

Tamkang University Academic Year 111, 2nd Semester Course Syllabus

Course Title	ACTUARIAL MATHEMATICS	Instructor	WEI HSUAN
Course Class	TGLXB0A ELECTIVES COURSES BY COLLEGE OF BUSINESS AND MANAGEMENT, 0A	Details	◆ General Course ◆ Selective ◆ One Semester
Relevance to SDGs	SDG4 Quality education SDG8 Decent work and economic growth		
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			
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:30.00) B. Students can demonstrate that they have capability in professional knowledge expression. (ratio:30.00) C. Students can demonstrate that they have capability in using information technology. (ratio:10.00) D. Students can demonstrate that they are critical thinkers.(ratio:30.00)			
Subject Schoolwide essential virtues			
1. A global perspective. (ratio:25.00) 2. Information literacy. (ratio:25.00) 3. A vision for the future. (ratio:5.00) 4. Moral integrity. (ratio:5.00) 5. Independent thinking. (ratio:25.00) 6. A cheerful attitude and healthy lifestyle. (ratio:5.00)			

7. A spirit of teamwork and dedication. (ratio:5.00)				
8. A sense of aesthetic appreciation. (ratio:5.00)				
Course Introduction	This course aims at preparing students who are interested in sitting for the Society of Actuaries (SOA) and the Financial Risk Manager (FRM) exams. 本課程講授精算/ 風險管理證照考試所需的基礎知識，配合適時的數學工具複習與習題演練加深理解，幫助修習同學通過考試。			
<p>The correspondences between the course's instructional objectives and the cognitive, affective, and psychomotor objectives.</p> <p>Differentiate the various objective methods among the cognitive, affective and psychomotor domains of the course's instructional objectives.</p> <p>I. Cognitive : Emphasis upon the study of various kinds of knowledge in the cognition of the course's veracity, conception, procedures, outcomes, etc.</p> <p>II.Affective : Emphasis upon the study of various kinds of knowledge in the course's appeal, morals, attitude, conviction, values, etc.</p> <p>III.Psychomotor: Emphasis upon the study of the course's physical activity and technical manipulation.</p>				
No.	Teaching Objectives			objective methods
1	To equip the students with the knowledge to pass the entry level actuarial exam.			Cognitive
The correspondences of teaching objectives : core competences, essential virtues, teaching methods, and assessment				
No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	ABCD	12345678	Lecture	Testing
Course Schedule				
Week	Date	Course Contents		Note
1	112/02/13 ~ 112/02/19	Course Introduction / General Probability I		
2	112/02/20 ~ 112/02/26	General Probability II		
3	112/02/27 ~ 112/03/05	General Probability III		
4	112/03/06 ~ 112/03/12	Univariate Random Variables I		

5	112/03/13 ~ 112/03/19	Univariate Random Variables II	
6	112/03/20 ~ 112/03/26	Univariate Random Variables III	
7	112/03/27 ~ 112/04/02	Multivariate Random Variables	
8	112/04/03 ~ 112/04/09	Teaching Observation Period	
9	112/04/10 ~ 112/04/16	Introduction to life and long-term health insurance	
10	112/04/17 ~ 112/04/23	Midterm Exam Week	
11	112/04/24 ~ 112/04/30	Survival models I	
12	112/05/01 ~ 112/05/07	Survival models II / Life tables and selection I	
13	112/05/08 ~ 112/05/14	Life tables and selection II	
14	112/05/15 ~ 112/05/21	Insurance benefits I	
15	112/05/22 ~ 112/05/28	Insurance benefits II	
16	112/05/29 ~ 112/06/04	Annuities I	
17	112/06/05 ~ 112/06/11	Annuities II	
18	112/06/12 ~ 112/06/18	Final Exam Week	
Requirement		Prerequisite: Working knowledge of probability theory. The adjustment of course content and grading policy would be subject to class participation and feedback.	
Teaching Facility		Computer, Projector	
Textbooks and Teaching Materials		Dickson, C. M. D., Hardy, M. R., Waters, H. R., 2020. Actuarial Mathematics for Life Contingent Risks. 3rd ed., Cambridge University Press, Cambridge.	
References		Ross, S., 2019. A First Course in Probability. 10th ed., Pearson.	
Number of Assignment(s)		(Filled in by assignment instructor only)	
Grading Policy		◆ Attendance : 10.0 % ◆ Mark of Usual : 20.0 % ◆ Midterm Exam : 35.0 % ◆ Final Exam : 35.0 % ◆ Other 〈 〉 : %	

Note	<p>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.</p> <p>※ Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.</p>
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