 ~ 113/03/17	Memory Management: Virtual Memory (3.1)	Shown in the Parentheses are corresponding sections in the textbook.
5	113/03/18 ~ 113/03/24	Page Replacement Policies (3.4);Segmented Memory Allocation (3.5)Segmented/Demand Paged Memory Allocation (3.6)	
6	113/03/25 ~ 113/03/31	Processor Management(4.1); Job Scheduling (4.2);	
7	113/04/01 ~ 113/04/07	Process Scheduling Policies (4.4); Process Scheduling Algorithms (4.5)	
8	113/04/08 ~ 113/04/14	Process Management (5.1); Deadlock (5.2)	
9	113/04/15 ~ 113/04/21	Midterm Exam Week	

10	113/04/22 ~ 113/04/28	Group project introduction	
11	113/04/29 ~ 113/05/05	Solutions to midterm; Concurrent Processes (6.1)	
12	113/05/06 ~ 113/05/12	Device Management (7.1)	
13	113/05/13 ~ 113/05/19	RAID (7.2)	
14	113/05/20 ~ 113/05/26	FILE Management (8.1)	
15	113/05/27 ~ 113/06/02	Access Methods (8.2)	
16	113/06/03 ~ 113/06/09	UNIX	
17	113/06/10 ~ 113/06/16	Final Exam Week (Date:113/6/11-113/6/17)	
18	113/06/17 ~ 113/06/23	Flex week, learning activities should be arranged.	
Key capabilities	Information Technology		
Interdisciplinary	STEAM course (S:Science, T:Technology, E:Engineering, M:Math, A field:Integration of Art and Humanist)		
Distinctive teaching	Project implementation course		
Course Content	Information technolo		
Requirement			
Textbooks and Teaching Materials	Self-made teaching materials:Textbooks Name of teaching materials: Understanding Operating Systems, 7th edition, Ann McHoes, Ida M. Flynn, ISBN-10: 1337669423 ISBN-13: 9781337669429		
References	1. Jose M. Garrido, and Richard Schlesinger, Principles of Modern Operating Systems, Jones and Bartlett Publications, Inc. 2008.		
Grading Policy	<p>◆ Attendance : 10.0 % ◆ Mark of Usual : 10.0 % ◆ Midterm Exam : 25.0 %</p> <p>◆ Final Exam : 25.0 %</p> <p>◆ Other (project and Homework) : 30.0 %</p>		

Note	<p>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.</p> <p>※ Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.</p>
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