Effective: Late Fall 8-Week, 2019/2020

BIOL 110: Principles Of Biology I

Location:	Evening
Address:	1001 Rogers Street Columbia, MO 65216
Section:	19FALL2/BIOL/110/AEV
Semester Credit Hours:	3
Class Day(s) and Time(s):	Monday, Wednesday 5:30 PM - 7:30 PM from October 21, 2019 to December 14, 2019

Syllabus Contents

Course Information

Catalog Description

Fundamental processes underlying biological systems from a cellular and organismal viewpoint. Students majoring in Biology must earn a grade of C or higher.

Prerequisite: Grade of C or higher in high school biology or BIOL 108 or ACT Math and English scores above 20 or SAT scores above 470. G.E.

Additional Notes

Class will not meet on Wednesday November 27th. Class will meet on Friday November 22nd to make-up day missed for Thanksgiving Break.

Textbooks

As part of Truition[SM], students will receive their course materials automatically as described below.

Silvia Mader and Michael Windelspecht . (2019). *Biology* (13th). McGraw-Hill. *eText*

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 Tuition[SM] 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. Examine the characteristics common to all life forms.
2. Relate basic chemical concepts to cellular structure and function.
3. Describe fundamental energy transformations in living systems.
4. Investigate and describe the basic principles and mechanisms of inheritance.

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
Online Learning Activity	150	15%
Exams	600	60%
Quizzes	60	6%
Review of Journal Article	100	10%
Genetics Homework	90	9%
Total	**1000**	**100%**

Schedule of Due Dates

Week 1		
Assignment	**Points**	**Due**
Week 2		
Assignment	**Points**	**Due**
Discussion 1	25	Friday/Sunday
Quiz 1	20	First meeting of week
Week 3		
Assignment	**Points**	**Due**
Discussion 2	25	Friday/Sunday
Exam 1	200	Second meeting of week
Week 4		
Assignment	**Points**	**Due**
Discussion 3	25	Friday/Sunday
Week 5		
Assignment	**Points**	**Due**
Discussion 4	25	Friday/Sunday
Quiz 2	20	First meeting of week
Week 6		
Assignment	**Points**	**Due**
Discussion 5	25	Friday/Sunday
Exam 2	200	First meeting of week
Week 7		
Assignment	**Points**	**Due**
Discussion 6	25	Friday/Sunday
Review of Journal Article	100	First meeting of week
Week 8		
Assignment	**Points**	**Due**
Genetics Homework	90	First meeting of week
Final Exam	200	Second meeting of week

Total Points: 1000

Assignment Overview

Online Component Summary and Expectations

In weeks 2-7, you are required to actively participate in one online discussion and you are strongly encouraged to read all postings of other students and the instructor. You must post one initial post and respond to at least two other student's post or instructor's posts. Your responses must be substantive and initiate further discussion on the topic, i.e. clarifying previous statements, extending answers to previous questions, and exploring concepts that need further fleshing out with details and examples. All sources must be appropriately cited using APA style.

Assignments

Genetics Homework: A homework assignment is given during week seven when we cover the genetics material. It entails genetics problems similar to ones discussed during lecture and in the textbook. The assignment is due on the date outlined in the

schedule below. There is a 20% penalty for each day the genetics homework is late.

Review of Journal Article: Select an article covering a biological topic, read the article and in your own words summarize the contents in a paper that is a minimum of two pages in length (The heading and references do not count towards the length of the paper). The paper should be typed, double-spaced and in Arial 12 point font. Only one source is required, but if you wish you may use additional sources. Cite references using the APA or MLA format. Your paper will be evaluated for content, grammar, length and format. The paper is due on the date outlined in the schedule. There is a 20% penalty for each day the paper is submitted late. We will discuss this assignment further during class.

Late online discussion posts are not accepted.

There is no extra credit available for the course.

Examinations

Quizzes: There are three multiple choice quizzes covering material in previous class periods.

Exams: There are three multiple choice exams covering material in previous class periods.

No make-up exams will be given unless the instructor feels that the absence was justified. The student must arrange a make-up time for missed quizzes or exams with the instructor.

Course Outline

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

Week 1: Introduction; Chemistry

Lecture
First meeting of week: Introduction

Second meeting of week: Chemistry

Reading Assignments
Chapter 1

Chapter 2

Week 2: Quiz 1; Chemistry; Cellular Organization, Cellular Transport; Online Discussion

Discussion 1
Discussion 1
Plants and animals appear to be very different in both form and function, but are they? Research specific examples of both similarities and differences between plants and animals at the cellular level. Answer the question posted, providing specific examples to support your position and cite your sources.

