Tamkang University Academic Year 113, 1st Semester Course Syllabus

Course Title	DECRYPTING ENERGY RESOURCES	Instructor	LEE, MING-HSIEN
Course Class	TGCHB0A HONORS PROGRAM, 0A	Details	◆ General Course ◆ Required ◆ One Semester ◆ 2 Credits
Relevance to SDGs	SDG7 Affordable and clean energy SDG12 Responsible consumption and production		

Honor program Aim of Education

Tamkang University's Honors Program is a "Triple Objectives Program" integrating professionalism, general education and extracurricular activities to develop distinguished undergraduate students of the day division. The Honors Program will enable undergraduate students to be professional and innovative with the capacity of independent study and will acquaint them not only with local cultures and global outlook, but also with leadership skills and creative thinking. The Honors Program aims at strengthening undergraduate students' career competitiveness.

Subject Schoolwide essential virtues

1. A global perspective. (ratio:5.00)
2. Information literacy. (ratio:25.00)
3. A vision for the future. (ratio:25.00)
4. Moral integrity. (ratio:5.00)
5. Independent thinking. (ratio:15.00)
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:15.00)

Course Introduction	Energy is the ultimate concept mankind used to understand this uiverse. Each use of new energy course mark a big step in progress of civalisation. This course use simple picture and easy to understand language to introduce students various aspects of energies and energy sources. This paromatic view course hope to promote understanding of critical knowledge for the important science and technologies as well as provide the vision of students to befuture leaders

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	Understand energy, know energy resources	Cognitive

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

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

Course Schedule

Week	Date	Course Contents	Note
1	113/09/09 ~ 113/09/15	Course introduction, classrom rules, course reguriment and score system	
2	113/09/16 ~ 113/09/22	What is energy? (Mechanical Energy)	
3	113/09/23 ~ 113/09/29	The relation between energy and matter.	
4	113/09/30 ~ 113/10/06	Temperature, engines, thermodynamics.	
5	113/10/07 ~ 113/10/13	Energy in biology	

6	113/10/14 ~ 113/10/20	Energy and light	
7	113/10/21 ~ 113/10/27	Chemistry of energy sources; combustion	
8	113/10/28 ~ 113/11/03	Transformation of elec. and mech. energies : motor and power generator	
9	113/11/04 ~ 113/11/10	Midterm Exam Week	
10	113/11/11 ~ 113/11/17	Mid-term exam result annoucement and re-check	
11	113/11/18 ~ 113/11/24	Fossel / Petrol chemical energy sources	
12	113/11/25 ~ 113/12/01	Nuclear energies	
13	113/12/02 ~ 113/12/08	Solar energy	
14	113/12/09 ~ 113/12/15	Environmental energy sources	
15	113/12/16 ~ 113/12/22	Batteries	
16	113/12/23 ~ 113/12/29	Various new energy resources technologies	
17	113/12/30 ~ 114/01/05	Final Exam Week	
18	114/01/06 ~ 114/01/12	Flex week, learning activities should be arranged.	

Key capabilities	Information Technology Problem solving Interdisciplinary
Interdisciplinary	STEAM course (S:Science, T:Technology, E:Engineering, M:Math, A field:Integration of Art and Humanist)
Distinctive teaching	
Course Content	Logical Thinking Sustainability issue
Requirement	No food and drings during class-teaching time

Textbooks and Teaching Materials	Self-made teaching materials:Handouts
References	Feel free to find any reference materials.
Grading Policy	◆ Attendance： % ◆ Mark of Usual：20.0 % ◆ Midterm Exam： 40.0 % ◆ Final Exam： 40.0 % ◆ 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.**