

Tamkang University Academic Year 109, 2nd Semester Course Syllabus

Course Title	COMPUTER SIMULATION	Instructor	MA, SIN-YE
Course Class	TQICB4A DIVISION OF SOFTWARE ENGINEERING, DEPARTMENT OF INNOVATIVE INFORMATION AND TECHNOLOGY (ENGLISH-TAUGHT PROGRAM), 4A	Details	<ul style="list-style-type: none"> ◆ General Course ◆ Selective ◆ One Semester
Relevance to SDGs	SDG7 Affordable and clean energy SDG8 Decent work and economic growth SDG9 Industry, Innovation, and Infrastructure		
Departmental Aim of Education			
Cultivate professional talents in developing and applying information system in various fields.			
Subject Departmental core competences			
A. Capability of computer program coding, process planning, and problem solving(ratio:100.00)			
Subject Schoolwide essential virtues			
2. Information literacy. (ratio:70.00) 3. A vision for the future. (ratio:10.00) 5. Independent thinking. (ratio:20.00)			
Course Introduction	Simulation plays an important role in the area of management science, which can be applied to many kinds of management applications such as manufacturing management, transportation system, service systems, logistics, etc. This course introduces the application and theoretical background of system simulation. Topics included modeling systems dynamics using discrete events, the modeling of transportation applications and service systems through simulation. A high level simulation package ARENA will be utilized for the simulation modeling practices.		

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	This course introduces the application and theoretical background of system simulation. Theoretical topics include random variable generation, model verification and validation, statistical analysis of output.	Cognitive

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	A	235	Lecture, Discussion, Experience, Imitation	Testing, Study Assignments, Discussion(including classroom and online), Practicum, Report(including oral and written), Activity Participation

Course Schedule

Week	Date	Course Contents	Note
1	110/02/22 ~ 110/02/28	Syllbus/What is Simulation? (CH 01)	
2	110/03/01 ~ 110/03/07	What is Simulation? (CH 01)/Fundamental simulation concept (CH 02)	
3	110/03/08 ~ 110/03/14	Fundamental simulation concept (CH 02)	
4	110/03/15 ~ 110/03/21	A guided tour through Arena (CH 03)	
5	110/03/22 ~ 110/03/28	Modeling basic operations and inputs (CH 04)	
6	110/03/29 ~ 110/04/04	Modeling basic operations and inputs (CH 04)	
7	110/04/05 ~ 110/04/11	Arena Training Course	
8	110/04/12 ~ 110/04/18	Modeling detailed operations (CH 05)	

9	110/04/19 ~ 110/04/25	Modeling detailed operations (CH 05)	
10	110/04/26 ~ 110/05/02	Midterm Exam Week	
11	110/05/03 ~ 110/05/09	Statistical analysis of output from terminating simulations (CH 06)	
12	110/05/10 ~ 110/05/16	Statistical analysis of output from terminating simulations (CH 06)	
13	110/05/17 ~ 110/05/23	Intermediate modeling and steady state statistical analysis (CH 07)	
14	110/05/24 ~ 110/05/30	Entity transfer (CH 08)	
15	110/05/31 ~ 110/06/06	Graduate Exam Week	
16	110/06/07 ~ 110/06/13	---	
17	110/06/14 ~ 110/06/20	---	
18	110/06/21 ~ 110/06/27	---	
Requirement	Score will include attendance, the ratio may be slightly adjusted!		
Teaching Facility	Computer, Projector		
Textbooks and Teaching Materials			
References			
Number of Assignment(s)	10 (Filled in by assignment instructor only)		
Grading Policy	◆ Attendance : 10.0 % ◆ Mark of Usual : 30.0 % ◆ Midterm Exam : % ◆ Final Exam : % ◆ Other < Assignment & Report > : 60.0 %		
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.		