

**Biology 1040 Organismal Biology Lab**  
**Fall Semester 2020**  
**Biology Department, College of Arts and Sciences**  
**Valdosta State University**

**Instructor:** Mr. Christopher Le

**Office:** Science Building 2025

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**Room:** Science Building 1046

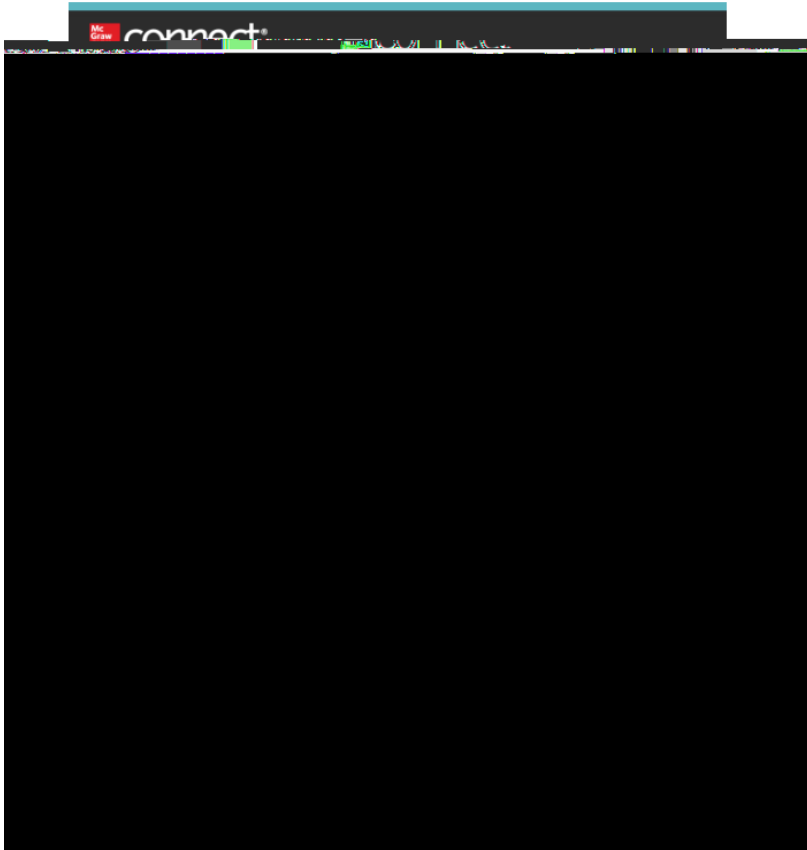
**Co-requisite: Bio 1030.** This course cannot be taken for credit toward the major in biology. A laboratory accompany Bio 1030 lecture, emphasizing the structure of multicellular organisms.

### **Course Objectives**

\_\_\_\_\_ : This course is designed to accompany Bio 1030 by presenting exercises that emphasize the processes involved in the development and maintenance of multicellular organisms. The objective of this course is to provide students with a hands-on experience in general biology. Students will participate in the process of scientific inquiry by asking scientific questions, developing hypotheses, predicting outcomes of experiments, collecting and interpreting data and drawing conclusions from the results.

**Learning Goal:** Students will demonstrate understanding of the physical universe and the nature of science, and they will use scientific methods and/or mathematical reasoning and concepts to solve problems.

**Materials:** McGraw Hill Connect Online Labs. This can be purchased directly through the company (less expensive) following the directions below or an access card can be purchased through the bookstore.







## Bio 1040 Organismal Lab - Fall 2020 - Room BC 1046

	Monday	Tuesday	Wednesday	Thursday
8:00 AM				
8:30 AM				
9:00 AM				
9:30 AM				
10:00 AM	Bio 1040 Lab A Doscher 10 - 11:50	Bio 1040 Lab G Castellano 10 - 11:50	Bio 1040 Lab L Burch 10 - 11:50	
10:30 AM				
11:00 AM				
11:30 AM				
12:00 PM			Bio 1040 Lab M Le 12 - 1:50	
12:30 PM				
1:00 PM				
1:30 PM				
2:00 PM		Bio 1040 Lab I Le 2 - 3:50		
2:30 PM				
3:00 PM				
3:30 PM				
4:00 PM			Lab meeting Lab meeting Lab meeting Lab meeting	
4:30 PM				
5:00 PM				
5:30 PM				

