

BIOL 110L: Principles Of Biology I Lab

Location:	Evening
Address:	1001 Rogers Street Columbia, MO 65216
Section:	19FALL1/BIOL/110L/EVA
Semester Credit Hours:	2
Class Day(s) and Time(s):	Monday, Wednesday 7:45 PM - 10:25 PM from August 26, 2019 to October 19, 2019

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📘 Course Information

Catalog Description

Laboratory experiences to complement BIOL 110. Additional lab fee applicable to main campus day offerings.

Prerequisite: BIOL 110 or concurrent enrollment. BIOL 110 must be completed before BIOL 110L can be used as G.E. credit. Students majoring in Biology must earn a grade of C or higher. G.E.

Additional Notes

Class will not meet on Labor Day, Monday, September 2, 2019. The scheduled make-up date is Friday September 6, 2019.

Classroom Dress and Safety: Students are required to read and agree to the general guidelines for laboratory safety. These guidelines cover important lab safety issues. For example, students are required to have arms, legs and feet covered during lab periods. This means sleeves, long pants or skirts, and closed-toe shoes. **NO sleeveless shirts, shorts, sandals, flip-flops, etc.** You WILL be asked to leave the laboratory if you have not arrived with appropriate dress. In addition, **no open food or drink containers are allowed** in the lab. Please leave these outside in the hall, or in your backpack in the cubbies provided.

The instructor reserves the right to modify this syllabus at any time.

📖 Textbooks

As part of TruitionSM, students will receive their course materials automatically as described below.

- 📖 Karin Knisely. (2017). *A Student Handbook for Writing in Biology* (5th). W.H. Freeman & Company. *eText*
- 📖 Sylvia S. Mader. (2019). *Biology: Laboratory Manual* (13th). McGraw Hill. *Physical Book*

Bookstore Information

Visit <https://www.ccis.edu/bookstore.aspx> for details.

eText Information

If a course uses an eText, (see textbook information above) the book will be available directly in Desire2Learn (D2L) seven days before the session begins, if registered for courses prior to that date. Upon first login to VitalSource, students should use their CougarMail email address; alternate email addresses cannot be used. More information about how to use the VitalSource platform, including offline access to eTexts, can be found in D2L.

Physical Course Materials Information

Students enrolled in courses that require physical materials will receive these materials automatically at the shipping address on file with Columbia College. Delivery date of physical materials is dependent on registration date and shipping location. Please refer to confirmation emails sent from Columbia College for more details on shipping status.

Returns: Students who drop a class are responsible for returning any physical course materials that were shipped. To initiate a return, visit [Ingram Returns](#) to generate a pre-paid return label. Materials from dropped courses must be returned within 30-days of receipt. **Failure to return physical items from a dropped course will result in a charge to the student account for all unreturned items.**

Note: Students who opt-out of having their books provided as part of [TuitionSM](#) are responsible for purchasing their own course materials.

Technology Requirements

THIS IS A TECHNOLOGY-ENRICHED COURSE WHICH COMBINES IN-SEAT INSTRUCTION WITH ONLINE LEARNING.

Participation in this course will require the basic technology for all classes at Columbia College:

- A computer with reliable internet access
- A web browser
- Acrobat Reader
- Microsoft Office or another word processor such as Open Office

For more information, see [technical requirements](#).

Course Learning Outcomes

1. Apply the scientific method.
2. Demonstrate basic laboratory techniques of experimentation and measurement

Grading

Grading Scale

Grade	Points	Percent
A	900 - 1000	90-100%
B	800 - 899	80-89%
C	700 - 799	70-79%
D	600 - 699	60-69%
F	0 - 599	0-59%

Grade Weights

Assignment Category	Points	Percent
Lab Assignments	600	60%
Exams	150	15%
Quizzes	100	10%

Formal Lab Report	150	15%
Total	1000	100%

Schedule of Due Dates

Week 1

Assignment	Points	Due
Lab 1-Introduction/Laboratory Safety/Metric Measurement	50	First meeting of week
Lab 2-Microscopy/Introduction to Writing a Lab Report	50	Second meeting of week

