



### Microbial Pollution

Course Code	Course Num.	Course Name	Credit Hours	Lec	Lab	Tut	Prerequisites
BIO	454	Microbial Pollution	3	2	2	0	BIO353

#### Objectives:

Introduce microbial processes of environmental and geochemical significance and provide detailed information on the most up to date methods for the study of microbial communities.

The module includes a basic introduction to microbiology and micro-organisms and explores their role in shaping the geochemistry of the earth.

A survey of modern micro-organisms and their activities of environmental and geochemical importance is an important foundation for the module as is the way that metabolic processes catalysed by micro-organisms are related to major elemental cycles, biogeochemical processes and contamination.

The most up to date molecular methods used to study the diversity and activity of micro-organisms in their natural habitats are detailed along with their and limitations.

So ,it is expected to be after the study that course the student be able to:

- To describe microbes contaminated air, water and food.
- To comparing pollution treatment methods with microorganisms.
- To determine the damage caused by these microorganisms.

#### Syllabus:

- Air pollution with micro-organisms
- Soil contamination with micro-organisms
- Water pollution with micro-organisms
- Microorganisms caused for polluting
- Methods of studying viruses
- Sources of pollution with micro-organisms
- problems of microbiological contamination, and means of preventing
- The role of microorganisms in the detection of environmental pollution
- Reagents with micro-organisms for air pollution
- Reagents with micro-organisms for soil pollution
- Reagents with micro-organisms for water pollution
- Microorganisms and treatment of environmental pollution
- Treatment with micro-organisms for contaminated air , soil and water

#### References

- Ross E .Mckinney, Environmental Pollution Control Microbiology. A Fifty-Year Perspective, (2004). ISBN 9780824754938.
- Tulasi Satyanarayana, Micro-organisms in Environmental management : Microbes and Environment (2012) ISBN-13: 978-9400722286.

