

Introductory Biology

BIO 110.I50
Spring 2021



Number of Credits: 4 credits

Days Class Meets: Online

Meeting Times: Online

Online Office Hours: 10 AM-2 PM
Tuesday-Thursday

Instructor: Dr. Matt Badtke

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Course Description

Students will investigate the nature of science and critically analyze scientific data and current biological issues. Basic biological concepts including cell structure and function, context of current issues. This course is designed for non-science majors. This course includes a laboratory component.

Prerequisite(s)

ENG 085 or 090, and MAT 031

Course Focus

The main focus of this course is to improve scientific literacy. Many students fail to see the relevance of science in their lives. To address this, this course will approach science from current topics that you should be able to relate to in your life. We will then need to learn some biology to understand these topics.

Course Objectives

Students successfully completing this course should be able to:

1. Describe the nature of science and how it is a self-correcting process
2. Understand the factors affecting global warming and other human impacts on the environment
3. Identify cell structures and describe their functions
4. Explain the origin of cancer cells and factors affecting their growth
5. Understand the basic structure and function of DNA
6. Understand the mechanisms of evolutionary change and how evolution differs from non-scientific explanations

General Education Outcomes

The course goals and objectives incorporate specific General Education Outcomes (GEOs) established by the JC Board of Trustees, administration, and faculty. These goals are in concert with four-year colleges and universities and reflect input from the professional communities we serve. GEOs guarantee students achieve goals necessary for graduation credit, transferability, and professional skills needed in many certification programs. The GEOs and course objectives addressed in this class include the following:

GEO 4—Demonstrate Scientific Reasoning (addressed through course objectives 1-6)

Textbook

Biology: The Core. 3rd Ed. Eric J. Simon (ISBN: 978-013-4189151-4)

Text Book Zero! This text is available for purchase in both electronic and printed formats.

Follett Access! Please review the cost of your required materials at the following link to determine the best option for you to purchase your materials: <https://www.bkstr.com/jacksonstore>

For more information on the Follett ACCESS Program, you can view the frequently asked questions here: <https://www.jccmi.edu/bookstore/student-services-follett-access/>.

If after reviewing the costs, you choose to opt out, you may do so here: www.jccmi.edu/optout. Please note your opt out selection is for your entire semester schedule. You cannot opt out and opt in to individual courses. And you must opt out by the due date for your first class.

If you have questions about materials, please contact the Jackson College Follett bookstore at jackson@bkstr.com. For account billing questions, please contact the Jackson College Cashier at jccashier@jccmi.edu.

Grading Procedure

Your course grade will be based on your performance in the assessment categories found in the table below. The course will comprise both lecture and lab components.

Assessment Category	Points	Details
Learning Celebrations	400	4, each worth 100 points
Position Papers	50	5, each worth 10 points
Lab Reports/Summary Write-Ups	100	12, each worth 10 points, drop lowest 2
Lab Quizzes	50	2, each worth 25 points

Fact Finding Missions	Points	Details
Assigned for each of the first 11 topics	(100)	11, each worth 10 points, lowest score dropped

Topic Briefings	Points	Details
Assigned for each of the first 11 topics	100	10 points each, lowest score dropped

Attendance: Please be sure that you are logging into the course several times during the week.

Learning Celebrations: Learning Celebration formats may include, multiple choice, matching, fill-in, short answer, essay, application, and problem solving; they will be 100 points each. A Final Cumulative Learning Celebrations will be due the last day of class. If there is evidence that you have cheated or plagiarized, the exam will be scored a zero and implementation of the academic dishonesty policy will be started. A low score due to academic dishonesty cannot be dropped.

Laboratory: As a part of lab, you will be working through online lab activities located on our jetnet page. The lowest 2 laboratory exercise grades will be dropped. In order to fulfill the General Education Outcomes for a laboratory science course, students must complete 10 out of the 12 laboratory exercises. Failure to do so will result in a course grade of 0.0 regardless of the grades in the rest of the course.

Late work: Unless special arrangements are made in advance, no credit will be given for late work. In fairness to students who complete their work on time, this policy will be strictly enforced.

Extra Credit: No extra credit be given/accepted under any circumstance. Rather time should be taken to learn the assigned material.

