

Tamkang University Academic Year 102, 1st Semester Course Syllabus

Course Title	CALCULUS	Instructor	CHU, LIU
Course Class	TPIBB1A DIVISION OF COMMUNICATION TECHNOLOGY, DEPARTMENT OF INNOVATIVE INFORMATION AND TECHNOLOGY, 1A	Details	<ul style="list-style-type: none"> ◆ Required ◆ One Semester ◆ 3 Credits
Departmental teaching objectives			
Cultivate professional talents in software engineering and communication technology.			
Departmental core competences			
<ul style="list-style-type: none"> A. Capability of computer program coding, process planning, and problem solving. B. Capability of applying basic mathematics and information technology related mathematics. C. Capability of applying knowledge of internet structure and protocol in communication system. D. Capability of data collecting and analyzing, and organizing software and hardware. E. Capability of understanding and integrating system structure for problem solving. F. Capability of system analyzing, modeling, and designing. G. Capability of management utilizing information technology system. 			
Course Introduction	The course gives an introductory concept of calculus with examples and application contents in order to establish foundations for advanced courses.		

The Relevance among Teaching Objectives, Objective Levels and Departmental core competences

I.Objective Levels (select applicable ones) :

- (i) Cognitive Domain : C1-Remembering, C2-Understanding, C3-Applying,
C4-Analyzing, C5-Evaluating, C6-Creating
- (ii) Psychomotor Domain : P1-Imitation, P2-Mechanism, P3-Independent Operation,
P4-Linked Operation, P5-Automation, P6-Origination
- (iii) Affective Domain : A1-Receiving, A2-Responding, A3-Valuing,
A4-Organizing, A5-Charaterizing, A6-Implementing

II.The Relevance among Teaching Objectives, Objective Levels and Departmental core competences :

- (i) Determine the objective level(s) in any one of the three learning domains (cognitive, psychomotor, and affective) corresponding to the teaching objective. Each objective should correspond to the objective level(s) of ONLY ONE of the three domains.
- (ii) If more than one objective levels are applicable for each learning domain, select the highest one only. (For example, if the objective levels for Cognitive Domain include C3,C5,and C6, select C6 only and fill it in the boxes below. The same rule applies to Psychomotor Domain and Affective Domain.)
- (iii) Determine the Departmental core competences that correspond to each teaching objective. Each objective may correspond to one or more Departmental core competences at a time. (For example, if one objective corresponds to three Departmental core competences: A,AD, and BEF, list all of the three in the box.)

No.	Teaching Objectives	Relevance	
		Objective Levels	Departmental core competences
1	(1)coordinate systems (2)function (3)differentiation (4)integration (5)application (6)course development	C4	BEG

Teaching Objectives, Teaching Methods and Assessment

No.	Teaching Objectives	Teaching Methods	Assessment
1	(1)coordinate systems (2)function (3)differentiation (4)integration (5)application (6)course development	Lecture	Written test, Participation, 出席狀況

This course has been designed to cultivate the following essential qualities in TKU students

Essential Qualities of TKU Students	Description
◇ A global perspective	Helping students develop a broader perspective from which to understand international affairs and global development.
◆ Information literacy	Becoming adept at using information technology and learning the proper way to process information.
◆ A vision for the future	Understanding self-growth, social change, and technological development so as to gain the skills necessary to bring about one's future vision.
◇ Moral integrity	Learning how to interact with others, practicing empathy and caring for others, and constructing moral principles with which to solve ethical problems.
◇ Independent thinking	Encouraging students to keenly observe and seek out the source of their problems, and to think logically and critically.
◆ A cheerful attitude and healthy lifestyle	Raising an awareness of the fine balance between one's body and soul and the environment; helping students live a meaningful life.
◇ A spirit of teamwork and dedication	Improving one's ability to communicate and cooperate so as to integrate resources, collaborate with others, and solve problems.
◇ A sense of aesthetic appreciation	Equipping students with the ability to sense and appreciate aesthetic beauty, to express themselves clearly, and to enjoy the creative process.

Course Schedule

Week	Date	Subject/Topics	Note
1	102/09/16~ 102/09/22	Ch 0. A Pre-calculus Review	
2	102/09/23~ 102/09/29	Ch 1. Functions, Graphs, and Limits	
3	102/09/30~ 102/10/06	Ch 2. Differentiation	
4	102/10/07~ 102/10/13	Ch 2. Differentiation	
5	102/10/14~ 102/10/20	Ch 3. Applications of the Derivative, 1st quiz.	
6	102/10/21~ 102/10/27	Ch 3. Applications of the Derivative	
7	102/10/28~ 102/11/03	Ch 4. Exponential and Logarithmic Functions	
8	102/11/04~ 102/11/10	Ch 4. Exponential and Logarithmic Functions	
9	102/11/11~ 102/11/17	Ch 4. Exponential and Logarithmic Functions	
10	102/11/18~ 102/11/24	Midterm Exam Week	
11	102/11/25~ 102/12/01	Ch 5. Integration and its Applications	
12	102/12/02~ 102/12/08	Ch 5. Integration and its Applications	

13	102/12/09 ~ 102/12/15	Ch 5. Integration and its Applications	
14	102/12/16 ~ 102/12/22	Ch 6. Techniques of Integration, 2nd quiz.	
15	102/12/23 ~ 102/12/29	Ch 6. Techniques of Integration	
16	102/12/30 ~ 103/01/05	Ch 7. Functions of Several Variables	
17	103/01/06 ~ 103/01/12	Ch 7. Functions of Several Variables	
18	103/01/13 ~ 103/01/19	Final Exam Week	
Requirement	課堂及測驗以英語進行。 課堂中不得聊天、飲食、使用行動電話。 進入課堂服裝依規定穿著，不得穿拖鞋。 因故缺席需事先通知，缺席每次扣總分1分，不假缺席每次扣總分5分。		
Teaching Facility	Computer, Projector		
Textbook(s)	Calculus, An Applied Approach, Larson and Edwards, Houghton Mifflin, 9th edition.		
Reference(s)			
Number of Assignment(s)	(Filled in by assignment instructor only)		
Grading Policy	◆ Attendance : % ◆ Mark of Usual : 40.0 % ◆ Midterm Exam : 20.0 % ◆ Final Exam : 20.0 % ◆ Other 〈 課堂表現 〉 : 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.		