

BIOL 1185L: Principles of Biology I Lab

Summer Session 1 (5/20/24 – 6/25/24)

Randolph College

Instructor: Amanda Rumore, PhD

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Course Description: Accompanying lab to BIOL 1185S. Laboratory exercises will focus on biological skills and techniques at the cellular level, including microscopy, macromolecules, cell physiology, photosynthesis, mitosis and meiosis, and molecular biology. Investigative research study design, technical lab skills, graphing and statistical analysis, and scientific writing are emphasized. Lab materials fee required. Credit hours: 1. *One time only. (NS)*

Lab Materials (REQUIRED PURCHASE): Lab kits must be purchased directly from Science Interactive. The kits will contain all supplies for hands-on labs and access to digital labs. The instructions for ordering are posted on Moodle. **The cost is \$169 + \$25.95 for shipping.**

Lab Manual: There is no lab manual for this course. All instructions are available through Science Interactive or posted on Moodle.

Course Textbook: There is no required textbook for this course.

Grading:

- Lab Exercises (11 total): 55%
- Electrophoresis Lab (1): 5%
- Quizzes: 20%
- Lab Report: 20%

Scale:		B+	87% -89%	C+	77%-79%	D+	67%- 69%	F	<60%
A	>93%	B	83% - 86%	C	73%- 76%	D	63%-66%		
A-	90% – 92%	B-	80% - 82%	C-	70%-72%	D-	60%-62%		

*Grades will be rounded at the .5pt (ex: 89.5 → 90%) (89.4 → 89%)

SCHEDULE

Week 1: (available 5/20 – 5/26)

- Lab 1: The Scientific Method (digital)
- Lab 2: Math and Graphing (digital)
- Lab 3: Introduction to Microscopy (V-scope)
- **DUE: by 9am Monday, May 27th**

Week 2: (available 5/27 – 6/2)

- Lab 4: Biological Macromolecules (hands-on) – Lab Report Option 1
- Lab 5: Enzyme Catalysis (digital)

Week 3: (available 6/3 – 6/9)

- Lab 6: Cell Types – Structure and Function (V-scope)
- Lab 7: Photosynthesis (hands-on) – Lab Report Option 2
- Lab 8: Cell Respiration and Metabolism (hands-on) – Lab Report Option 3

Week 4: (available 6/10 – 6/16)

- Lab 9: Cell Membrane Transport (digital)
- Lab 10: Mitosis (V-scope)

Week 5: (available 6/17 – 6/25)

- Lab 11: Mendelian Genetics (hands-on)
- Lab 12: Electrophoresis Experiment (hands-on)
- **ALL LABS DUE BY: 11:59pm on Tuesday June 25th**

Note: The syllabus is subject to change at the discretion of the instructor.