

# BIOL 162 : General Biology II with Lab

## **Credits 5**

Second course in the two-quarter sequence of introductory biology for forestry students. Topics include plant growth and survival, photosynthesis, and plant/ environmental interactions, evolution and diversity of living plants and animals, fundamentals of ecology, and conservation biology. Current research will be used to illustrate the scientific and social importance of these topics. This class may include students from multiple sections. (Natural Sciences with Lab, Elective)

## **Prerequisites**

Eligibility for both [ENGL& 101](#) and [MATH 90/91](#)

## **Course Outcomes**

- Conduct a scientific exploration in a logical and appropriate manner.
- Correctly read and interpret biological information in books, journals and the media.
- Understand the basic themes and concepts of organismal biology, with the main focus on plants.
- Understand the following five central themes relating to plant organismal biology:
  - How are organisms built?
  - How do organisms obtain and use nutrients and energy?
  - How do organisms transport fluids internally?
  - How do organisms sense and respond to the environment (internal and external)?
  - How do organisms develop and reproduce?
- Understand and become familiar with how plants have adapted to the challenges they face in nutrition, respiration, water balance, excretion, monitoring internal and external environments, movement and reproduction.
- Understand the basic themes and concepts of ecology, including the scope of ecology, abiotic and biotic factors, ecology of individuals, interactions, population ecology, community ecology, ecosystems, landscape ecology, global ecology, succession, and conservation biology.
- Understand the basic themes and concepts of genetics, including Mendelian and non-Mendelian genetics, Hardy-Weinberg equilibrium, and the New Synthesis.
- Understand the basic themes and concepts of evolution, including natural selection, sexual selection, genetic drift, gene flow, mutation, microevolution, and macroevolution.
- Process information and experiences in the form of lab write-ups and projects, and demonstrate an ability to synthesize concepts, facts and ideas into coherent, independent work.
- Discuss and express ideas and information, applying what they have assimilated from readings, laboratory experiences and field work.
- Build a foundation for further study and educated decision-making in biology.
- Connect the overall concepts of biology to their local environments and daily lives.