Grading Scale

Final grades will be assigned based on the percentage of possible points earned as shown in the table below. The grading scale will be as followed pending further notice and grades will be rounded to the nearest percent. Grades will be curved at the instructor's discretion and will only be applied if it will improve grades.

Grade	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5
Minimum %	90.0	85.0	80.0	75.0	70.0	65.0	60.0	50.0

Course Management

Incompletes: In accordance with JC's Incomplete Grade policy, a student may request the grade of Incomplete if they are unable to complete the course work for some documentable unforeseen circumstance. The Incomplete will be granted if at least 50% of the assigned work in the course (including both assignments and exams) has been performed with sufficient quality (with an average grade of 2.0) and the student provides documentation of the circumstance. The student will be required to provide a detailed written schedule with due dates for making up the missing work during the following semester.

Academic Honesty Policy

Academic Honesty is defined as ethical behavior that includes student production of their own work and not representing others' work as their own, by cheating or by helping others to do so.

Plagiarism is defined as the failure to give credit for the use of material from outside sources. Plagiarism includes but is not limited to:

- Submitting other's work as your own
- Using data, illustrations, pictures, quotations, or paraphrases from other sources without adequate documentation
- Reusing significant, identical or nearly identical portions of one's own prior work without acknowledging that one is doing so or without citing this original work (self-plagiarism)

Cheating is defined as obtaining answers/material from an outside source without authorization. Cheating includes, but is not limited to:

- Copying
- Falsifying data
- Altering graded work
- Plagiarizing in any form
- Allowing your work to be submitted by others
- Exhibiting other behaviors generally considered unethical
- Using notes/books/electronic material without authorization
- Submitting others' work as your own or submitting your work for others

Help

If you have special needs that I should be aware of in order to help you to best learn course material, please let me know as soon as possible. Accommodations cannot be applied retroactively. Students requiring special

assistance (including those affected by the Americans With Disabilities Act) should contact the Center for Student Success in Bert Walker Hall Room 138 (517-796-8414) or visit the following website:

<https://www.jccmi.edu/center-for-student-success/accommodations-for-students-with-disabilities/>

Tutoring services: Tutoring services are free at JC if at any point in the course you feel that you would benefit from a tutor, contact the Center.

Accommodations: If you need any specific accommodations, it is your responsibility to make me aware of those needs as soon as possible so suitable arrangements may be made. In order to receive special accommodations, I will also need the necessary paperwork from Student Services.

Attendance Policy

Just as in a traditional classroom course, regular class participation and keeping up on the reading and assignments is strongly correlated with survival in college. It is my recommendation that you plan to do your assignments and take your exams BEFORE the last day they are due. If problems occur, there is time to fix them before the deadline.

In compliance with Federal Title IV funding requirements, as well as college initiatives, I will be monitoring student participation on a regular basis and officially reporting student activity throughout the term to assure compliance with college policy and federal regulations. It is imperative that you log in to the course and actively participate **within the first couple of days of the term** to validate your enrollment in the course. After that, not actively participating in class may result in you being withdrawn from the course. Being withdrawn from a course can have an impact on financial aid, billing, athletic eligibility, and housing status. As a college student you are responsible for how your participation impacts your academic progress; the accountability lies with you.

Failure

The college is required to drop students from classes if they are not participating. Examples of non-participation include:

- Failure to login the first or second day of class without contacting the instructor
- Failure to complete three (2) Position Papers or three (2) Laboratory Reports
- Failure to take two (2) Learning Celebrations

Any of these examples of non-participation may result in your immediate dismissal from the course. If you fail to participate after the final reporting period (1 week after mid-term) you will not be automatically dropped from the course, but will receive a grade of 0.0 for failing to participate in the course.

Students own the responsibility of the effect of being dropped. Being dropped from the class may affect financial aid or housing status. If you are dropped, the drop status will NOT be changed due to the impact on financial aid, housing status, etc.

Caveat

The policies included in this document are subject to change at the instructor's discretion. Some minor revisions may be necessary during the semester due to unforeseen circumstances (e.g., weather-related school closings, instructor illness, etc.).

