

Theoretical and practical courses-Ilam University of Medical Sciences

Department: Environmental Health

Course Title: Application of Biotechnology in Environmental Health

Field of study of students: Environmental Health Engineering

Venue: Faculty of Health

Degree of students: Bachelor Number of

Units: 1 unit

Name of the person in charge of the course (teacher): Dr. Seyed Abbas Mirzaei

Email Address: Mirzaee.seyyed@gmail.com

General purpose of the lesson:

Familiarity of students with the principles of biotechnology and its applications in controlling environmental pollution

Lecturer study resources:

- Jorderning, 2005, Environmental biotechnology: concept and application,
- Maier & Pepper, 2000, Environmental microbiology

Student Exam Resources:

- Jorderning, 2005, Environmental biotechnology: concept and application,
- Maier & Pepper, 2000, Environmental microbiology

How to evaluate a student during the course:

- **Methods and time of assessment and evaluation of the student and the bar related to each assessment:**

Method	Score	Date	Time
Active presence and participation in class discussions	0.5	During semester	Scheduled training hours
Oral assessment, problem solving at home	1.5		
End of term exam	18		
Total	20		

- **Student assignments during the course:**

Solve the exercises presented in class

Participate in answering course questions

Participate in mid-term, end-of-semester and each session evaluations

Teaching methods and teaching aids used

The teaching method in this course will be in the form of a short conference, group discussion, problem solving, question and answer and using PowerPoint software as well as using other educational media as needed.

Lesson rules and expectations from students

- 1- Attending the class on time and based on the set time
- 2- Observance of education and disciplinary regulations
- 3- Studying the contents of the previous session and preparing to attend the class
- 4- According to the educational regulations, unjustified absence in the final exam of the semester as a score of zero and justified absence will cause the removal of that course.

Schedule of biotechnology application curriculum in environmental health in the second semester of the academic year 2020-2021

Session	Specific Objectives (Outline)	Specific behavioral goals	Lecturer	Necessary preparation of students before the start of the class
1	Definition of biotechnology and vocabulary	Know the definition of biotechnology vocabulary and idioms	Dr. Mirzaei	
2	History of Biotechnology	Can describe the history of biotechnology in general		review previous content
3	Application of biotechnology in the environment	Know and describe the types of biotechnology applications in the environment, especially environmental health issues.		
4	Biodegradation methods	Name the types of bioremediation methods and describe each one		
5	Mechanisms of pollutant removal by bioremediation methods	Name and describe the various mechanisms of pollutant removal by bioremediation methods.		
6	Application of biosensors in the environment	Define a biosensor and describe its application in the environment.		
7	Production of biofuels	Name and describe the various methods of producing biofuels.		
8	Toxicity tests	Describe toxicity tests		