Faculty

# **GROUP A Biology 1040 Lab Schedule – Fall 2020**

## **Week 1 - Introduction, Syllabus, Safety Guidelines**

- August 17 - 21
1. Follow directions for downloading Connect Virtual Labs
  2. Watch the lecture titled Biol 1040 Introduction, syllabus, and safety guidelines on Connect
  3. Complete the following virtual labs listed under "Week 1 Introduction":
    - Virtual Lab Tutorial
    - Lab Safety - Handwashing
    - Lab Safety - Personal Safety

## **Week 2 & 3 - Biological Macromolecules**

August 24 - 28 IN-PERSON LAB - Biological Macromolecules

- Aug. 31 - Sept 4 Complete the following virtual labs listed under "Week 2 & 3 Biological Macromolecules":
- Chemical Composition of Cells - Test for Sugars
  - Chemical Composition of Cells - Test for Starch
  - Chemical Composition of Cells - Test for Fat
  - Chemical Composition of Cells - Test for Proteins

**NO LABS THE WEEK OF SEPT. 7 - 11 DUE TO LABOR DAY HOLIDAY**

## **Week 4 & 5 - Osmosis**

Sept. 14 - 18 IN-PERSON LAB - Osmosis Lab

- Sept. 21 - 25 Complete the following virtual labs listed under "Week 4 & 5 Osmosis Labs":
- Osmosis - Movement of Water Across a Selectively Permeable Membrane
  - Osmosis - Tonicity in Elodea Cells
  - Osmosis - Tonicity in Potato Strips
  - Osmosis - Tonicity in Red Blood Cells

## **Week 6 & 7 - DNA/Genetics**

Sept. 28 - Oct. 2 IN-PERSON LAB - DNA Isolation and Gel Electrophoresis

- Oct. 5 - 9 Complete the following virtual labs listed under "Week 6 & 7 Genetics Labs":
- Human Genetics - Genetic Inheritance
  - Mendelian Genetics - Monohybrid Fruit Fly Cross
  - Mendelian Genetics - Dihybrid Plant Cross

## **Week 8 & 9- Senses lab**

Oct. 12 - 16 IN-PERSON LAB - Senses Lab

- Oct. 19 - 23 Complete the following virtual labs listed under "Week 8 & 9 Senses Labs":
- Eye and Vision - Eye Dissection
  - Eye and Vision - Visual Acuity Test
  - Eye and Vision - Accommodation of the Lens
  - Eye and Vision - Color Vision Test
  - Eye and Vision - Pupillary Reflex Test
  - Eye and Vision - Convergence Reflex Test

## **Week 10 & 11 - Metabolism and Photosynthesis labs**

Oct. 26 - 30 IN-PERSON LAB - Metabolism Lab

- Nov. 2 - 6 Complete the following virtual labs listed under "Week 10 & 11 Photosynthesis Labs":
- Photosynthesis - Carbon Dioxide Uptake
  - Photosynthesis - Photosynthetic Pigments
  - Photosynthesis - Determining Rate in White Light
  - Photosynthesis - Comparing Green and Blue Light

## **Week 12 & 13 - Cardiovascular labs**

Nov. 9 - 13 IN-PERSON LAB - Cardiovascular Lab

- Nov. 16 - 20 Complete the following virtual labs listed under "Week 12 & 13 Cardiovascular Labs":
- Blood - Blood Typing
  - Blood - Differential White Blood Cell Count
  - Cardiovascular Physiology - Pulse Rate

## **GROUP B Biology 1040 Lab Schedule – Fall 2020**

### Week 1 - Introduction, Syllabus, Safety Guidelines

- August 17 - 21
1. Follow directions for downloading Connect Virtual Labs
  2. Watch the lecture titled Biol 1040 Introduction, syllabus, and safety guidelines on Connect
  3. Complete the following virtual labs listed under "Week 1 Introduction":
    - Virtual Lab Tutorial
    - Lab Safety - Handwashing
    - Lab Safety - Personal Safety

### Week 2 & 3 - Biological Macromolecules

- August 24 - 28
- Complete the following virtual labs listed under "Week 2 & 3 Biological Macromolecules":
- Chemical Composition of Cells - Test for Sugars
  - Chemical Composition of Cells - Test for Starch
  - Chemical Composition of Cells - Test for Fat
  - Chemical Composition of Cells - Test for Proteins