**FALL 2023**

**COURSE SYLLABUS**

**DIVISION OF NATURAL SCIENCE**

**CAMPBELLSVILLE UNIVERSITY**

**I. Course Information:**

BIO 110-03 Biology

Lecture: TR 9:30 a.m. – 10:45 a.m. SSC 220

Course description from the catalog:

“An examination of basic biological principles and concepts including a

survey of the six kingdoms. This course is a general education course and

does not count toward a major or minor in biology.”

Text: ISBN: 978-0-357-12754-4 looseleaf

Starr, C, Evers, CA, and Starr, L. 2021. Biology: Today and Tomorrow with Physiology, 6th ed. Boston: Cengage Learning.

Access Card: IAC ISBN - 8220118200693

Instructor:

Dr. William J Mackay Office: Carter Hall 204

Phone: (270) 789-5487 (office), 814-440-7950 (cell)

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Office Hours: MWF 8-9

M 12-2

TR 8-9:30

Dr. Mackay’s Web Page: [www.wjmmackay.com](http://www.wjmmackay.com)

To report emergencies or an incident on campus please call

The Office of Campus Safety and Security @ (270)-789-5555 or cell phone (270)-403-3611.

**II. Purpose/Objectives/Assessment:**

Biology is a course for non-Biology majors. It fulfills one of the General Education requirements for a liberal arts education as a biological science and meets General Education competencies.

Biology is designed to provide an overview of biology by introducing students to fundamental concepts. By investigating these fundamental concepts, each student will develop an appreciation for the complexity of life. Each student will also become aware of the diversity of organisms and the functioning of animals.

Desired outcomes and assessment:

1. Students will be able to recall the basic ideas of biology.

(Evidence: exams)

2. Students will be able to describe the diversity of organisms.

(Evidence: exams)

3. Students will be able to describe how animals function.

(Evidence: exams)

4. Students will be able to analyze a news article and a situation using the basic ideas of biology and their application.

(Goals: Critical Thinking, Quantitative Literacy, and Social Responsibility and Citizenship; Evidence: successful completion of a news article analysis and case studies)

5. Students will critique a book written for the general public about biology.

(Goals: Critical Thinking, Oral and Written Communication, and Social Responsibility and Citizenship; Evidence: book review).

**III. Course Outline:**

Prerequisites:

There are no prerequisites for BIO 110.

Topical Outline:

CHAPTERS TOPIC

1 Invitation to biology

2, 3 How cells work

**EXAM I – Sep.7\***

4-8 Metabolism/Photosynthesis/Respiration

DNA/Gene Expression

**EXAM II – Sep. 28\***

9-13 Cell Reproduction/Genetics/Biotechnology

Evolution and Diversity

**EXAM III – Oct. 26\***

14-18; 20-23 Bacteria/Protists/Fungi/Plants/Animals Ecology/Tissues/Movement/CVS/Resp/Immunity

**EXAM IV – Dec. 7\***

**\*Except for exam IV, exam dates are tentative.**

Each lecture will cover the textbook information which is perceived as the most difficult or most important. It is important to read the textbook chapters before lecture in order to have the necessary background to follow the lecture.

**IV. Evaluation and Requirements:**

Your final grade for BIO 110 will be based on the following:

Exams (Sep. 7, Sep. 28, Oct. 26, Dec. 7) 65%

Web site evaluation (Nov. 3) 5%

Book Review (Nov. 10) 5%

Quizzes 25%

TOTAL 100%

(Late work: The student will lose 10% of the points for an assignment for each class period that it is late. Unless previous arrangements have been made, no work will be accepted after 5:00 p.m. of the last day of classes. Work is due at the beginning of class unless otherwise specified.)

Letter grades will be assigned based on your point totals with the following:

90% and above = A

89% - 80% = B

79% - 70% = C

69% - 60% = D

59% and below = F.

The lower limit for one or more of the letter grade ranges may be lowered depending on the performance of the class.

Examination Material:

The major exams will cover lecture notes, case studies, videos, and reading in the textbook. The questions on an exam may be objective or discussion. The types of questions on the exams will include multiple choice, short answer, and essay. If there is a change from the schedule above, notice of the date of major exams will be given at least one week in advance.

Quizzes will be given to encourage preparation.

Special assignments and extra work will not be allowed as a substitute for performance on quizzes, assignments, or exams.

Each student is required to do the activity “Evaluating Science in the News.” The necessary information is found at <https://www.biointeractive.org/classroom-resources/evaluating-science-news>. You are required to complete the extended handout. The evaluation will be due on **Nov. 2 by 8 am**.

Each student is required to read one of the books listed in Appendix B. The student must write a three to five page book review about the reading. About half of the review should be a summary of the reading and the other half the student’s thoughts about the reading (critique). There must also be a final summary paragraph. The book review will be due on **Nov. 10 by 9:30 am.** The review must be typed (double-spaced). The review will be graded on grammar, form, and content.

