

## Tamkang University Academic Year 102, 2nd Semester Course Syllabus

Course Title	INTRODUCTION TO MATHEMATICAL ECONOMICS	Instructor	KAU CHIN-MEI
Course Class	TLFXB1A DEPARTMENT OF INTERNATIONAL BUSINESS, 1A	Details	<ul style="list-style-type: none"> <li>◆ Required</li> <li>◆ One Semester</li> <li>◆ 3 Credits</li> </ul>
D e p a r t m e n t a l   A i m   o f   E d u c a t i o n			
<p>I. To instill the university motto of "Simplicity, Firmness, Perseverance, and Fulfillment" into students.</p> <p>II. By integrating the "Five Disciplines" of education, the qualities of conduct, intelligence, physical education, teamwork, and beauty into the professional, core, and extracurricular curriculum, the department helps to produce well-rounded students skilled in identifying and solving problems.</p> <p>III. To oversee the trend and foresee the development of global economy, the department aims to produce the graduates with expertise in the fields of International Business and Trade.</p>			
D e p a r t m e n t a l   c o r e   c o m p e t e n c e s			
<p>A. Breeding professionals with expertise in general International Trade and International Business.</p> <p>B. Consisting of Globalization, Information-Oriented and Future-Oriented education.</p> <p>C. Producing graduates with capability of foreseeing and analyzing the development of Global Economy.</p> <p>D. Breeding professionals with expertise in Marketing and Financial Management.</p>			
Course Introduction	<p>In this course students will learn what is the limit of a function at a particular point, what is the derivative of a function, what is the integral of a function, and how to apply these concepts to solve the economic problems.</p>		

**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	Derivatives and integral of functions	C2	ABCD

**Teaching Objectives, Teaching Methods and Assessment**

No.	Teaching Objectives	Teaching Methods	Assessment
1	Derivatives and integral of functions	Lecture, Problem solving	Written test, Practicum

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	103/02/17 ~ 103/02/23	Functions and Graphs	
2	103/02/24 ~ 103/03/02	Limits	
3	103/03/03 ~ 103/03/09	Derivatives	
4	103/03/10 ~ 103/03/16	Derivatives	
5	103/03/17 ~ 103/03/23	Optimization of a function	
6	103/03/24 ~ 103/03/30	Optimization of a function	
7	103/03/31 ~ 103/04/06	School special week	
8	103/04/07 ~ 103/04/13	Exponential functions	
9	103/04/14 ~ 103/04/20	Logarithmic functions	
10	103/04/21 ~ 103/04/27	Midterm Exam Week	
11	103/04/28 ~ 103/05/04	Functions with two variables	
12	103/05/05 ~ 103/05/11	Partial derivatives	

13	103/05/12 ~ 103/05/18	Optimization of functions with two variables	
14	103/05/19 ~ 103/05/25	Antiderivatives of a function	
15	103/05/26 ~ 103/06/01	Integration	
16	103/06/02 ~ 103/06/08	Definite integral	
17	103/06/09 ~ 103/06/15	Applications of definite integral	
18	103/06/16 ~ 103/06/22	Final Exam Week	
Requirement	High School level Mathematics should be required. Do the homework everyweek!		
Teaching Facility	Computer, Projector, Other (Black board)		
Textbook(s)	Brief Applied Calculus, James Stewart and Daniel Clegg, Brooks/Cole 2012		
Reference(s)			
Number of Assignment(s)	10 (Filled in by assignment instructor only)		
Grading Policy	◆ Attendance : 15.0 %   ◆ Mark of Usual : 15.0 %   ◆ Midterm Exam : 30.0 % ◆ Final Exam : 30.0 % ◆ Other (two quizzes) : 10.0 %		
Note	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> . <b>※ Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.</b>		