

BIO 110.81: INTRODUCTORY BIOLOGY—WINTER 2018

LECTURE: **MONDAYS & WEDNESDAYS – 6:00PM-7:27PM** (ROOM 11)

LAB: **WEDNESDAYS – 7:30PM-9:27PM** (ROOM 11)

Instructor: Curt Blankespoor

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Please put “BIO 110.81” in the subject line of all emails relating to this course

Office Hours: **MONDAYS & WEDNESDAYS – 4:30PM -6:00PM, BY APPOINTMENT**

Office: James McDivitt 232A

Phone: 517.796.8588

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, molecular biology, biotechnology, nutrient cycles, and evolution are presented in the context of current issues. This course is designed for non-science majors. This course includes a laboratory component. Prerequisites: ENG 085 or 090, and MTH 031

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 general education outcome assessed in this course:

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

Required Text:

Biology: Science for Life: Belk & Borden Maier

ISBN: 978-323-19264-1 or 1-323-196264-9

This text is available for purchase in both electronic and printed formats. Both versions come with optional access to MasteringBiology.

Biology 110 Lab Manual: must be purchased at campus bookstore

Instructors Statement:

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.

Expectations & Guidelines for Success:

- Attend all classes and arrive on time
- When you have an unavoidable absence, contact the instructor for missed assignments
- Read the assigned chapters, either before or after lecture. This will help reinforce the topics covered.
- Study class materials for at least 2 hours outside of class for each hour in class.
- Participate in class discussions.
- Participate in group study sessions, this can be the most effective form of learning for many students
- 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/>

Attendance: Attendance is critical to your success in this course. Please be prompt and prepared for each class. The doors on classrooms are now required to be locked at all times for security purposes. If you arrive late, please knock and wait patiently until you are allowed in the class.

In-class work: There are 24 non-exam class meeting times. Students actively participating during the lecture will receive 4 points if they arrive before I start class, but only 2 points if they arrive after I start class. There is no way to make up missed in-class work.

Exams: Exam formats may include, multiple choice, matching, fill-in, short answer, essay, application, and problem solving. Dates for the exams will be discussed in class. Exams will be 100 points each. A final cumulative exam will be given on the last day of class. Your lowest exam score for the semester will be dropped (the final exam cannot be dropped). The intention of this policy is to account for a missed exam or a poor performance due to circumstances that are beyond your control. However, some students start to count on the dropped test policy to cover for a poor exam. Do not plan on this as you may experience an absence latter in the semester. During exams, electronic devices must be turned off and may not be within reach unless otherwise specified by the instructor. Violation of this will result in a zero and implementation of the academic dishonesty policy. Low scores due to academic dishonesty cannot be dropped.

Laboratory: As a part of lab, you will be working in a group of up to four people. It is expected that you will work together to complete the exercise. As such, you may not leave lab until all individuals in your group have completed the lab exercise. The reason for this is that lab is a group activity and cooperation is required. Prior to leaving lab, the lab needs to be clean. If the lab is in disorder, students leaving will lose points for the day. Due to the fact that the laboratory rooms and equipment are not readily available, make-up laboratories will not be possible. However, the lowest 3 laboratory exercise grades will be dropped. In order to fulfill the General Education Outcomes for a laboratory science course, students must complete 11 out of the 13 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.

Final Course Grade: Your course grade will be based on five exams, lab reports, weekly quizzes, out-of-class work, and in-class work. Each of these is assigned a point value for a maximum of 800 points obtainable (600 points from lecture activities and 200 points from lab activities) of which for the course will comprise both lecture (75%) and lab (25%) components.

Assessment	Points	Details
Out-of-class work (Fact-finding missions)	100	10, each worth 10 points
In-class work (Group assignments)	100	10, each worth 10 points
Weekly quizzes (Individual/group)*	100	13, each worth 10 points, drop the lowest 3
Lab reports	100	13, each worth 10 points, drop the lowest 3
Exams (combination of lecture/lab)	300	4 exams, each worth 100 points, drop the lowest
Final Exam	100	This exam can NOT be dropped.

*or lowest of 4 Exams (i.e., the exam score that was dropped), whichever score is greater

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.

Minimum %	90.0	85.0	80.0	75.0	70.0	65.0	60.0	55.0
Minimum Points	720	680	640	600	560	520	480	440
Grade	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5

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

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.

Course Help and Special Needs: 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. 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). Tutoring services are free at JCC if at any point in the course you feel that you would benefit from a tutor, contact the Center.

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.

Being Dropped from Class: JC is required to drop students from classes if they are not participating. If you miss more than 4 lectures, 2 labs, or are not participating (not turning in assignments for example) you will be dropped from the class. Be aware that this is a lab course and attendance/participation in lab is required to receive credit for the course. After the drop date, a student missing sufficient days will receive a 0.0 for 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.

Academic Dishonesty: Consistent with JCC policy, cheating and plagiarism (copying another's work and presenting it as your own) will not be tolerated. To minimize the risk of this, phones will not be permitted out or within reach in any way during tests and quizzes. Having a phone within reach or using a smart watch will be considered cheating and will result in implementation of the cheating policy.

A first offense of cheating, plagiarism, and unethical behavior will result in a zero for the assignment and a deduction of the points value of the assignment from points earned. This score may not be dropped. A second offense will result in a zero for the course. All cases of academic dishonesty will be documented and forwarded to the Academic Dean.

