

UMASS Boston Biol111 General Biology I

Instructor:

Class Location:

Class Time:

Lecturer:

Office Hours: Monday and Wednesday 5:00pm – 5:30pm in person or by appointment via Zoom.

The best way to contact me is via email. **Please put BIO111 in the subject line.**

Course Objectives: This is an introductory biology class that is intended for students majoring in Biology or any science discipline. This course is also a prerequisite for Pre-medical, dental, or vet students. This course will introduce students to:

- Major biological molecules
- Metabolism
- Signal Transduction
- Cell division
- Genetics
- Gene expression
- Mutations
- Genomes

Textbook and Other Materials:

1. **Freeman:** Biological Sciences 7th edition is recommended. However, older editions of Freeman Biological Sciences, Cambell Biology 10th edition or Openstax Concepts of Biology are acceptable substitutes.
2. **Access code to MasteringBiology**
 - a. You have multiple options:
 - i. purchase MasteringBiology access code **only** online through our Blackboard course shell (**\$74.99**)
 - ii. purchase MasteringBiology access code with eText version of the textbook through our Blackboard course shell (**18 week = \$74.99**)
 - iii. purchase MasteringBiology access code card with eText in the bookstore - If you you are making your purchase through the bookstore, there might be a difference in price.
 - iv. you can always buy the printed version of the textbook online within MasteringBiology (**\$49.99**)
3. **Laboratory Manual** – Quinn Printing – usually about \$10-14

Grading

The grade will be based on performance in class and laboratory.

There will be NO make up exams, if you miss an exam, you will receive a ZERO.

Grading:

| | |
|-----------------------------|---|
| 5 exams (80 points each) | 40% (each exam has extra credit built in) |
| Lab | 25% (possible extra credit up to 5%) |
| Pre-lecture quizzes | 10% |
| iclickers | 10% |
| <u>Pearson Mastering HW</u> | <u>15%</u> |
| Total | 100% |

Homework: Homework is going to be posted online. You are required to purchase Mastering Biology access code. These are available either at the bookstore when you are purchasing the book (make sure you purchase a copy that comes with it), or you can buy it separately online. **I recommend that you purchase it through our BB shell.** Homework assignments will be assigned and graded on weekly basis. They are based on the lecture and the book. More on this in class.

Pre-Lecture Quizzes are available on Blackboard. Before each lecture, you are required to read the assigned text and complete the assigned pre-lecture quiz. **This quiz will close 10 minutes before the lecture starts** and you get two attempts. The highest score will be retained. More on this in class.

In-Class Work is based on your participation in polls during lectures. Your participation is monitored regularly using **iclickers** and will be a part of your final grade.

Lectures and Lecture Notes: All lectures are recorded, and videos are posted exclusively on Blackboard. If you have any issues with this setup, please contact me ASAP. **Lecture videos are NOT a substitute for your regular lecture attendance!** You are still required to attend lectures. Lecture notes can be found on Blackboard.

Exams: Will be done through Blackboard. Exam dates are indicated in the schedule below.

Exams and assessment measures in this course will be proctored using an online method or service (Respondus Lockdown Browser – more on this in class). Students should address any concerns they have regarding proctoring with their instructor prior to the add/drop deadline

No makeup exams!!!! If you are in need of special arrangements due to a disability you must coordinate this through the Ross Disability Center ASAP. Please inform me about your arrangements **before** the first exam.

