

Tamkang University Academic Year 108, 1st Semester Course Syllabus

Course Title	INTRODUCTION TO CELL BIOLOGY	Instructor	CHERN MING-KAI
Course Class	TSAXB2A BACHELOR'S PROGRAM IN ADVANCED MATERIAL SCIENCES, 2A	Details	<ul style="list-style-type: none"> ◆ General Course ◆ Selective ◆ One Semester
Departmental Aim of Education			
<p>I. Enrich the fundamental knowledge of advanced material sciences.</p> <p>II. Emphasize the ability of self-expression.</p> <p>III. Strengthen the ability to experiment and team spirit.</p> <p>IV. Develop an international perspective and international exchanges.</p>			
Subject Departmental core competences			
<p>A. Possess a fundamental knowledge of mathematics, physics, chemistry and biology. (ratio:60.00)</p> <p>B. Cultivate professional knowledge, experimental skills and the applications of nano, optoelectronic, biomedical and macromolecular materials.(ratio:40.00)</p>			
Subject Schoolwide essential virtues			
<p>2. Information literacy. (ratio:20.00)</p> <p>3. A vision for the future. (ratio:20.00)</p> <p>5. Independent thinking. (ratio:40.00)</p> <p>6. A cheerful attitude and healthy lifestyle. (ratio:20.00)</p>			
Course Introduction	<p>This course introduces what the life will be performed from the point of view of a cell. The contents include the structures and functions of the cell and related application of cell biology.</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	To understand the structures and functions of the cell and related application of cell biology.	Cognitive

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	AB	2356	Lecture, Experience	Testing, Discussion(including classroom and online)

Course Schedule

Week	Date	Course Contents	Note
1	108/09/09 ~ 108/09/15	Introduction to Cell Biology; Methods of studying cells	Including the rules for the course and class
2	108/09/16 ~ 108/09/22	Biological membranes	
3	108/09/23 ~ 108/09/29	Structure and activities of prokaryotic cells	
4	108/09/30 ~ 108/10/06	Molecular biology of the prokaryotes	
5	108/10/07 ~ 108/10/13	The nucleus	
6	108/10/14 ~ 108/10/20	The cytosol and cytoskeleton; The endoplasmic reticulum	
7	108/10/21 ~ 108/10/27	Golgi apparatus, the endosomal-lysosomal system, and vacuoles	
8	108/10/28 ~ 108/11/03	Chloroplasts and photosynthesis	
9	108/11/04 ~ 108/11/10	Mitochondria, hydrogenosomes, and mitosomes	
10	108/11/11 ~ 108/11/17	Midterm Exam Week	
11	108/11/18 ~ 108/11/24	Microbodies	

12	108/11/25 ~ 108/12/01	Eukaryotic cell walls	
13	108/12/02 ~ 108/12/08	Extracellular matrix and connective tissues	
14	108/12/09 ~ 108/12/15	Cell signalling	
15	108/12/16 ~ 108/12/22	Eukaryotic cell cycle, mitosis, and meiosis	
16	108/12/23 ~ 108/12/29	Cell death	
17	108/12/30 ~ 109/01/05	Viruses	
18	109/01/06 ~ 109/01/12	Final Exam Week (Date:109/1/3-109/1/9)	
Requirement	Students should obey the rules accordingly.		
Teaching Facility	Computer, Projector		
Textbooks and Teaching Materials	Thrive in Cell Biology (Thrive In Bioscience Revision Guides) by Qiuyu Wang, Chris Smith, Emma Davis		
References	Molecular Biology of the Cell 6e, by Bruce Alberts, Alexander Johnson (2014) Molecular Cell Biology 8e, by Harvey Lodish, Arnold Berk, Chris A. Kaiser (2016) Karp's cell biology / Janet Iwasa, Wallace Marshall., 2016		
Number of Assignment(s)	(Filled in by assignment instructor only)		
Grading Policy	◆ Attendance : % ◆ Mark of Usual : 50.0 % ◆ Midterm Exam : 25.0 % ◆ Final Exam : 25.0 % ◆ 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.		