Week 2

Assignment	Points	Due
Lab 3-Chemical Composition of Cells	50	First meeting of week
Lab 4-Cell Structure & Function	50	Second meeting of week

Week 3

Assignment	Points	Due
Lab 5-How Enzymes Function	50	First meeting of week
Lab Report: First Draft of the Introduction Due	30	Before second meeting of week
Quiz 1	50	Second meeting of week
Lab 6-Conducting the Experiment	--	Second meeting of week

Week 4

Assignment	Points	Due
Lab 7-Cellular Respiration	50	First meeting of week
Lab 8-Photosynthesis	50	Second meeting of week

Week 5

Assignment	Points	Due
Lab 9-Mitosis: Cellular Reproduction	50	First meeting of week
Lab Report: First Draft of the Materials & Methods Section Due	30	Before second meeting of week
Lab 10-Meiosis: Sexual Reproduction	50	Second meeting of the week

Week 6

Assignment	Points	Due
Lab 11-Patterns of Inheritance	50	First meeting of week
Quiz 2	50	Second meeting of week
Lab 12-Lab Report: Analyzing the Data	--	Second meeting of week

Week 7

Assignment	Points	Due
Lab 13-Human Genetics	50	First meeting of week
Lab Report: First Draft of the Results Section Due	30	Before second meeting of week
Lab 14-Lab Report: Wrap-Up	--	Second meeting of week

Week 8

Assignment	Points	Due
Lab 15-DNA Biology & Technology	50	First meeting of week
Final Lab Report Due	60	Before the second meeting of week
Final Exam	150	Second meeting of week

Assignment**Points****Due****Total Points: 1000** **Assignment Overview****Assignments**

Completion of Lab Assignments: Assigned lab exercises are completed for each lab topic as outlined in the course schedule. You may sometimes work in small groups or pairs to complete the tasks, but you should answer the questions and understand all of the information independently for preparation and completion of the quiz or exam. There is a pre-lab component to each lab that will be submitted at the beginning of each lab period. Lab exercises are to be finished during the lab period assigned and completed worksheets are due at the end of the lab period. The pre-labs are 10 points each and the worksheets completed in lab exercises are allocated 40 points, for a total of 50 points for the twelve lab exercises.

If needed, you may have TWO absences for any reason and these absences will be treated as excused absences. If you miss class more than twice you will lose the completion points for each additional absence. Missed labs cannot be made-up. If you miss a laboratory session it is your responsibility to get the lab notes from a classmate.

Formal Lab Report: Write a formal laboratory report based on an experiment conducted in the lab. Guidance for the experiment is presented in Chapter 1: Scientific Method. Fruit flies will be used instead of pill bugs. Type the report. The report should have the following information.

1. Introduction, Literature Review (Background information), Purpose(s), Hypothesis/Hypotheses
2. Materials and Methods (step by step instructions)
3. Results
4. Discussion
5. Conclusions
6. Literature Cited: At least two primary references are required with a total of three references required. Proper format is expected. You may use APA or MLA format for citations.

Section one (see above) is due for grading on September 11. Section two is due on September 25. Section three is due October 9. The final submission is due October 16. Each submission is due on D2L no later than the beginning of lab period on the due date. Late papers will not be accepted. Evaluation will examine the content, grammar, organization and proper formatting of citations.

Examinations

Quizzes: There are two quizzes that cover lab material in previous class periods since the last quiz. Quizzes are a combination of multiple-choice, true/false and short answer. Each quiz is allocated 50 points.

Exams: The lecture portion of BIOL 110 will examine student comprehension. The lab portion of BIOL 110 is hands-on and therefore there is only one exam, on October 16, covering important material presented in each lab. The exam is primarily multiple-choice, matching, practical (identification) and short answer. A study guide and in-class review will be provided to help the student prepare. It is important that each student complete each lab worksheet thoroughly, with as much detail as possible, so the information is readily available when studying for the exam.

 **Course Outline**

Click on each week to view details about the activities scheduled for that week.

