Introduction to Biotechnology

Course description: This course is designed for non-biology students, such as from computer science, engineering, mathematics and others. This course will provide introduction to the current trends in Biotechnology researches and their application. At the end of this course students will gain basic level knowledge in Biotechnology and applying these to their research.

Pre-requisite:
All graduate students are welcome. Students with basic knowledge in biology, organic chemistry and genetics are preferred.

Required Textbook: William Thieman and Michael Palladino, Introduction to Biotechnology: Pearson New International Edition, 3rd Edition, 2013. ISBN10: 1292027614

Required Equipment: Non

Topics and Schedules:

Week	Topic	Type
1	The Biotechnology Century and Its Workforce	Lecture
2	An Introduction to Genes and Genomes	Lecture
3	Recombinant DNA Technology and Genomics (1)	Lecture
4	Recombinant DNA Technology and Genomics (2)	Lecture
5	Proteins as Products	Lecture
6	Microbial Biotechnology (1)	Lecture
7	Microbial Biotechnology (2)	Lecture
8	Plant Biotechnology	Lecture
9		Midterm Exam
10	Animal Biotechnology (1)	Lecture
11	Animal Biotechnology (2)	Lecture
12	Bioremediation	Lecture
13	Aquatic Biotechnology	Lecture
14	Medical Biotechnology (1)	Lecture
15	Medical Biotechnology (2)	Lecture
16	Ethics and Biotechnology	Lecture
17	Student presentation	Presentation
18		Final Exam

Workload: There will be two examinations and one oral presentation. The exams will be mainly based on the lecture. Some of the questions will be discussed in class. Your preparation is essential for a good discussion.

Grading:
Grading for the course will be assigned on the basis of six homework assignments (10% each) and two exams (20% each). The expected grade distribution should be: 88-100 = A; 78-87 = B; 68-77 = C; 58-67 = D.