Tamkang University Academic Year 108, 1st Semester Course Syllabus

Course Title	CALCULUS	Instructor	CHIAN-JEN WANG
Course Class	TLFBB1A DIVISION OF GLOBAL COMMERCE, DEPARTMENT OF INTERNATIONAL BUSINESS (ENGLISH-TAUGHT PROGRAM), 1A	Details	◆ General Course ◆ Required ◆ 1st Semester

Departmental Aim of Education

Ⅰ. Acquisition of professional knowledge.

Ⅱ. Learning effective self-planning.

Ⅲ. Theoretical application of practical matters.

Ⅳ. Interpersonal communication and teamwork.

Ⅴ. Analysis of problems and recommendations.

Ⅵ. Awareness of Ethics as a global citizen.

Subject Departmental core competences

A. Students can demonstrate that they have program basic knowledge of business and management.(ratio:50.00)

D. Students can demonstrate that they are critical thinkers.(ratio:50.00)

Subject Schoolwide essential virtues

2. Information literacy. (ratio:20.00)

5. Independent thinking. (ratio:80.00)

Course Introduction	This introductory calculus course covers differentiation and integration with applications in business, economics, and the social and life sciences. Topics to be discussed in this semester include: concepts of functions; limits and continuity; differentiation rules; curve sketching; related rates; optimization problems; exponential and logarithmic functions and their derivatives.

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	1 Students will be able to understand the concepts of limit and continuity of a function.	Cognitive
2	2 Students will be able to understand the theory and various interpretations of derivatives.	Cognitive
3	3 Students will be able to apply techniques of differentiation to solve real-world problems	Cognitive

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	AD	25	Lecture	Testing
2	AD	25	Lecture	Testing
3	AD	25	Lecture	Testing

Course Schedule

Week	Date	Course Contents	Note
1	108/09/09~ 108/09/15	Functions and Their Representations (1.1~1.2)	
2	108/09/16~ 108/09/22	Linear Models and Polynomial Models (1.3~1.4)	
3	108/09/23~ 108/09/29	Exponential and Logarithmic Functions (1.5~1.6)	
4	108/09/30~ 108/10/06	Limits (2.1~2.2)	
5	108/10/07~ 108/10/13	Rates of Change and Derivatives (2.3~2.4)	
6	108/10/14~ 108/10/20	Finding Derivatives, Marginal Analysis (3.1~3.2)	
7	108/10/21~ 108/10/27	The Product and Quotient Rules, The Chain Rule (3.3~3.4)	
8	108/10/28~ 108/11/03	Implicit Differentiation and Logarithms (3.5)	

9	108/11/04 ~ 108/11/10	Exponential Growth and Decay (3.6)	
10	108/11/11 ~ 108/11/17	Midterm Exam Week	
11	108/11/18 ~ 108/11/24	Related Rates (4.1)	
12	108/11/25 ~ 108/12/01	Maximum and Minimum Values (4.2)	
13	108/12/02 ~ 108/12/08	Derivatives and the Shapes of Curves (4.3)	
14	108/12/09 ~ 108/12/15	Asymptotes, Curve Sketching (4.4~4.5)	
15	108/12/16 ~ 108/12/22	Optimization (4.6)	
16	108/12/23 ~ 108/12/29	Optimization in Business and Economics (4.7)	
17	108/12/30 ~ 109/01/05	Review	
18	109/01/06 ~ 109/01/12	Final Exam Week (Date:109/1/3-109/1/9)	

Requirement	
Teaching Facility	(None)
Textbooks and Teaching Materials	Brief Applied Calculus, by Stewart and Clegg, International Edition (2015)
References	
Number of Assignment(s)	(Filled in by assignment instructor only)
Grading Policy	◆ Attendance： %　◆ Mark of Usual： %　◆ Midterm Exam： 35.0 % ◆ Final Exam： 35.0 % ◆ Other〈Homework and Quizzes〉：30.0 %
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.**