Tamkang University Academic Year 2012-2013, 2 Semester

Course Syllabus

<table>
<tr><td>Course Title</td><td colspan="2">The chemistry for daily life</td><td>Instructor</td><td>Kan-Nan Chen</td></tr>
<tr><td colspan="2">Department/Year/Class</td><td colspan="3">Course Details</td></tr>
<tr><td colspan="2">Naturals Sciences</td><td>■ Required
□Selective</td><td>■ 0（One Semester）
□1（1st Semester）
□2（2nd Semester）
□3（3rd Semester）</td><td>Credits 2</td></tr>
<tr><td colspan="2">Aim of Education</td><td colspan="3">Core Competences</td></tr>
<tr><td colspan="2">The natural sciences are the branches of science. The nature phenomena are uncovered and those new applications are discovered by the efforts of human. Those activities are very import parts of civilization. The understanding of natural sciences has been motivating by human curiosity. Those are the basis of applied sciences to real world. This course is mainly for non-science and non-engineering major students, who is lack of the training background of natural sciences. Syllabus of this course focuses fundamental concept, logic thinking, methodology and applications of sciences. The course will cover lecture, motion pictures and demonstration in order to inspire students' learning motivation and curiosity. The English lecture and materials will extend the reading subjects, furthermore broaden their global vision.</td><td colspan="3">global perspectives
a vision for the future
information literacy
ethical and moral principles
independent thinking</td></tr>
<tr><td>Course Introduction (50 to 100 words)</td><td colspan="4">An introduction level of the fundamental sciences and common sense of daily life, which covers the subjects such as food (natural and process), water (mineral, de-ionized, RO, and distilled), beverages (fruit juice, cocktail, alcoholic drinks), kitchen (cooking chemistry, food preservation, refrigeration and heating), cosmetics (surfactant, soap chemistry, other detergents), environment (air, soil, and water pollutions and their prevention), energy (nuclear., wind mill, hydraulic, coal, oil and natural gas), energy storages (solar cell, batteries), petroleum refinery (petrochemicals), agriculture (agrochemicals, harvest), electronics and etc. The depth of these topics will be adjusted upon the students' responses.</td></tr>
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The Relevance among Teaching Objectives, Objective Levels and Core Competences

I.Objective Levels (select applicable ones)：

(I) Cognitive Domain：C1 Remembering、C2 Understanding、C3 Applying、C4 Analyzing、C5 Evaluating、C6 Creating

(II) Psychomotor Domain：P1 Imitation、P2 Mechanism、P3 Independent Operation、P4 Linked Operation、P5 Automation、P6 Origination

(III) Affective Domain：A1 Receiving、A2 Responding、A3 Valuing、A4 Organizing、A5 Charaterizing、A6 Implementing

II.The Relevance among Teaching Objectives, Objective Levels and Core Competences：

(I)Determine the objective level(s) in any one of the three learning domains (cognitive, psychomotor, and affective) corresponding to the teaching objectives. Each objective should correspond to the objective level(s) of ONLY ONE of the three domains.

(II)If more than one objective levels are applicable for each learning domain, select the highest one only. (For example, if the objective levels for Cognitive Domain include C3, C5, and C6, select C6 only and fill it in the boxes below. The same rule applies to Psychomotor Domain and Affective Domain.)

(III)Determine the core competences that correspond to each teaching objective. Each objective may correspond to one or more core competences at a time. (For example, if one objective corresponds to three core competences: A, AD, and BEF, list all of the three in the box.)

Teaching objectives	**Relevance**	
	Objective Levels	**Core Competences**
All the lecture topics	I	C2, C3

Teaching Objectives, Teaching Methods and Assessment

Teaching Objectives	Teaching Methods	Assessment
All the lecture topics	Lecture and demonstration	Quiz

This course has been designed to cultivate the following essential qualities in TKU students.

Essential Qualities of TKU Students	Description
■global perspectives	翻譯建構中
■a vision for the future	
■information literacy	
■ethical and moral principles	
■independent thinking	
□an awareness of healthy living	
□effective teamwork	
□an appreciation of the arts	

Course Schedule			
Week	Date	Subject/Topics	Note
1	2/22	Introduction	
2	3/01	Food (natural compositions)	
3	3/08	Food (process ingredients)	
4	3/15	Water (mineral, water purifications)	
5	3/22	Beverages (fruit juices)	
6	3/29	Alcoholic drinks	
7	4/05	Kitchen (cooking chemistry)	
8	4/12	Food preservation, refrigeration and heating	
9	4/19	Cosmetics (surfactant, soap chemistry, other detergents)	
10	4/26	Midterm Exam Week	
11	5/03	Environment (air, soil, and water pollutions)	
12	5/10	Environmental protection (treatments and prevention)	
13	5/17	Energy	
14	5/24	Energy storage	
15	5/31	Petroleum	
16	6/07	Agriculture	
17	6/14	Electronics	
18	6/21	Final Exam Week	
Requirement			
Teaching Facility	■Computer □Overhead Projector ■Other（ Black board）		
Textbook(s)	None		
Suggested Readings	Suggested reading material (the lecture related published articles).		
Number of Assignment(s)	4 quiz and 1 term paper		
Grading Policy	4 quiz and 1 term paper (20% each)		
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/index.asp. **※Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.**		