Tamkang University Academic Year 106, 1st Semester Course Syllabus

Course Title	EXPLORING THE UNIVERSE	Instructor	TSAO, CHING-TANG
Course Class	TNUUB0C NATURAL SCIENCES, 0C	Details	◆ Required ◆ One Semester ◆ 2 Credits

Academic 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.

Schoolwide essential virtues

A. A global perspective.

B. Information literacy.

C. A vision for the future.

D. Moral integrity.

E. Independent thinking.

F. A cheerful attitude and healthy lifestyle.

G. A spirit of teamwork and dedication.

H. A sense of aesthetic appreciation.

Course Introduction	This course provides a basic introduction to the structure of the universe. Through the understanding of the astronomical discoveries and their main concepts, it aims also to arouse the interests of the students to explore the natural world.

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-Charaterizing, 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. Basic introduction to the structure of the universe. 2. Understanding the astronomical discoveries and their main concepts. 3. To arouse the interests of the students to explore the natural world.	C2	E

Teaching Objectives, Teaching Methods and Assessment

No.	Teaching Objectives	Teaching Methods	Assessment
1	1. Basic introduction to the structure of the universe. 2. Understanding the astronomical discoveries and their main concepts. 3. To arouse the interests of the students to explore the natural world.	Lecture	Written test

Course Schedule

Week	Date	Subject/Topics	Note
1	106/09/18～106/09/24	Course introduction	
2	106/09/25～106/10/01	Starry night and mythology (I)	
3	106/10/02～106/10/08	Starry night and mythology (II)	

4	106/10/09～ 106/10/15	Terrestrial planets (I)	
5	106/10/16～ 106/10/22	Terrestrial planets (II)	
6	106/10/23～ 106/10/29	Jovian planets (I)	
7	106/10/30～ 106/11/05	Jovian planets (II)	
8	106/11/06～ 106/11/12	Small rocks in the solar system (I)	
9	106/11/13～ 106/11/19	Small rocks in the solar system (II)	
10	106/11/20～ 106/11/26	Midterm Exam Week	
11	106/11/27～ 106/12/03	The Sun and other stars	
12	106/12/04～ 106/12/10	Deaths of stars	
13	106/12/11～ 106/12/17	The Milky Way	
14	106/12/18～ 106/12/24	Galaxies	
15	106/12/25～ 106/12/31	Cosmic large structure	
16	107/01/01～ 107/01/07	The Big Bang	
17	107/01/08～ 107/01/14	Epilogue	
18	107/01/15～ 107/01/21	Final Exam Week	

Requirement	
Teaching Facility	Computer, Projector
Textbook(s)	Lecture notes
Reference(s)	"Cosmos", Carl Sagan (Random House Publishing 2011) "Cosmology: The science of the universe", Edward Harrison (Cambridge University Press 2000) "Foundations of Astronomy", M. A. Seeds and D. Backman (Cengage Learning 2012)
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	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.**