

بهشی زانست وتهندروستی ژینکه  
ئهو بابتهانهی که داواکراوه بو تافیکردنهوهی توانای زانستی پیشکدهشکارانی خویندنی بالا (ماستر)

## **1. Environmental Microbiology**

- Impacts of Microbes on Ecosystems?
- Mycorrhizal fungi.
- Actinomycetes.
- Nitrogen fixation.
- Environmental factors influence on aquatic microorganisms.
- Water-associated diseases by microorganism.

## **2. Fresh water Ecology (Limnology and phycology)**

- Distribution of dissolved oxygen in lakes
- Lake Origin
- Thermal Stratification in Lake
- Cyanophyta
- Stream characteristics, Stream flow, Stream erosion and deposition
- Origin, occurrences and movement of groundwater

## **3. Soil and Soil pollution**

### **A/ Soil sciences**

1. Physical properties (Soil pH and Buffer capacity, Soil texture, Soil profile and water content)
2. Chemical properties (Ion exchange, clay minerals, and organic matter)
3. Soil formation factors, processes and functions

### **B/ Soil pollution**

1. Soil quality and degradation
2. The Soil Pollutants and their transformation and Metabolite Formation
3. Risks and Remedies

#### **4. Water and Air pollution**

- Metals pollution
- Organic degradation
- Groundwater pollution
- Role of biological agents in water pollution
- Oil spills
- Air pollution and its impact on health and environment

#### **5. Waste management**

- Management of Solid waste
- Wastewater Treatment (MW treatment system, sludge treatment and disposal, disinfection)
- Landfill (Leachate and gas production in landfill)
- Hazardous waste management
- Treatment of waste (thermal treatment, biological treatment and physical treatment)