

## Tamkang University Academic Year 109, 1st Semester Course Syllabus

Course Title	DISCRETE MATHEMATICS	Instructor	HUANG-WEN HUANG
Course Class	TQICB2A DIVISION OF SOFTWARE ENGINEERING, DEPARTMENT OF INNOVATIVE INFORMATION AND TECHNOLOGY (ENGLISH TAUGHT PROGRAM), 2A	Details	<ul style="list-style-type: none"> <li>◆ General Course</li> <li>◆ Required</li> <li>◆ One Semester</li> </ul>
Departmental Aim of Education			
Cultivate professional talents in developing and applying information system in various fields.			
Subject Departmental core competences			
B. Capability of applying basic mathematics and information technology related mathematics(ratio:100.00)			
Subject Schoolwide essential virtues			
2. Information literacy. (ratio:60.00)			
5. Independent thinking. (ratio:40.00)			
Course Introduction	<p>This course will teach the students to be familiar with discrete mathematics which is an important fundamental knowledgement in computer science and software engineering. It will further teach the students to understand the major topics and functions in discrete mathematics.</p>		

**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	To introduce the concepts of logic, definitions of logic and its relationship with computer logic.	Cognitive
2	To teach students technical terms used and concepts in discrete mathematics; as well as the differences between continuous and discrete mathematical models.	Cognitive
3	To introduce concepts of set and quantity; furthermore, understand function, sequence, sum, numbers, growth of function and matrices.	Cognitive
4	To introduce concepts of induction, recursion and relation as well as their definitions and applications.	Cognitive
5	To illustrate concepts of graph, its definitions and applications.	Cognitive

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	B	25	Lecture, Practicum	Testing
2	B	25	Lecture, Practicum	Testing
3	B	25	Lecture, Practicum	Testing, Study Assignments
4	B	25	Lecture, Practicum	Testing, Study Assignments, Practicum
5	B	25	Lecture	Testing

**Course Schedule**

Week	Date	Course Contents	Note
1	109/09/14 ~ 109/09/20	Introduction Logic	
2	109/09/21 ~ 109/09/27	Formal Logic	
3	109/09/28 ~ 109/10/04	Propositional Logic	

4	109/10/05 ~ 109/10/11	Predicate Logic	
5	109/10/12 ~ 109/10/18	Logic in Mathematics	
6	109/10/19 ~ 109/10/25	Sets	
7	109/10/26 ~ 109/11/01	Functions, Sequences and Sums	
8	109/11/02 ~ 109/11/08	Numbers, Growth of Functions	
9	109/11/09 ~ 109/11/15	Discussion	
10	109/11/16 ~ 109/11/22	Midterm Exam Week	
11	109/11/23 ~ 109/11/29	Induction	
12	109/11/30 ~ 109/12/06	Recursion 1	
13	109/12/07 ~ 109/12/13	Recursion 2	
14	109/12/14 ~ 109/12/20	Relations 1	
15	109/12/21 ~ 109/12/27	Relations 2	
16	109/12/28 ~ 110/01/03	Graphs 1	
17	110/01/04 ~ 110/01/10	Graphs 2	
18	110/01/11 ~ 110/01/17	Final Exam Week	
Requirement	<p>If a student's class absence reaches one-third of the total class hours (in a semester) for a particular course, the course instructor will notify the Office of Academic Affairs, and the student will not be allowed to take part in the remaining course examinations and will receive a semester grade (for that course) of zero. 依本校學則第三十八條第二款規定辦理扣考</p> <p>There will be four quiz and six assignments.</p>		
Teaching Facility	Computer, Projector		
Textbooks and Teaching Materials			
References			
Number of Assignment(s)	6 (Filled in by assignment instructor only)		
Grading Policy	<p>◆ Attendance : 10.0 %   ◆ Mark of Usual : 20.0 %   ◆ Midterm Exam : 25.0 %</p> <p>◆ Final Exam : 25.0 %</p> <p>◆ Other 〈小考4次、作業6次〉 : 20.0 %</p>		

Note	<p>This syllabus may be uploaded at the website of Course Syllabus Management System at <a href="http://info.ais.tku.edu.tw/csp">http://info.ais.tku.edu.tw/csp</a> or through the link of Course Syllabus Upload posted on the home page of TKU Office of Academic Affairs at <a href="http://www.acad.tku.edu.tw/CS/main.php">http://www.acad.tku.edu.tw/CS/main.php</a> .</p> <p><b>※ Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.</b></p>
------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------