Tamkang University Academic Year 112, 2nd Semester Course Syllabus

Course Title	INTRODUCTION TO MATHEMATICAL ECONOMICS	Instructor	LIU, CHIA-HUA
Course Class	TLYXB2C DEPARTMENT OF ECONOMICS, 2C	Details	◆ General Course ◆ Required ◆ 2nd Semester
Relevance to SDGs	SDG4 Quality education SDG5 Gender equality SDG8 Decent work and economic growth		

Departmental Aim of Education

Ⅰ. Establish a strong core foundation and enhance advanced specialized skills.

Ⅱ. Encourage active thinking and cultivate independent analysis.

Ⅲ. Creatively apply specialized knowledge and skills to practical issues.

Ⅳ. Emphasize the development of group communication, coordination and cooperation.

Ⅴ. Shape an international perspective and civic consciousness.

Subject Departmental core competences

A. Have a firm grasp of the fundamental concepts in economics.(ratio:10.00)

B. Have the ability to apply basic analytical tools to economic issues.(ratio:10.00)

C. Have a practical understanding of the relation between economics and finance.(ratio:30.00)

D. Possess the skill to communicate and integrate basic economic concepts.(ratio:30.00)

E. Have an understanding of basic international economic affairs.(ratio:10.00)

F. Understand the interrelations between economics and welfare issues.(ratio:10.00)

Subject Schoolwide essential virtues

1. A global perspective. (ratio:10.00)

2. Information literacy. (ratio:10.00)

3. A vision for the future. (ratio:10.00)

4. Moral integrity. (ratio:10.00)

5. Independent thinking. (ratio:30.00)

6. A cheerful attitude and healthy lifestyle. (ratio:10.00)

7. A spirit of teamwork and dedication. (ratio:10.00)

8. A sense of aesthetic appreciation. (ratio:10.00)

Course Introduction	This is an introductory course in mathematics for economic analysis, aimed at teaching students the analytic ability of solving individuals' optimization problems.

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 teach students the analytic ability of solving individuals' optimization problems	Psychomotor

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	ABCDEF	12345678	Lecture, Discussion, Practicum	Testing, Study Assignments, Discussion(including classroom and online), Practicum

Course Schedule

Week	Date	Course Contents	Note
1	113/02/19 ~ 113/02/25	Review for Single-variable optimization	
2	113/02/26 ~ 113/03/03	Functions of Many Variables	
3	113/03/04 ~ 113/03/10	Functions of Many Variables	
4	113/03/11 ~ 113/03/17	Functions of Many Variables	

5	113/03/18 ~ 113/03/24	Some special functions	
6	113/03/25 ~ 113/03/31	Multivariable Optimization(no constraint)	
7	113/04/01 ~ 113/04/07	Multivariable Optimization(no constraint)	
8	113/04/08 ~ 113/04/14	no class	
9	113/04/15 ~ 113/04/21	Midterm Exam Week	
10	113/04/22 ~ 113/04/28	Return the graded exam, and discuss the answers and the weakness.	
11	113/04/29 ~ 113/05/05	Determinants and Inverse Matrices	
12	113/05/06 ~ 113/05/12	Constrained Optimization	
13	113/05/13 ~ 113/05/19	Constrained Optimization	
14	113/05/20 ~ 113/05/26	Constrained Optimization	
15	113/05/27 ~ 113/06/02	Tools for comparative statics	
16	113/06/03 ~ 113/06/09	Reviews for all materials	
17	113/06/10 ~ 113/06/16	Final Exam Week (Date:113/6/11-113/6/17)	
18	113/06/17 ~ 113/06/23	Flex week: strengthen the weakness.	

Key capabilities	
Interdisciplinary	
Distinctive teaching	
Course Content	Logical Thinking
Requirement	1. Teaching material is based on the Textbook. 2. I emphasize how you can apply math in solving optimization problems. 3. I will write the material on the blackboard.

Textbooks and Teaching Materials	Using teaching materials from other writers:Textbooks Name of teaching materials: Essential Mathematics for Economic Analysis, Knut Sydseter et al,第6版, 華泰代理
References	
Grading Policy	◆ Attendance： 15.0 % ◆ Mark of Usual：25.0 % ◆ Midterm Exam： 30.0 % ◆ Final Exam： 30.0 % ◆ Other〈 〉： %
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.**