Course Schedule:

| Week | Day | Lecture | Chapter | Pre-Lecture Quizzes | Mastering Biology |
|------|--------|---|---------|--------------------------|----------------------------|
| 1 | 23-Jan | General Introduction + The Tree of Life and Evolution | Ch 1 | | |
| | 25-Jan | Atoms, Bonds | Ch 2 | Quiz 1 due | |
| 2 | 30-Jan | Water | Ch 2 | Quiz 2 due | |
| | 1-Feb | Carbon | Ch 2 | Quiz 3 due | 2/6 Chapter 2 due |
| 3 | 6-Feb | Carbon + Macromolecules: Proteins and Enzymes | Ch 3 | Quiz 4 due | |
| | 8-Feb | Review | | No quiz due | 2/13 Chapter 3 due |
| 4 | 13-Feb | Exam 1 (chapters 1 and 2) | | Exam | |
| | 15-Feb | Macromolecules: Proteins, Nucleic Acids | Ch 3, 4 | Quiz 5 due | 2/20 Chapter 4 due |
| 5 | 20-Feb | Presidents' Day - NO CLASS! | | No class | |
| | 22-Feb | Macromolecules: Carbohydrates and Lipids | Ch 5, 6 | Quiz 6 due | 2/27 Chapter 5 and 6 due |
| 6 | 27-Feb | Inside the cell – Structures | Ch 7 | Quiz 7 due | |
| | 1-Mar | Inside the cell – Systems | Ch 7 | Quiz 8 due | 3/6 Chapter 7 due |
| 7 | 6-Mar | Review | | No quiz due | |
| | 8-Mar | Exam 2 (chapters 3, 4, 5, 6, 7) | | Exam | |
| 8 | 13-Mar | SPRING BREAK - NO CLASS! | | Spring Break | Spring Break |
| | 15-Mar | SPRING BREAK - NO CLASS! | | Spring Break | Spring Break |
| 9 | 20-Mar | Cell cycle and Mitosis | Ch 12 | Quiz 9 due | |
| | 22-Mar | Mitosis and Meiosis | Ch 13 | Quiz 10 due | 3/27 Chapter 12 and 13 due |
| 10 | 27-Mar | Mendel | Ch 14 | Quiz 11 due | |
| | 29-Mar | Mendel | Ch 14 | Quiz 12 due | 4/3 Chapter 14 |
| 11 | 3-Apr | Review | | No quiz due | |
| | 5-Apr | Exam 3 (chapters 12, 13, 14) | | Exam | |
| 12 | 10-Apr | DNA and the Gene (DNA Replication) | Ch 15 | Quiz 11 due (ch 15) | |
| | 12-Apr | How genes work - Transcription | Ch 16 | Quiz 12 due (ch 16 + 17) | 4/17 Chapter 15 due |
| 13 | 17-Apr | Patriots' Day - NO CLASS! | | No class | |
| | 19-Apr | How genes work - Transcription + Translation | Ch 17 | Quiz 13 due | 4/24 Chapter 16 + 17 due |
| 14 | 24-Apr | Review | | No quiz due | |
| | 26-Apr | Exam 4 (chapters 15, 16, 17) | | Exam | |
| 15 | 1-May | Intro to Metabolism | Ch 8 | Quiz 14 due | |
| | 3-May | Cellular Respiration | Ch 9 | Quiz 15 due | 5/8 Chapter 8 + 9 due |
| 16 | 8-May | Cellular Respiration + Review | Ch 9 | No quiz due | |
| | 10-May | Exam 5 (chapter 8 and 9) | | Exam | |

**All dates are subject to change.

Laboratory sections:

All laboratory sections will be taught in face-to-face manner in the ISC (Integrated Science Center) building on the first floor. Attendance in lab is required and monitored by TAs. Due to the large number of students

enrolled in this class, it is impossible to make-up a missed lab. Although I understand that unforeseen circumstances might prevent you from attending a class, it is very hard to accommodate students' request to make them up. To account for it, there are plenty of extra points incorporated into your lab grade.

You must attend and complete at least 10 out of 12 lab sessions and obtain at least 150 points. Failure to do so, results in automatic F in the class.

THERE ARE NO LABS during the FIRST WEEK OF CLASSES. Labs start the week of 1/31/2022.

Lab Grades:

12 lab quizzes - 60 points

12 Writeups/worksheets/presentations/lab protocols – 240 points

Total = 300 points

However, you only need to score 250 points to get an A in the lab.

