

Tamkang University Academic Year 112, 1st Semester Course Syllabus

Course Title	A VOYAGE TO SCIENCE	Instructor	CHEN, CHIEN-HSU
Course Class	TNUUB0A NATURAL SCIENCES, 0A	Details	<ul style="list-style-type: none"> ◆ General Course ◆ Required ◆ One Semester
Relevance to SDGs	SDG4 Quality education		
Departmental Aim of Education			
By exploring natural laws and studying scientific methods, to let students understand the impact of science and technology on human life, and to cultivate in them the ability to think independently, and to discover, analyse and solve problems. Also, throu.			
Subject Schoolwide essential virtues			
<ol style="list-style-type: none"> 1. A global perspective. (ratio:20.00) 2. Information literacy. (ratio:5.00) 3. A vision for the future. (ratio:25.00) 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:10.00) 8. A sense of aesthetic appreciation. (ratio:5.00) 			
Course Introduction	<p>I will introduce the basic knowledge and the stories of science development. The working mechanisms behind the Mother Nature will be revealed to the students. I hope the students without scientific background can also appreciate the beauty of science. Finally, I will show the students how these scientific discoveries change our modern life.</p>		

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	I expect the students will learn to think scientifically and appreciate the nature phenomenon around our life.	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, Publication	Discussion(including classroom and online), Report(including oral and written)

Course Schedule

Week	Date	Course Contents	Note
1	112/09/11 ~ 112/09/17	課程簡介	
2	112/09/18 ~ 112/09/24	從神學邁向科學	
3	112/09/25 ~ 112/10/01	天體跟重力1-哥白尼的成就	
4	112/10/02 ~ 112/10/08	天體跟重力2-伽利略的發現	
5	112/10/09 ~ 112/10/15	天體跟重力3-從克卜勒到牛頓	
6	112/10/16 ~ 112/10/22	牛頓的萬有引力成就	
7	112/10/23 ~ 112/10/29	Ooops!牛頓力學和愛因斯坦重力觀	
8	112/10/30 ~ 112/11/05	淺談狹義相對論	
9	112/11/06 ~ 112/11/12	Midterm Exam Week	
10	112/11/13 ~ 112/11/19	電力和磁力出場1	
11	112/11/20 ~ 112/11/26	電力和磁力出場2	

12	112/11/27 ~ 112/12/03	實驗專家-法拉第	
13	112/12/04 ~ 112/12/10	電和磁:傻傻分不清楚-馬克斯威爾的貢獻	
14	112/12/11 ~ 112/12/17	邁向次原子世界	
15	112/12/18 ~ 112/12/24	最小結構組成和最大結構組成-夸克和宇宙	
16	112/12/25 ~ 112/12/31	反應前後元素不變?淺談核反應	
17	113/01/01 ~ 113/01/07	Final Exam Week	
18	113/01/08 ~ 113/01/14	Flex week, learning activities should be arranged.	
Key capabilities	Problem solving Interdisciplinary		
Interdisciplinary	Competency-based education 'competency exploration' sustained competency or global issues STEEP (Society, Technology, Economy, Environment, and Politics) In addition to teaching content of the teacher's professional field, integrate other subjects or invite experts and scholars in other fields to share knowledge or teaching		
Distinctive teaching	Special/Problem-Based(PBL) Courses		
Course Content	Logical Thinking		
Requirement	多發問·因為科學的發現是不停地問為什麼而來的·專注於課程內容而非手機內容·		
Textbooks and Teaching Materials	Self-made teaching materials:Presentations		
References			
Grading Policy	◆ Attendance : 25.0 % ◆ Mark of Usual : % ◆ Midterm Exam : % ◆ Final Exam : % ◆ Other 〈期中期末報告共三篇〉 : 75.0 %		

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>.

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