

Topic	Current Issues in Biotechnology (Subject code: ICBI 437)	
Lecturer	Dr. Siripong Thitamadee Contact Address: Centex Shrimp, Chalerm Prakit Building, Room 438, Faculty of Science, Mahidol University, Rama VI Road, Ratchathewi, Bangkok 10400, Thailand Tel: 02-201-5867 Email: siripong.thi@mahidol.ac.th	
Credit points	XXX	
Level	Bachelor degree	
Teaching time location	XXX	
Time commitment	Lecture	110 min X 11 = 20 hr 10 min
Recommended background knowledge	Biology and molecular biology.	
Subject description	The subject covers basic scientific knowledge and its application in biotechnology. Basic molecular biology & practical applications, some historical examples, contemporary applications of biotechnology will be discussed to provide tools and basic knowledge in order to understand biotechnology. The emerging areas of biotechnology, for example Medical Biotechnology, Agricultural Biotechnology, Bioremediation, Aquatic Biotechnology. In addition, the issues in Biotechnology such as genetically modified food and organisms, embryos for research/human cloning, ethical/legal/social questions & dilemmas will be discussed as well.	
Objective and outcomes	Upon completion of this course the students should recognize the foundations of modern biotechnology and should be able to 1. Understand the difference between old biotechnology and modern biotechnology 2. Understand the concept of recombinant DNA technology or genetic engineering. 3. Analyze a research problem and write clear, step-by-step instructions for conducting experiments for testing hypothesis. 4. Provide examples of current applications of biotechnology and advances in the different areas like medical, microbial, environmental, bioremediation, agricultural, and animal biotechnology.	

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Evaluation	Attendance	10 %*
	Question &	30 % (3% for each topic)

Class	Date and time	Contents	Mins	Refs
1	29-4-14	Introduction to biotechnology	110	
2	06-5-14	Techniques used in biotechnology	110	
3	13-5-14	Holiday (make-up class will be announced)	-	
4	20-5-14	Anti-aging and stem cell treatment	110	
5	27-5-14	Media and public perception on science and technology	110	
6	03-6-14	Food security I: Transgenic crops	110	
7	10-6-14	Food security II: Aquatic biotechnology	110	
8	17-6-14	Environmental biotechnology	110	
9	24-6-14	Bioethics	110	
10	01-7-13	Biotechnology and future	110	
11	08-7-13	Impact of National Center for Genetic Engineering and Biotechnology (BIOTEC) on Thailand biotechnology	110	