

Tamkang University Academic Year 112, 1st Semester Course Syllabus

Course Title	THE MATHEMATICS OF FINANCE	Instructor	CHEN, TZU-YING
Course Class	TLOXB2P DEPARTMENT OF RISK MANAGEMENT AND INSURANCE, 2P	Details	<ul style="list-style-type: none"> ◆ General Course ◆ Selective ◆ One Semester
Relevance to SDGs	SDG4 Quality education		
Departmental Aim of Education			
<ul style="list-style-type: none"> I. Enhance professional knowledge of risk management and insurance to strengthen professional skill. II. Focus on industry-university cooperation to combine theory and practical issues. III. Emphasize on the license acquirement to increase students' job opportunity. 			
Subject Departmental core competences			
<ul style="list-style-type: none"> A. Students will exhibit knowledge for business professional.(ratio:40.00) B. Students will exhibit the ability to distinguish insurance products.(ratio:5.00) C. Students will exhibit the ability of underwriting and marketing skills.(ratio:5.00) D. Students will exhibit the ability of financial planning especially for insurance products. (ratio:40.00) E. Students will exhibit the ability of risk management and an insurance operation.(ratio:5.00) F. Students will exhibit the ethics in insurance profession and spirit of teamwork.(ratio:5.00) 			
Subject Schoolwide essential virtues			
<ul style="list-style-type: none"> 1. A global perspective. (ratio:30.00) 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:15.00) 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:5.00) 			

Course Introduction	The aim of this course is to give a general understanding of the mathematical theory of interest. Issues to be introduced and discussed in the class include the measurement of interest, basic annuities, and more general annuities.
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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 understand the fundamental concepts of mathematical finance.	Cognitive

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	Testing, Study Assignments

Course Schedule

Week	Date	Course Contents	Note
1	112/09/11 ~ 112/09/17	Introduction	
2	112/09/18 ~ 112/09/24	Ch 1 The Measurement of Interest	
3	112/09/25 ~ 112/10/01	Ch 1 The Measurement of Interest	
4	112/10/02 ~ 112/10/08	Ch 1 The Measurement of Interest	
5	112/10/09 ~ 112/10/15	Ch 2 Solution of Problems in Interest	國慶日彈性放假 (擇日補課)
6	112/10/16 ~ 112/10/22	Ch 2 Solution of Problems in Interest	

7	112/10/23 ~ 112/10/29	Ch 2 Solution of Problems in Interest	
8	112/10/30 ~ 112/11/05	Quiz 1	
9	112/11/06 ~ 112/11/12	Midterm Exam Week	
10	112/11/13 ~ 112/11/19	Ch 3 Basic Annuities	
11	112/11/20 ~ 112/11/26	Ch 3 Basic Annuities	
12	112/11/27 ~ 112/12/03	Ch 3 Basic Annuities	
13	112/12/04 ~ 112/12/10	Ch 4 More General Annuities	
14	112/12/11 ~ 112/12/17	Ch 4 More General Annuities	
15	112/12/18 ~ 112/12/24	Ch 5 Amortization Schedules and Sinking Funds	
16	112/12/25 ~ 112/12/31	Quiz 2	
17	113/01/01 ~ 113/01/07	Final Exam Week	
18	113/01/08 ~ 113/01/14	Flex Week	
Key capabilities			
Interdisciplinary			
Distinctive teaching			
Course Content		Logical Thinking	
Requirement		<ol style="list-style-type: none"> 1. 請使用正版書籍。 2. 建議修習過微積分課程的學生再行選修。 3. 採隨機點名，點名後不接受補點。 <p>(1) 欲請假者（身體不適或事假等），最遲須於課前1小時以前，以E-mail向授課教師請假。經授課教師回信同意後始生效，並於一週內補假單。</p> <p>(2) 未事先請假或未經同意者，假單概不受理。</p> <p>4. 上課進度與範圍將視學生學習情況做調整，授課教師保有調整教學大綱與授課進度之權利。</p>	

Textbooks and Teaching Materials	Using teaching materials from other writers:Textbooks Name of teaching materials: Stephen Kellison. The Theory of Interest, 3rd Edition, 2009.
References	利息導論與應用 (3版) ; 喬治華、莊聲和、李志武編譯 ; Stephen Kellison原著 ; 滄海圖書出版。 財務數學 (8版) ; 黃弘毅編譯 ; Robert L. Brown, Steve Kopp, and Peter Zima原著 ; 華泰書局出版。
Grading Policy	◆ Attendance : 20.0 % ◆ Mark of Usual : 20.0 % ◆ 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.