

## **Course Description**

### **BOT1010 | Botany | 3.00 credits**

This course is a survey of the plant kingdom based on a detailed study of the morphology, anatomy and physiology of selected representative specimens. Corequisite: BOT1010L

### **Course Competencies:**

**Competency 1:** The student will gain a comprehensive understanding of the structural characteristics found within the plant kingdom by:

1. Examining the structural characteristics within the plant kingdom through hands-on activities and visual aids
2. Comparing and contrasting the structural characteristics within the plant kingdom to build a comprehensive understanding
3. Exploring the structural characteristics within the plant kingdom through field trips and interactive learning experiences

**Competency 2:** The student will develop a deep appreciation for the inner workings of plants at a cellular and tissue level by:

1. Investigating the inner workings of plants at a cellular and tissue level through microscopy and laboratory experiments
2. Analyzing the inner workings of plants at a cellular and tissue level by conducting in-depth research and presentations
3. Evaluating the inner workings of plants at a cellular and tissue level by engaging in dissections and practical demonstrations

**Competency 3:** The student will uncover the fascinating mechanisms behind processes such as photosynthesis, transpiration, and nutrient uptake by:

1. Unraveling the fascinating mechanisms behind processes such as photosynthesis, transpiration, and nutrient uptake through experimentation and data analysis
2. Investigating the fascinating mechanisms behind processes such as photosynthesis, transpiration, and nutrient uptake by conducting controlled experiments
3. Exploring the fascinating mechanisms behind processes such as photosynthesis, transpiration, and nutrient uptake through interactive simulations and modeling

**Competency 4:** The student will engage in hands-on learning to reinforce their understanding of plant morphology and anatomy by:

1. Applying hands-on learning to reinforce understanding of plant morphology and anatomy through practical projects and fieldwork
2. Integrating hands-on learning to reinforce understanding of plant morphology and anatomy by participating in gardening and cultivation activities
3. Utilizing hands-on learning to reinforce understanding of plant morphology and anatomy through the creation of 3-d models and interactive displays

**Competency 5:** The student will observe the physiological processes in action, enhancing their comprehension of plant biology in real time by:

1. Observing the physiological processes in action, enhancing comprehension of plant biology in real time through live demonstrations and experiments
2. Analyzing the physiological processes in action, enhancing comprehension of plant biology in real time through continuous observation and data recording
3. Experimenting with the physiological processes in action, enhancing comprehension of plant biology in real time through interactive workshops and lab sessions

**General Education Learning Outcomes:**

- Solve problems using critical and creative thinking and scientific reasoning
- Formulate strategies to locate, evaluate, and apply information
- Describe how natural systems function and recognize the impact of humans on the environment.