Phones in the Classroom: Research has clearly shown that having a cell phone out in class has a negative effect on learning and success. One study reported that students accessing their phones even once in class have an average earned grade 0.5 points less than those that do not have a phone out. Students with grades less than a 3.0 have even greater negative effect on their grade. JC has made a point of emphasizing student success. As such, **phones are not permitted to be out in class (this includes texting)**. If you have a phone with you, leave it in your backpack or pocket. If you have matters that require such vital importance that it requires you to focus on text messages or calls, you probably should not be in class. If you access your phone in class you will be asked to leave for 10 minutes while you take care of the matter. A refusal to leave or the third time you access your phone over the semester will result in application of the disruptive behavior policy.

Disruptive Behavior: Disruptive behaviors will not be tolerated in this class. Disruptive behaviors include (but are not limited to) having side discussions, being distracting to class when arriving late, cell phone constantly ringing, and being disrespectful of others. These behaviors will result in point deductions of up to 15 points and being asked to leave the class. If there are situations that I may not be aware of, please let me know so the situation may be addressed.

Incompletes: Incompletes will only be issued if the student and is unable to complete the course due to extenuating circumstances. In order to receive an incomplete, the student must have completed a vast majority (over 90%) of the course and have been earning a minimum of a 2.0 at the time of the request. If a grade of incomplete is issued all grades/scores earned to that date will be used in calculated the course grade.

Assistance: If you are in need of 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).

Accommodations: If you have special needs or accommodations, it is your responsibility to make the instructor 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. Accommodations cannot be applied retroactively.

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.

Note: The policies included in this document are subject to the instructor's discretion.

Biology 110 Learning Contract: As a student taking Biology 110, I understand my responsibilities as follows:

- I understand and accept the policies outlined in this syllabus
- I understand that this is a transferable college level course that transfers easily to most colleges and universities
- I understand that this is not an "easy" or "blow-off" course.
- I understand that if I do not come to class prepared, having studied previous material, completed homework, and read from the book that I will not be successful in this course
- I understand that this course builds upon previous information and falling behind will make the course more challenging.
- I understand that attendance and being to class on-time are critical to my success in this course.
- I will ask questions that I have about the course material.
- I will help my fellow student understand the course material.
- I understand that if I cheat in this course, it may affect my ability to obtain certain jobs in health care or with the government for the rest of my life.
- If I need help or have special problems, I will see the instructor, or request a tutor before I fall too far behind.
- If I have a complaint about the course, I will first discuss it with the instructor as per JC policy.

BIO 110.81.W18: TENTATIVE COURSE CALENDAR

<u>Date</u>	<u>Topic</u>	<u>Textbook References</u>
Jan 15-17	What can I expect from this prof? this course?	
17	LAB: <i>Contact</i>	
19	(<i>Fact Finding Mission 1</i>)	
22-24	The Nature of Science: How do we know how the world works?	Chapters 1-2
24	LAB: Modeling scientific investigation: Mother Nature card game	
26	(<i>Fact Finding Mission 2</i>)	
29-31	Evolution/Natural selection: How do species arise and adapt?	Chapters 10-11
31	LAB: Evidence for evolution, Natural selection	
Feb 2	(<i>Fact Finding Mission 3</i>)	
5	Diversity of life	Chapter 13
Feb 7	Exam 1	
7	LAB: Graphing data sets	
9	(<i>Fact Finding Mission 4</i>)	
12-14	Population growth: How many people can a single planet hold?	Chapter 14
14	LAB: Dreaded red disease	
16	(<i>Fact Finding Mission 5</i>)	
19-21	Humanity's impact on the Earth: How warm is the earth getting?	Chapter 5
21	LAB: <i>Before the Flood</i> , Scientific measurements	
23	(<i>Fact Finding Mission 6</i>)	
26-28	My impact on the Earth: What's my carbon footprint?	Chapter 15
28	LAB: <i>King Corn</i> , Biostatistics	
Mar 5	Exam 2	
7	Nutrition, Activity, and Wellness: How can we live a healthy lifestyle?	Chapters 2-3
7	LAB: <i>Big River</i>	
12-18	Enjoy your Spring Break	
19-21	Cancer: How can it be prevented, diagnosed, and treated?	Chapter 6
21	LAB: Cells, Microscopy, Pop beads	
23	(<i>Fact Finding Mission 7</i>)	
26-28	Inheritance and Genes: Does disease have a genetic basis?	Chapter 7
28	LAB: Corn genetics, Genetics problems, Paternity case	
30	(<i>Fact Finding Mission 8</i>)	
Apr 2-4	Genes and Physical Characteristics: What are genes made of?	Chapter 8
4	LAB: DNA structure and extraction, <i>GATTACA</i>	

Apr	9	Exam 3	
	11	Human Evolution: Who are our ancestors?	Chapter 10
	11	LAB: Human evolution, <i>Becoming Human</i>	
	13	(<i>Fact Finding Mission 9</i>)	
	16-18	Reproduction: Why do mating strategies differ between females and males?	Chapter 21
	18	LAB: TBA	
	20	(<i>Fact Finding Mission 10</i>)	
	23-25	Human Development: How do cells make a person?	Chapter 21
	25	LAB: TBA	
	30	Exam 4 & Comprehensive Final	

Typical week's schedule

Monday

Briefing (mini-lecture, movie clip, newspaper article, etc.)

Learning activities:

Group assignments

Small group discussion

Large group discussion

Wednesday

Learning activities:

Small group discussion

Large group discussion

Movie/movie clip

Debriefing

Roll Assessment Dice

1, 2, or 3 = Individual quiz/individual scores

4, 5, or 6 = Group quiz

(Due Friday by 5pm)

Upload Fact Finding Mission assignment

"No one cares how much you know...once they know how much you care."