Tamkang University Academic Year 112, 2nd Semester Course Syllabus

Course Title	ENGINEERING ECONOMICS	Instructor	(多位教師合開) TA-KEN HUANG
Course Class	TEWAB1A DIVISION OF WATER RESOURCES ENGINEERING, DEPARTMENT OF WATER RESOURCES AND ENVIRONMENTAL ENGINEERING, 1A	Details	◆ General Course ◆ Selective ◆ One Semester
Relevance to SDGs	SDG4 Quality education SDG14 Life below water SDG15 Life on land		

Departmental Aim of Education

Ⅰ. Educating students with the fundamental knowledge of mathematics, science and engineering to enable them to succeed in the practice or academic research related to water resources and environmental engineering.

1. Training students with engineering basics to equip them with the capabilities of construction supervision and operation management.
2. Cultivating students with ability of applying engineering theory and pursuing innovation to equip them with the capabilities of researching, planning, engineering design, integration and assessment.
3. Training students with capacity to apply information technology in the engineering business.

Ⅱ. Cultivating students to become professional engineers with care in environment and professional ethics.

1. Cultivating students with characters of respecting the nature and humane care.
2. Cultivating students with engineering ethics and law-abiding character.
3. Preparing students with the capabilities of exploring, analyzing, interpreting, and dealing with problems.

Ⅲ. Preparing students with the capabilities of engaging in domestic and international engineering business.

1. Cultivating students with the capabilities of project management, presentation and communication skills, and teamwork.
2. Preparing students with the capabilities of applying professional foreign language and expanding their global perspective.
3. Cultivating students with cognitive and habits of continuous learning.

Subject Departmental core competences

A. Basic mathematical and engineering knowledge needed for water resources and environmental engineering applications.(ratio:20.00)

B. Capabilities of engineering planning, design, and information applications.(ratio:20.00)

C. Capabilities of logical thinking, analysis, integration, problem-solving skills, innovative design and engineering implementation.(ratio:20.00)

D. Continuous learning of the up-to-date knowledge of professional engineering, professional foreign language skills and global perspective.(ratio:20.00)

E. Awareness of the importance of teamwork and working attitude, and with cognition of professional ethics.(ratio:20.00)

Subject Schoolwide essential virtues
1. A global perspective. (ratio:5.00)
2. Information literacy. (ratio:15.00)
3. A vision for the future. (ratio:5.00)
4. Moral integrity. (ratio:5.00)
5. Independent thinking. (ratio:30.00)
6. A cheerful attitude and healthy lifestyle. (ratio:5.00)
7. A spirit of teamwork and dedication. (ratio:30.00)
8. A sense of aesthetic appreciation. (ratio:5.00)

Course Introduction	It explains the concepts of engineering economics and various evaluation methods in a systematic way, and provides students with an engineering background with a set of systematic decision-making tools for personal economic planning and evaluation and analysis of various investment plans.

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	Educate students to apply the principles of mathematics, science and engineering so that they can successfully engage in practical or academic research related to water resources and environmental engineering.	Cognitive

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	ABCDE	12345678	Lecture, Discussion	Testing, Study Assignments

Course Schedule

Week	Date	Course Contents	Note
1	113/02/19 ~ 113/02/25	Introduction	
2	113/02/26 ~ 113/03/03	成本觀念及成本估計	
3	113/03/04 ~ 113/03/10	利率下之成本計算	
4	113/03/11 ~ 113/03/17	年值法	
5	113/03/18 ~ 113/03/24	現值法	
6	113/03/25 ~ 113/03/31	報酬率法	
7	113/04/01 ~ 113/04/07	益本比法	
8	113/04/08 ~ 113/04/14	折舊	
9	113/04/15 ~ 113/04/21	Midterm Exam Week	
10	113/04/22 ~ 113/04/28	稅賦的影響	
11	113/04/29 ~ 113/05/05	物價變動與匯率影響	
12	113/05/06 ~ 113/05/12	更新分析	
13	113/05/13 ~ 113/05/19	資本支出預算之規劃	
14	113/05/20 ~ 113/05/26	風險性及不確定性之分析觀念	
15	113/05/27 ~ 113/06/02	風險性及不確定性之 經濟分析方法	
16	113/06/03 ~ 113/06/09	風險管理之實際案例	
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, learning activities should be arranged.	

Key capabilities	
Interdisciplinary	
Distinctive teaching	
Course Content	Logical Thinking
Requirement	
Textbooks and Teaching Materials	Using teaching materials from other writers:Textbooks Name of teaching materials: 工程經濟學（四版） 2014. 李克聰. 華泰文化.
References	
Grading Policy	◆ Attendance： 10.0 % ◆ Mark of Usual： % ◆ Midterm Exam： 30.0 % ◆ Final Exam： 30.0 % ◆ Other〈Assignments〉：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.**