Course Specifications

General Information

Course name	Microbial Ecology
Course number	BIOL3261
Faculty	
Department	
Course type	Major Needs
Course level	3
Credit hours (theoretical)	2
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - Studying the kinds of microorganisms exists in soil, physical, chemical and biological factors influence their development
2 - To disscus the role of microbes in soil
3 - Knowledge about water organism and waste water treatment, Understanding of prevalent environmental conditions acting on air and their influence on survival of microorganisms

Course Contents

1 - Introduction to soil, water and air microbiology
2 - Edaphon: The characteristics of soil microorganisms, the number and distribution of soil microorganisms
3 - Edaphic factors: Water, Osmotic pressure, Redox potential, Soils pH
4 - Activity of microorganisms
5 - Soil bioremediation
6 - Water and water organisms
7 - Polluted water organisms and Water health standard
8 - Waste water treatment
9 - The air as an environment of microorganisms
10 - Adaptation of microorganisms to the air environment, Biological aerosols
11 - Mechanisms protecting lungs against bioaerosol penetration
12 - Survival and spread of bioaerosols, Biological aerosols as a hazardous source for humans

Students Assessment

Assessment Method	TIME	MARKS
First hour exam		20
Second hour exam		20
Attendence		10
Final exam		50

Books and References

Essential books	Introduction to environmental microbiology. Barbara Kolwzan, Waldemar Adamiak, 2006