Expectations & Guidelines for Success

- When you have an unavoidable absence, contact the instructor
- Read the assigned chapters, This will help reinforce the topics covered.
- Study class materials for at least 2 hours outside of class for each hour in class.
- Do not hesitate to contact the instructor about concerns you may have with the class.
- Make use of the instructor's office hours.
- Review study practices at <https://www.jccmi.edu/science/how-to-study-science/>

Other Course Policies

Assistance: If you need assistance in this course, I encourage schedule a time to meet with me during office hours to discuss your study strategies. You may also benefit from discussion strategies with your classmates or setting up group study sessions. If you feel that you would benefit from a tutor, be aware that tutors are available free of charge. Additional information on special services may be found by contacting the front office or through the JC's Center for Student Success (796-8415).

JetNet Resources: Many course materials can be accessed through the JetNet course management system. This is the way you will be able to view your grades, announcements, screencasts, animations, etc. You are expected to use JetNet to help you track assignments and due dates.

Grievances: If you have a concern about any aspect of the course it is your responsibility to bring it to the instructor's attention. This is the first step of handling any academic concern.

Calendar (subject to revision if necessary)

WEEK	DATES	TEXTBOOK Chapter (section)	JETNET HOMEWORK	TOPICS
1	6/7-6/13	1(4-10)	FFM 1, Topic 1 briefing	Nature of Science
2	6/14-6/20	7(1-7), 8(8), 10(11)	FFM 2, Topic 2 briefing	Evolution, Natural Selection
2	6/14-6/20	3(1), 7(12), skim 8-10	Position Paper 1, FFM 3, Topic 3 briefing	Diversity of Life
All assignments due 11:59 PM on Sundays		Learning Celebration 1- Must be completed by June 20		
3	6/21-6/27	12(4-6)	FFM 4, Topic 4 briefing	Population Growth
3	6/21-6/27	Core Issue 10	Position Paper 2, FFM 5, Topic briefing 5	Climate Change
4	6/28-7/4	12(10-11)	FFM 6, Topic briefing 6	Carbon and Ecological Footprints
4	6/28-7/4	12(17-19)	Position Paper 3, FFM 7, Topic briefing 7	Planetary Boundaries
All assignments due at 11:59 PM on Sundays		Learning Celebration 2- Must be completed by July 4		
5	7/5-7/11	Core Issue 1, 2(7-12), 11(4-7)	FFM 8, Topic briefing 8	Nutrition, Activity, Wellness
5	7/5-7/11	Core Issue 2, 5(1-10), 6(12)	FFM 9, Topic briefing 9	Cell Division, Cancer
6	7/12-7/18	5(11-18)	FFM 10, Topic briefing 10	Genetics
6	7/12-7/18	3(5), 6(1-7, 10, 17)	FFM 11, Topic briefing 11	DNA, Genetic Engineering
			Position Paper 4	
All assignments due at 11:59 PM on Sundays		Learning Celebration 3- Must be completed by July 18		
7	7/19-7/25	11(16-18)	Position Paper 4	Reproduction I
7	7/19-7/25			Reproduction II
		Learning Celebration 4 (with comprehensive final)- Must be completed by July 25		

Important Dates: Spring 2021

DATE	EVENT
June 7-July 25	Semester Dates
July 3-5	4th of July Holiday
July 25	Last day of class

BIO 110 Laboratory Schedule Spring 2021

WEEK	DATES	LAB	LECTURE
1	6/7-6/13	Habitat Exploration 1	Course Introduction
1	6/7-6/13	Habitat Exploration 2	The Nature of Science
2	6/14-6/20	EvoDots Simulation	Evolution/Natural Selection
2	6/14-6/20	Habitat Exploration 3	Diversity of Life
3	6/21-6/27	Habitat Exploration 4	Population Growth
3	6/21-6/27	Before the Flood Video	Climate Change
4	6/28-7/4	What's your Ecological Footprint?	Sustainability/Global Health
4	6/28-7/4	Lab Quiz 1	Planetary Boundaries
5	7/5-7/11	Nutrition	Nutrition, Activity, and Wellness
5	7/5-7/11	Cell Division	Cell Division/Cancer
6	7/12-7/18	Genetics	Genetics
6	7/12-7/18	DNA Structure and Extraction	DNA/Genetic Engineering
7	7/19-7/25	Experimentation	Reproduction
7	7/19-7/25	Lab Quiz 2	Pregnancy & Childbirth