Lab schedule:

| Week | Day | Lab |
|------|--------|-----------------------|
| 1 | 23-Jan | No Lab |
| | 25-Jan | |
| 2 | 30-Jan | Reaction Time |
| | 1-Feb | |
| 3 | 6-Feb | Chemical Structures |
| | 8-Feb | |
| 4 | 13-Feb | Chromatography |
| | 15-Feb | |
| 5 | 20-Feb | Protein Structure |
| | 22-Feb | |
| 6 | 27-Feb | Amylase |
| | 1-Mar | |
| 7 | 6-Mar | GFP Transformations |
| | 8-Mar | |
| 8 | 13-Mar | No Lab - Spring Break |
| | 15-Mar | |
| 9 | 20-Mar | GFP Purifications |
| | 22-Mar | |
| 10 | 27-Mar | VGL I Gen Problems |
| | 29-Mar | |
| 11 | 3-Apr | VGL Challenge |
| | 5-Apr | |
| 12 | 10-Apr | AIPOTU I |
| | 12-Apr | |
| 13 | 17-Apr | Giant DNA |
| | 19-Apr | |
| 14 | 24-Apr | AIPOTU II |
| | 26-Apr | |

| | | |
|----|--------|--------------------|
| 15 | 1-May | No Lab/Make Up Lab |
| | 3-May | |
| 16 | 8-May | No Lab |
| | 10-May | |

Biol111 Lab sections and assigned instructors:

| Day | Time | TA | Section | TA email |
|-----|------------------|----|------------|----------|
| Tue | 9:30am - 12:30pm | | 01L 02L | |
| Tue | 2:00pm - 5:00pm | | 03L 04L | |
| Wed | 2:00pm - 5:00pm | | 05L 06L | |
| Th | 9:30am - 12:30pm | | 07L 08L | |
| Th | 2:00pm - 5:00pm | | 09L | |

You must read the lab manual (available on BB) before each lab. All labs have pre-lab quizzes taken online at the beginning of each lab. Quizzes are done via Blackboard and do not require Respondus Lockdown Browser.

Lab reports and writeups are due as indicated in the lab manual or as modified by your TA. In cases where there is a conflict between when the Lab Manual says that a report is due and when the syllabus or TA say so, your TA is the final source; the syllabus is next. In **ALL** other cases, late reports are penalized – 10% off for each day the lab report is late. Lab reports that are more than 4 days late will **NOT** be accepted.

Snow days: If class is cancelled due to snow, check the UMASS Boston web site or course Blackboard site. In general, snow days before exams will not cause the exams to be moved; if a snow day falls on an exam day, the exam will be held in the next class period.

Incompletes: Incompletes will only be granted under certain special conditions. To receive an incomplete, you must be doing well in the course and the work to be completed must be a well-defined unit of the course. An incomplete **must** be arranged in advance of your absence at a meeting **in person** with me.

Accommodations

UMass Boston is committed to creating learning environments that are inclusive and accessible. If you have a personal circumstance that will impact your learning and performance in this class, please let me know as soon as possible, so we can discuss the best ways to meet your needs and the requirements of the course. If you have a documented disability, or would like guidance about navigating support services, contact the Ross Center for Disability Services by email (ross.center@umb.edu), phone (617-287-7430), or in person (Campus Center, UL Room 211). To receive accommodations, students must be registered with the Ross Center and must request accommodations each semester that they are in attendance at UMass Boston. For more

information visit: www.rosscenter.umb.edu. Please note that the Ross Center will provide a letter for your instructor with information about your accommodation only and not about your specific disability.