Week 1: Introduction; Lab Safety; Metric Measurement; Microscopy; Introduction to Writing Lab Report**Lab 1-Introduction/Laboratory Safety/Metric Measurement**

Lab Chapter 2

Lab 2-Microscopy/Introduction to Writing a Lab Report

Lab Chapters 1 & 2

A Student Handbook for Writing in Biology, Karin Knisely, Sections of Chapters 1-2 & 4, Appendix I

Computer with an internet browser & Microsoft WORD is needed.

Week 2: Chemical Composition of Cells; Cell Structure & Function

Lab 3-Chemical Composition of Cells

Lab Chapter 3

Lab 4-Cell Structure & Function

Lab Chapter 4

Week 3: How Enzymes Function; Lab Quiz 1; Conducting Experiment for Lab Report

Lab 5-How Enzymes Function

Lab Chapter 5

Lab Report: First Draft of the Introduction Due

The lab report introduction includes a Title Page, Literature Review (Background information), Purpose(s) and Hypothesis/Hypotheses.

A Student Handbook for Writing in Biology, Karin Knisely, Chapters 1-2 & 4.

Quiz 1

Covers material from the first five lab periods.

Lab 6-Conducting the Experiment

Lab Chapter 1 and Handout

Week 4: Cellular Respiration; Photosynthesis

Lab 7-Cellular Respiration

Lab Chapter 7

Lab 8-Photosynthesis

Lab Chapter 6

Week 5: Mitosis; Meiosis

Lab 9-Mitosis: Cellular Reproduction

Lab Chapter 8

Lab Report: First Draft of the Materials & Methods Section Due

A Student Handbook for Writing in Biology by Karin Knisely, Chapter 4.

Lab 10-Meiosis: Sexual Reproduction

Lab Chapter 9

Week 6: Patterns of Inheritance; Quiz 2; Analyzing Data From Experiment

Lab 11-Patterns of Inheritance

Lab Chapter 10

Quiz 2

Covers material from lab periods 6-11.

Lab 12-Lab Report: Analyzing the Data

Computer with Microsoft EXCEL & WORD are needed in lab today.

[A Student Handbook for Writing in Biology](#), by Karin Knisely, Chapter 4, Appendices I & II

Week 7: Human Genetics; Lab Report Wrap-Up

Lab 13-Human Genetics

Lab Chapter 11

Lab Report: First Draft of the Results Section Due

[A Student Handbook for Writing in Biology](#), Karin Knisely, Chapters 4-5, Appendices I & II

Lab 14-Lab Report: Wrap-Up

[A Student Handbook for Writing in Biology](#), Karin Knisely, Chapters 4-5, Appendices I & II.

Week 8: DNA; Final Lab Report Due; Final Exam

Lab 15-DNA Biology & Technology

Lab Chapter 12

Final Lab Report Due

Final Exam

Comprehensive final

+ Additional Resources

Online databases are available at library.ccis.edu. You may access them using your CougarTrack login and password when prompted.

Technical Support

If you have problems accessing the course or posting your assignments, contact your instructor, the Columbia College Technology Solutions Center, or the D2L Helpdesk for assistance. If you have technical problems with the VitalSource eText reader, please contact VitalSource. Contact information is also available within the online course environment.

- Columbia College Technology Solutions Center: CCHelpDesk@ccis.edu, 800-231-2391 ex. 4357
- D2L Helpdesk: helpdesk@d2l.com, 877-325-7778
- VitalSource: support@vitalsource.com, 1-855-200-4146

Online Tutoring

SmarterThinking is a free online tutoring service available to all Columbia College students. SmarterThinking provides real-time online tutoring and homework help for Math, English, and Writing. SmarterThinking also provides access to live tutorials in writing and math, as well as a full range of study resources, including writing manuals, sample problems, and study skills manuals. You can access the service from wherever you have a connection to the Internet. I encourage you to take advantage of this free service provided by the college.

Access SmarterThinking through CougarTrack at [Students -> Academics -> Resources](#).

! Columbia College Policies and Procedures

The policies set forth in the [Policy Library](#) are the current official versions of College policies and supersede and replace any other existing or conflicting policies covering the same subject matter. For more information on policies applicable to students, see [Student Policies](#). For more information on policies applicable to the entire Columbia College community, see [College-Wide Policies](#).

