



Ecology and Biodiversity

| Course Code | Course Num. | Course Name | Credit Hours | Lec | Lab | Tut | Prerequisites |
|-------------|-------------|--------------------------|--------------|-----|-----|-----|---------------|
| BIO | 251 | Ecology and Biodiversity | 2 | 1 | 2 | 0 | BIO121 |

Objectives:

On successfully completing this course, students will be expected to:

- To investigate the nature and diversity of life, from microorganisms and fungi to plants and animals.
- To explore the mechanism of biodiversity: evolution through natural selection.
- To learn how different groups of organisms interact and are dependent on their habitats and each other.
- To use and expand this knowledge in laboratory classes by observing and describing specimens representing the variety of organisms.

Syllabus:

- Biodiversity: What is it? Where is it? Where does it come from?
- What is biodiversity? , Patterns in distribution of diversity
- Measuring diversity , Basics of Ecology
- Why does diversity matter? , Ecosystem Services
- Diversity-Function Models, Pollination: Ecosystem services and diversity
- Population Ecology: Extinction/environmental degradation
- Community Ecology: Species Interactions
- Community Ecology: Predator-Prey Activity
- Ecosystem Ecology: Intro and Energetics, Ecosystem Ecology: Intro and Energetics
- Ecosystem Ecology: Carbon Cycle and Climate Change
- Climate Change and Disease Dynamics
- Island Biogeography , Human Population Size , Reconciliation Ecology
- Biotic and abiotic factors , Animals communities
- Animals Biodiversity , Plants communities
- Plants Biodiversity , Biodiversity of Monera , Protista and Fungi
- Biodiversity of Fauna and Flora of Saudi Arabia , Sustainability and the Future

References:

- Smith, R. L. and Smith, T. M. Elements of Ecology 9 th edition Pearson Education(2014). ISBN-13: 978-0321934185
- M.J., S. Jennings, M. Attrill, Marine Ecology: Progresses, Systems, and Impacts. 2nd. ed., Oxford Univ.Press, London (2011). ISBN-13: 978-0199227020
- Kalff, J. 2002. Limnology. Pearson Education, Prentice Hall. 2nd. ed., (2011) ISBN-13: 978-0130337757