Academic Integrity and Student Code of Conduct

Education at UMass Boston is sustained by academic integrity. Academic integrity requires that all members of the campus community are honest, trustworthy, responsible, respectful, and fair in academic work at the university. As part of being educated here, students learn, exercise, increase, and uphold academic integrity. Academic integrity is essential within all classrooms, in the many spaces where academic work is carried out by all members of the UMass Boston community, and in our local and global communities where the value of this education fulfills its role as a public good. Students are expected to adhere to the Student Code of Conduct, including policies about academic integrity, delineated in the University of Massachusetts Boston Graduate Studies Bulletin, Undergraduate Catalog, and relevant program student handbook(s), linked at www.umb.edu/academics/academic_integrity.

Health, Wellbeing, and Success

The COVID-19 pandemic continues and due to the emerging COVID-19 variants all members of the UMass Boston community — students, faculty, and staff — as well as contractors and visitors are required to wear face coverings in public indoor spaces on the UMass Boston campus. The requirement applies to vaccinated and non-vaccinated individuals. Emerging medical guidance suggests that surgical masks, KN95-type masks, and other multi-layer filtered masks offer more protection against COVID-19 particles than cloth masks. If available to you, you are strongly recommended to use medical-grade masks to better protect yourself, your family, and others from virus particles. Double masking with one of these higher quality masks also provides increased protection. Surgical masks are also available at various campus locations. While on campus, if you notice someone without a face covering indoors, you should feel free to distance yourself to the extent possible or, if you are comfortable doing so, politely remind them of the university policy requiring face coverings for all individuals indoors. As an instructor, for classes on campus, I will remind all students about the indoor masking policy. I will ask students to leave class if they do not comply. If a student consistently refuses to comply with the masking policy, I will consider this to be a student conduct situation and may submit a conduct incident report to the university.

To safeguard your own health and safety as well as that of all students, staff, and faculty, you are reminded to follow the campus policies regarding masking, vaccination/boosters, daily self-checks, isolation and quarantine guidelines, and other relevant rules regarding public health and safety. The campus policies and the most updated guidelines can be found at <https://www.umb.edu/coronavirus>. Vaccinations are required for all faculty, staff, and students, with limited exceptions (see www.umb.edu/healthservices/corona_virus_information/coronavirus_vaccination_requirements). Based on the best available data, research, and health guidelines, we believe our vaccination policy, booster policy, and face covering mandate all contribute to reducing the spread of COVID-19 on campus and minimizing the chance of severe symptomatology and hospitalizations. If you test positive for COVID-19, or if you are exposed to COVID-19 and are either unvaccinated or eligible but unboosted, you are expected to follow the university's isolation and quarantine guidelines, and I expect you to inform me if you will be absent for this reason. If you are absent or unable to complete coursework due to following the university's guidelines, I will provide flexibility to the greatest extent possible. Details are provided for students in such situations and are addressed in this syllabus.

UMass Boston is a vibrant, multi-cultural, and inclusive institution committed to ensuring that all members of our diverse campus community are able to thrive and succeed. The university provides a wide variety of resources to support students' overall success. As we continue to deal with the evolving impacts of the COVID-19 pandemic, these resources are more important than ever.

- Are you in emotional distress? Call 617.287.5690 to speak with a licensed clinician 24/7 who can offer support, crisis recommendations, and assistance with finding resources.
- Have a campus question or issue? Use Here4U in the UMass Boston app or via www.umb.edu/here4U.
- Want advice in navigating a university or life situation? Contact the Dean of Students Office at www.umb.edu/deanofstudents.
- Want to connect with housing and food insecurity support, student life groups and events, or recreation activities? Visit www.umb.edu/life.
- Want to access resources specifically for immigrant-origin, DACA, TPS, and undocumented students? Visit www.umb.edu/immigrant.
- Looking for additional identity-based community support? Find more resources at www.umb.edu/identity-support
- Want to make the most of your academic experience? Visit www.umb.edu/academics/vpass/academic_support.
- Unable to attend class on a specific date or participate in an exam or class requirement due to a religious observance? Fill out the excused absence form (requires 2-weeks' notice) to request religious accommodation at www.umb.edu/religiousabsence.

SAMPLE