Assistance available:

Assistance is available from the instructor. Also, check at the BASC for tutoring and writing assistance.

Expectations of the student:

Students are expected to read material before class, be on time to all classes, listen and take notes during class, review notes and material after class, ask questions or get assistance as needed, be prepared for exams by reviewing notes and material to be covered by the exam, and submit assignments on time. Students should expect to devote at least 2 hours outside of class for every hour in class.

Unless informed otherwise lectures meet as long as the University is in session. See the CU Web site for weather related announcements.

**V. Attendance:**

See the student handbook for the full university policy.

Students are expected to attend class and attendance will be recorded. If you are late, it is your responsibility after class to request the instructor to change your absence to tardy.

Absences due to illness, unavoidable personal emergency, or participation in a university-sponsored event: You will be allowed to make-up all work (see Appendix B). If a planned absence occurs on a date that an assignment is due, then you need to turn in the assignment before your absence. These absences still count in determining your total absences.

Other absences: You will generally not be able to make-up the work (see Appendix B).

When you have been absent 6 times, **for any reason**, the Dean of Academic Support will be informed and you will receive a warning. Other individuals who may be affected by your absences may also be apprised of your situation.

When you have been absent 12 times, **for any reason**, the Dean of Academic Support will be informed and the process to award a grade of WA will be initiated.

Under extenuating circumstances, allowances in this policy may be made by the instructor in conference with the student.

**VI. Academic Integrity**

**Academic integrity is expected from all students and the instructor. Cheating or plagiarism will not be tolerated and will result in a 0 for the exam or assignment.** A second occurrence may result in a course grade of F. See the CU catalog or the student handbook. Also see the Division of Natural Science Academic Integrity Policy.

**VII. Title IX Information**

**VIII. Students with learning differences:**

**IX. Bibliography:**

Sources for further study may be found listed in the Web site for the textbook.

**X. Affect of COVID-19 on class:**

We will meet each day as scheduled until we cannot. We will meet in-person on Tuesdays and by Zoom on Thursdays. If you have to quarantine or isolate, let me know and I will count your remote access for all of your attendance. If you have other reasons for not meeting in person, you must have my permission to watch the class on Zoom. Other than those exceptions, you are expected to be at the in-person class. If we have to change to remote learning, we will have synchronous meetings on Zoom at the regular class times. You are expected to appear on screen during the Zoom meetings.

**NOTE: THE PROFESSOR RESERVES THE RIGHT TO CHANGE ANYTHING ON THIS SYLLABUS.**

**APPENDIX A**

# LIST OF BOOKS FOR ESSAY

Attenborough, David. The Trials of Life.

Blumberg, Mark S. Body Heat: Temperature and Life on Earth.\*

Carroll, Sean B. Into the Jungle: Great Adventures in the Search for Evolution.

Collins, Francis. The Language of Life.

Cook-Deegan, Robert. The Gene Wars: Science, Politics, and the Human Genome.

Crick, Francis. What Mad Pursuit.\*

Davies, Kevin. Cracking the Genome.

Dixon, Bernard. Power Unseen.

Erzinҫlioğlu, Zakaria. Maggots, Murder, and Men.

Fenster, Julie M. Mavericks, Miracles, and Medicine.

Gross, Michael. Life on the Edge.\*

Harris, Henry. The Birth of the Cell.

Jahren, Hope. Lab Girl.

Marks, Jonathan. What It Means to Be 98 Percent Chimpanzee: Apes, People, and Their Genes.\*

McCarty, Maclyn. The Transforming Principle.

Oldstone, Michael B. A. Viruses, Plagues, and History.\*

Pollack, Robert. Signs of Life: The Language and Meanings of DNA.

Postgate, John. The Outer Reaches of Life.\*

Preston, Richard. Hot Zone.\*

Ridley, Matt. Genome.

Ryan, Frank. Virus X.

Sherman, Irwin W. Twelve Diseases that Changed Our World.

Taylor, Michael Ray. Dark Life.

Thomas, Lewis. The Lives of a Cell\*, The Medusa and the Snail\*, or The Fragile Species

Wakeford, Tom. Liaisons of Life.\*

Waller, John. The Discovery of the Germ.\*

Weissmann, Gerald. The Year of the Genome or Epigenetics in the Age of Twitter.\*

Wright, Richard T. Biology Through the Eyes of Faith.\*

\* Found in the CU Montgomery Library collection.

You may choose another biology-related book, but must have the instructor’s approval to use the book on or before October 2.

**APPENDIX B**

**REQUEST TO MAKE-UP WORK/BE EXCUSED FROM ASSIGNMENT**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Print and sign)

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date of Absence \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (this form must be submitted at least by the next class period that you are present or before the absence for participation in a university-sponsored event)

Reason for Absence

□ Illness

□ Unavoidable personal emergency

□ Participation in a university-sponsored event

Provide more information or other reason:

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Work missed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

□ Work to be made-up by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

□ Excused from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

□ Work counts as a zero (0)

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Instructor date