

## Tamkang University Academic Year 107, 2nd Semester Course Syllabus

Course Title	EXPLORING THE UNIVERSE	Instructor	TSAO, CHING-TANG
Course Class	TNUUB0C NATURAL SCIENCES, 0C	Details	<ul style="list-style-type: none"> <li>◆ Required</li> <li>◆ One Semester</li> <li>◆ 2 Credits</li> </ul>
Academic Aim of Education			
<p>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.</p>			
Schoolwide essential virtues			
<ul style="list-style-type: none"> <li>A. A global perspective.</li> <li>B. Information literacy.</li> <li>C. A vision for the future.</li> <li>D. Moral integrity.</li> <li>E. Independent thinking.</li> <li>F. A cheerful attitude and healthy lifestyle.</li> <li>G. A spirit of teamwork and dedication.</li> <li>H. A sense of aesthetic appreciation.</li> </ul>			
Course Introduction	<p>This course provides a basic introduction to the structure of the universe. We start with the solar system, including our Earth and other planets and satellites. The life and death of a star, with our Sun as an example, will come next. We shall then explore the evolution of the Milky Way and other galaxies, and how they constitute the large-scale structure of our universe. Finally, we shall also look at the Big Bang theory which describes how the universe began.</p>		

## The Relevance among Teaching Objectives, Objective Levels and Schoolwide essential virtues

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-Characterizing, A6-Implementing

II. The Relevance among Teaching Objectives, Objective Levels and Schoolwide essential virtues :

- (i) Determine the objective level(s) in any one of the three learning domains (cognitive, psychomotor, and affective) corresponding to the teaching objective. 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 Schoolwide essential virtues that correspond to each teaching objective. Each objective may correspond to one or more Schoolwide essential virtues at a time. (For example, if one objective corresponds to three Schoolwide essential virtues: A, AD, and BEF, list all of the three in the box.)

No.	Teaching Objectives	Relevance	
		Objective Levels	Schoolwide essential virtues
1	1 Exploring the solar system 2 Understanding life and death of a star 3 Evolution of the galaxies 4 Large-scale structure of the universe 5 Big Bang theory	C2	E

### Teaching Objectives, Teaching Methods and Assessment

No.	Teaching Objectives	Teaching Methods	Assessment
1	1 Exploring the solar system 2 Understanding life and death of a star 3 Evolution of the galaxies 4 Large-scale structure of the universe 5 Big Bang theory	Lecture, Discussion	Written test

### Course Schedule

Week	Date	Subject/Topics	Note
1	108/02/18 ~ 108/02/24	Course introduction	
2	108/02/25 ~ 108/03/03	Night sky and legends (I)	
3	108/03/04 ~ 108/03/10	Night sky and legends (II)	

4	108/03/11 ~ 108/03/17	Terrestrial planets (I)	
5	108/03/18 ~ 108/03/24	Terrestrial planets (II)	
6	108/03/25 ~ 108/03/31	Jovian planets (I)	
7	108/04/01 ~ 108/04/07	Jovian planets (II)	
8	108/04/08 ~ 108/04/14	Small bodies in the Solar system (I)	
9	108/04/15 ~ 108/04/21	Small bodies in the Solar system (II)	
10	108/04/22 ~ 108/04/28	Midterm Exam Week	
11	108/04/29 ~ 108/05/05	The Sun	
12	108/05/06 ~ 108/05/12	Life and death of a star	
13	108/05/13 ~ 108/05/19	The Milky Way	
14	108/05/20 ~ 108/05/26	Galaxies	
15	108/05/27 ~ 108/06/02	Large-scale structure of the Universe	
16	108/06/03 ~ 108/06/09	The Big Bang	
17	108/06/10 ~ 108/06/16	Epilogue	
18	108/06/17 ~ 108/06/23	Final Exam Week	
Requirement			
Teaching Facility	Computer, Projector		
Textbook(s)	Lecture notes		
Reference(s)	1. "Cosmos" by Carl Sagan 2. "Cosmology" by Edward Harrison 3. "Foundation of Astronomy" by Michael Seeds		
Number of Assignment(s)	(Filled in by assignment instructor only)		
Grading Policy	◆ Attendance :           %   ◆ Mark of Usual :           %   ◆ Midterm Exam :           % ◆ Final Exam :           % ◆ Other <Tests> : 100.0 %		

Note	<p>This syllabus may be uploaded at the website of Course Syllabus Management System at <a href="http://info.ais.tku.edu.tw/csp">http://info.ais.tku.edu.tw/csp</a> or through the link of Course Syllabus Upload posted on the home page of TKU Office of Academic Affairs at <a href="http://www.acad.tku.edu.tw/CS/main.php">http://www.acad.tku.edu.tw/CS/main.php</a> .</p> <p><b>※ Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.</b></p>
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