Quiz 1
Quiz 1 over week one material will be taken in class during the first meeting of the week.
Lecture
First meeting of week: Quiz 1; Chemistry

Second meeting of week: Cellular Organization; Cell Transport

Reading Assignments
Chapter 3

Chapters 4 and 5

Week 3: Cellular Transport; Metabolism; Exam 1; Cellular Respiration; Online Discussion

Discussion 2
Discussion 2
Does it seem logical that cell membranes and membranes surrounding cell organelles have the same structure and components? Research the structural and functional makeup of cell membranes and those surrounding organelles and provide a description, with sources. Is there any evidence or actions that support the position that all membranes are functionally and structurally alike? Please provide support for your response.

Lecture
First meeting of week: Cellular Transport; Metabolism

Second meeting of week: Exam 1 followed by Cellular Respiration

Exam 1
Exam 1 will be taken in class during the second meeting of the week (Chapters: 1-6)
Reading Assignments
Chapters 5 and 6

Chapter 8

Week 4: Cellular Respiration; Photosynthesis; Online Discussion

Discussion 3
Discussion 3
ATP has been called the energy currency of life. That indicates most organisms on earth use ATP as their energy source. Research this theory and provide supporting evidence, including examples of organisms that appear to use ATP as their energy source. What does this indicate about the origin of ATP and its biological importance? Be specific about when ATP would have evolved and in what type of organism.

Lecture
First meeting of week: Cellular Respiration

Second meeting of week: Photosynthesis

Reading Assignments
Chapter 8

Chapter 7

Week 5: Quiz 2; Molecular Biology of the Gene; Cell Division; Cancer; Online Discussion

Discussion 4
Discussion 4
Most of the organisms considered to be “more advanced” from an evolutionary standpoint, reproduce sexually. This indicates there are advantages in sexual reproduction. Research the advantages of sexual reproduction compared to asexual reproduction and provide examples of both? What types of organisms mainly reproduce asexually vs those that mainly reproduce sexually? Why do you think evolution favored sexual reproduction over asexual reproduction? What is an example of an organism that can reproduce both ways? How is this advantageous? Make sure to include all your sources.

Lecture
First meeting of week:Quiz 2; Molecular Biology of the Gene

Second meeting of week: Molecular Biology of the Gene; Cell Division

Third meeting of week: Cell Division and Cancer

Quiz 2
Quiz 2 (Cellular Respiration and Photosynthesis) will be taken in class during the first meeting of the week.
Reading Assignments
Chapter 12 and pages 239-241

Chapters 9 and 10

Week 6: Exam 2; Reproduction in Flowering Plants; Online Discussion

Discussion 5
Discussion 5
Mendel developed the laws of segregation and independent assortment based on the results of his pea plant experiments. Describe each law in your own words. Do you believe these laws are explained by mitosis or meiosis and why? Explain your reasoning with specific examples using appropriate terminology.

Lecture
First meeting of week: Exam 2; Reproduction in Flowering Plants
Exam 2
Exam 2 (Chapters: 7-10; 12) will be taken in class during the first meeting of the week.
Reading Assignment
Chapter 27

Week 7: Review of Journal Article Due; Genetics; Quiz 3; Online Discussion

Discussion 6
Discussion 6
Gene mutations can occur in somatic or germ cells and have varying impacts on the organism. Provide a specific example of each type of mutation and a disorder or trait that results. Are all genetic mutations considered adverse or is it possible for genetic mutations to have positive impacts? Provide specific examples in your response and cite your sources.

Lecture
First meeting of week: Review of Journal Article Due; Genetics

Second meeting of week: Quiz 3; Genetics

Review of Journal Article
Select an article covering a biological topic, read the article and in your own words summarize the contents in a paper that is a minimum of two pages in length (The heading and references do not count towards the length of the paper). The paper should be typed, double-spaced and in Arial 12 point font. Only one source is required, but if you wish you may use additional sources. Cite references using the APA or MLA format. Your paper will be evaluated for content, grammar, length and format.
Quiz 3
Quiz 3 (Reproduction in Flowering Plants and first genetics lecture) will be taken in class during the second meeting of week.
Reading Assignment
Chapter 11

Week 8: Genetics Homework Due; Genetics; Biotechnology; Final Exam

Lecture
First meeting of week: Genetics Homework Due; Genetics; Biotechnology

Second meeting of week: Final Exam

Genetics Homework
Genetics Homework is due in class on the first meeting of the week.
Final Exam
The final exam will be taken in class during the second meeting of the week.
Reading Assignments
Chapters 11 and 14

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

Smarthinking is a free online tutoring service available to all Columbia College students. Smarthinking provides real-time online tutoring and homework help for Math, English, and Writing. Smarthinking 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 Smarthinking 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.