

Tamkang University Academic Year 103, 2nd Semester Course Syllabus

Course Title	CALCULUS	Instructor	HAN-MING WU
Course Class	TGLXB0A ELECTIVES COURSES BY COLLEGE OF BUSINESS AND MANAGEMENT, 0A	Details	<ul style="list-style-type: none"> ◆ Selective ◆ 2nd Semester ◆ 2 Credits
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. Acquisition of professional knowledge.</p> <p>II. Learning effective self-planning.</p> <p>III. Theoretical application of practical matters.</p> <p>IV. Interpersonal communication and teamwork.</p> <p>V. Analysis of problems and recommendations.</p> <p>VI. Awareness of Ethics as a global citizen.</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. Financial accounting professional skills.</p> <p>B. To understand basic knowledge of business administration.</p> <p>C. To communicate, negotiate, and collaborate to accomplish business projects by team work.</p> <p>D. Knowledge of basic statistical theory.</p> <p>E. Application of profession knowledge.</p> <p>F. Have a firm grasp of the fundamental concepts in economics.</p> <p>G. Have the ability to apply basic analytical tools to economic issues.</p> <p>H. Students are equipped with professional knowledge of core courses.</p> <p>I. Students can apply their profession to practice matters.</p>			
Course Introduction	<p>This course introduces the theory of the Calculus, the calculation approaches and its applications. The contents include (1) the integration techniques, (2) the Fundamental Theorem of Calculus, (3) the improper Integration, (4) functions of several variables and (5) the partial derivatives. We aim to improve the students' interests in learning and to develop their thinking and computing abilities.</p>		

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

I. Objective Levels (select applicable ones) :

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|-------------------------|--|--|
| (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-Characterizing, 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	Students will be able to understand the integration techniques. Students are able to deal with the real problem and do the calculation in practice.	C2	HI

Teaching Objectives, Teaching Methods and Assessment

No.	Teaching Objectives	Teaching Methods	Assessment
1	Students will be able to understand the integration techniques. Students are able to deal with the real problem and do the calculation in practice.	Lecture, Discussion	Written test

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	104/02/24 ~ 104/03/01	course introduction, 4.6 Optimization	
2	104/03/02 ~ 104/03/08	5.1 Cost, Area, and the Definite Integral	
3	104/03/09 ~ 104/03/15	5.2 The Fundamental Theorem of Calculus	
4	104/03/16 ~ 104/03/22	5.3 The Net Change Theorem and Average Value	
5	104/03/23 ~ 104/03/29	5.4 The Substitution Rule	
6	104/03/30 ~ 104/04/05	教學行政觀摩	
7	104/04/06 ~ 104/04/12	5.5 Integration by Parts	
8	104/04/13 ~ 104/04/19	6.1 Areas Between Curves	
9	104/04/20 ~ 104/04/26	review (I)	
10	104/04/27 ~ 104/05/03	Midterm Exam Week	
11	104/05/04 ~ 104/05/10	6.2 Applications to Economics	
12	104/05/11 ~ 104/05/17	6.5 Improper Integrals	

13	104/05/18 ~ 104/05/24	7.1 Functions of Several Variables	
14	104/05/25 ~ 104/05/31	7.2 Partial Derivatives	
15	104/06/01 ~ 104/06/07	7.3 Maximum and Minimum Values	
16	104/06/08 ~ 104/06/14	7.4 Lagrange Multipliers	
17	104/06/15 ~ 104/06/21	Appendix D Double Integrals	
18	104/06/22 ~ 104/06/28	Final Exam Week	
Requirement	Course website: http://www.hmwu.idv.tw		
Teaching Facility	(None)		
Textbook(s)	James Stewart, Daniel Clegg, Brief Applied Calculus 1/e, Publisher: Brooks/Cole; International ed edition (12 Jan 2012)		
Reference(s)			
Number of Assignment(s)	(Filled in by assignment instructor only)		
Grading Policy	◆ Attendance : % ◆ Mark of Usual : 30.0 % ◆ Midterm Exam : 25.0 % ◆ Final Exam : 30.0 % ◆ Other <TA's class> : 15.0 %		
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.		