Students are expected to read and abide by the College policies. Policies of particular interest to students include, but not limited to the following:

- Graduate Grading Policy
- Undergraduate Grading Policy
- Registration Policy and Procedures
- Withdrawal Policy
- Alcohol and Other Drugs Policy
- Family Educational Rights and Privacy Act (FERPA)

Additional Policies:

Academic Integrity and Plagiarism

Academic integrity is a cumulative process that begins with the first college learning opportunity. Students are responsible for knowing and abiding by the [Academic Integrity Policy and Procedures](#) and may not use ignorance of either as an excuse for academic misconduct. Additionally, all required papers may be submitted for textual similarity review to Turnitin.com for the detection of plagiarism. All submitted papers may be included in the Turnitin.com reference database for the purpose of detecting plagiarism. This service is subject to the Terms and Conditions of Use posted on the Turnitin.com site.

Disability Resources

If you have a disability that requires an accommodation, please speak with the instructor and consult the [Student Accessibility Resources](#) office. Student Accessibility Resources staff will determine appropriate accommodations and will work with your instructor to make sure these are available to you. To find additional information, see our [ADA and Section 504 Policy for Students](#).

Notice of Non-Discrimination and Equal Opportunity:

The College has a process through which students, faculty, staff and community members who have experienced or witnessed incidents of discrimination, harassment, or retaliation on the basis of protected status, can report their experiences to a College official. For more information, see our [Non-Discrimination and Equal Opportunity Policy and Complaint Resolution Procedure](#).

Title IX and Sexual Misconduct

The College is committed to addressing the issues of discrimination, harassment and sexual misconduct in the educational and workplace landscape and will continue to modify policies, procedures and prevention efforts as needed. For more information, see the College's [Title IX and Sexual Misconduct Policy](#).

Course Policies and Procedures:

Attendance Policy

Columbia College students are expected to attend all classes and laboratory periods for which they are enrolled.

For classes with an online component, attendance for a week includes submitting any assigned online activity. Assigned activities are scheduled prior to the course commencing. Assigned activity due dates are subject to change based on actual course progression and will be adjusted as necessary. Attendance for the week is based upon the date work is submitted. A class week is defined as the period of time between Monday and Sunday (except for week 8, when the work and the course will end at 11:59 PM Central Time on Saturday.) The course and system deadlines are based on the Central Time Zone.

Students are directly responsible to instructors for class attendance and work missed during an absence for any cause. If absences jeopardize progress in a course, the College reserves the right to drop or withdraw students from classes. For additional information, see the Administrative Withdrawal for Non-Attendance heading in the [Withdrawal Policy](#).

CougarMail

All students are provided a CougarMail account when they enroll in classes at Columbia College. You are responsible for monitoring email from that account for important messages from the College and from your instructor.

Students should use email for private messages to the instructor and other students. The class discussions are for public messages so the class members can each see what others have to say about any given topic and respond.

Late Assignment Policy

All classes rely on participation and a commitment to your instructor and your classmates to regularly engage in the reading, discussion and writing assignments. You must keep up with the schedule of reading and writing to successfully complete the class.

No late assignments will be accepted without the prior approval of the instructor.

Acceptance of a late assignment is at the discretion of the instructor.

Make-up examinations may be authorized for students who miss regularly-scheduled examinations due to circumstances beyond

their control. Make-up examinations must be administered as soon as possible after the regularly scheduled examination period and must be administered in a controlled environment.

Student Conduct

All Columbia College students, whether enrolled in a land-based or online course, are responsible for behaving in a manner consistent with Columbia College's **Student Conduct Code** and **Acceptable Computing Use Policy**. Students violating these policies or any other College policy will be referred to the office of Student Affairs and/or the office of Academic Affairs for possible disciplinary action. The Student Code of Conduct, the **Student Behavioral Misconduct Policy and Procedures**, and the Acceptable Computing Use Policy can be found in the Policy Library at ccis.edu/policies. The adjunct faculty member maintains the right to manage a positive learning environment all students must adhere to the conventions of online etiquette when enrolled in a course with an online component.