

Tamkang University Academic Year 110, 1st Semester Course Syllabus

Course Title	BIOTECHNOLOGY	Instructor	CHERN MING-KAI
Course Class	TNUZB0B GLOBAL TECHNOLOGY REVOLUTION, 0B	Details	<ul style="list-style-type: none"> ◆ General Course ◆ Required ◆ One Semester
Relevance to SDGs	SDG2 Zero hunger SDG3 Good health and well-being for people SDG8 Decent work and economic growth SDG9 Industry, Innovation, and Infrastructure		
Departmental Aim of Education			
Students will understand recent development of modern science and technology and its impact on human society and global environment. Through the design of course students will also be familiar with broadly-based fundamental technical knowledge and improve.			
Subject Schoolwide essential virtues			
<ol style="list-style-type: none"> 1. A global perspective. (ratio:70.00) 2. Information literacy. (ratio:10.00) 3. A vision for the future. (ratio:20.00) 			
Course Introduction	Under the architecture of technology, this course will lead students to the understanding of the origin and kinds of biotechnology by case studies, and the discussion of the concomitant ethics and legal issues, also exploration of the emerging newly developing frontiers of biotechnology.		

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	Understanding of the origin, kinds of biotechnology; discussion of the concomitant ethics and legal issues; exploration of the emerging newly developing frontiers of biotechnology.	Cognitive

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1		123	Lecture, Discussion	Testing, Report(including oral and written), Activity Participation

Course Schedule

Week	Date	Course Contents	Note
1	110/09/22 ~ 110/09/28	What is technology? What is biotechnology?	
2	110/09/29 ~ 110/10/05	The Biotechnology Century and Its Workforce	
3	110/10/06 ~ 110/10/12	An Introduction to Genes and Genomes	
4	110/10/13 ~ 110/10/19	Recombinant DNA Technology and Genomics	
5	110/10/20 ~ 110/10/26	Proteins as Products	
6	110/10/27 ~ 110/11/02	Plant Biotechnology	
7	110/11/03 ~ 110/11/09	Animal Biotechnology	
8	110/11/10 ~ 110/11/16	DNA Fingerprinting and Forensic Analysis	
9	110/11/17 ~ 110/11/23	Midterm Exam Week	
10	110/11/24 ~ 110/11/30	Bioremediation	
11	110/12/01 ~ 110/12/07	Aquatic Biotechnology	

12	110/12/08 ~ 110/12/14	Medical Biotechnology	
13	110/12/15 ~ 110/12/21	Space Biotechnology (Silver)	
14	110/12/22 ~ 110/12/28	Black Biotechnology - Bioterrorism	
15	110/12/29 ~ 111/01/04	Biotechnology Regulations	
16	111/01/05 ~ 111/01/11	Ethics and Biotechnology	
17	111/01/12 ~ 111/01/18	Final Exam Week	
18	111/01/19 ~ 111/01/25		
Requirement	Don't be absent without reason.		
Teaching Facility	Computer		
Textbooks and Teaching Materials	Introduction to Biotechnology 4e, by William J. Thieman, Michael A. Palladino (2019)		
References	Biotechnology; Science for the New Millennium 2e, by Ellyn Daugherty (2017)		
Number of Assignment(s)	2 (Filled in by assignment instructor only)		
Grading Policy	◆ Attendance : 40.0 % ◆ Mark of Usual : 10.0 % ◆ Midterm Exam : % ◆ Final Exam : % ◆ Other <Presentation> : 50.0 %		
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.		