HOUSTON COMMUNITY COLLEGE
GENERAL BIOLOGY FOR MAJORS I
BIOL 1406 CRN 19265; FALL, 2018

COURSE SYLLABUS

INSTRUCTOR CONTACT & COURSE INFORMATION

Instructor:	Dr. Veronica Amaku, Ph.D.	**Office:**	210 Felix Morales Bldg Eastside Campus, SE
Email:	veronica.amaku@hccs.edu	**Phone:**	713-718-8824
Website:	http://learning.hccs.edu/faculty/veronica.amaku		
Course Title:	General Biology I for Majors	**Office Hours:**	
Course Prefix & Number:	BIOL 1306	**Semester & Yr.**	Fall, 2018
CRN	19265 (HYBRID)	**Dates:**	8/27/2018 - 12/16/2018
Contact Hours:	48 hours (24 DE; 24 In- Person)	**Class Days & Times:**	We 11:00AM - 1:50PM
Department Chair	Dr. Daejan Grigsby Email: daejan.grigsby@hccs.edu	**Class Locations:**	Via Canvas and Felix Morales Bldg Rm 122

COURSE DESCRIPTION:

Fundamental principles of living organisms will be studied, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Concepts of cytology, reproduction, genetics, and scientific reasoning are included. Core curriculum course. Cannot be used in conjunction with 1308. This course is designed for Science Majors.

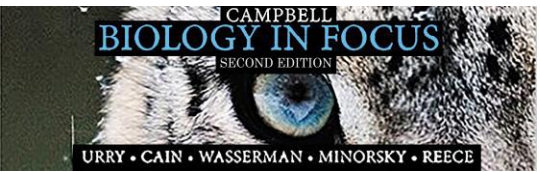
GETTING READY

Course Prerequisite:

One year of high school biology/high school chemistry recommended. Must be placed into college level reading and writing.

Required Materials:

1. **Text Book:** "*Campbell Biology in Focus,* Volume I with Modified MasteringBiology Package for Houston Community College" Vol 1: Valuepack ISBN: 1323751432 // 9781323751435.
2. **Mastering Biology access kit** (may be purchased online at http://pearsonmylabandmastering.com/). For instructions on how to access MasteringBiology, see attachment at the end of the syllabus.
3. **PC or MAC Personal computer equipped with a webcam and Respondus LockDown Browser.** Click here to download the LockDown Browser. https://www.respondus.com/lockdown/download.php?id=355612798
4. **Scantrons for in-class exams**



COURSE GOAL:

To help the student in becoming a scientifically aware individual and to prepare the student for advanced course works in biology.

COURSE OBJECTIVES

1. To establish an understanding of the major historical events in biology and their impact on science.
2. To describe basic cell structure, biochemistry, metabolism, nutrition, reproduction, and genetics.
3. To demonstrate knowledge of the basic principles of cellular inheritance.
4. To demonstrate knowledge of the basic principles of molecular genetic technology.

"The following Student Learning Outcomes with their associated assessment criteria are not meant to be all inclusive, and are meant to be used along with all other course learning outcomes and assessment devices, listed under Course Objectives, in the determination of the student's final course grade. Completion of the specific Student Learning Outcomes listed below, at any assessment grading level, does NOT and will NOT guarantee the student that final course grade at the end of the semester!"

PROGRAM LEVEL STUDENT LEARNING OUTCOMES:

Program SLO #1. Will display an understanding of biological systems and evolutionary processes spanning all ranges of biological complexity, including atoms, molecules, genes, cells and organisms.

Program SLO #2. Will integrate factual and conceptual information into an understanding of scientific concepts by written, oral, and /or visual communication. This may include successful completion if a course-specific research project or a case study module.

Program SLO #3. Will demonstrate proficiency and safe practices in the use of laboratory equipment and basic laboratory techniques.

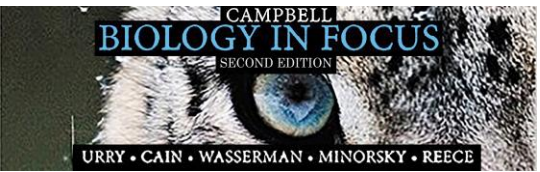
Program SLO #4. Will apply principles of the scientific method to problems in the collection, recording, quantitative measurement, analysis and reporting of scientific data.

STUDENT LEARNING OUTCOMES

1. Describe the characteristics of life.
2. Explain the methods of inquiry used by scientists.
3. Identify the basic requirements of life and the properties of the major molecules needed for life.
4. Compare and contrast the structures, reproduction, and characteristics of viruses, prokaryotic cells, and eukaryotic cells.
5. Describe the structure of cell membranes and the movement of molecules across a membrane.
6. Identify the substrates, products, and important chemical pathways in metabolism.
7. Identify the principles of inheritance and solve classical genetic problems.
8. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.
9. Describe the unity and diversity of life and the evidence for evolution through natural selection.
10. Develop critical thinking skills and habits of active collaborative learning

LEARNING OBJECTIVES:

1. Chapter 1
   - 1.1. Describe the five fundamental characteristics of life.
   - 1.2. Describe the three unifying ideas of biology.
   - 1.3. Enumerate the key steps in the scientific process.
2. Chapter 2
   - 2.1. Describe the atomic structure, types of chemical bonding.
   - 2.2. Understand the properties of water molecule and interpret how the emergent properties sustain life.
3. Chapter 3
   - 3.1. Understand why carbon is the foundational element in organic molecules
   - 3.2. Explain and correlate the structures of the macromolecules of life: carbohydrates, lipids, proteins, and nucleic acids to their functions
4. Chapter 4
   - 4.1. Explain how scientists study cells
   - 4.2. Label the structures of plant, animal, prokaryotic and eukaryotic cells and differentiate the similarities and differences between the cell types.
5. Chapter 5
   - 5.1. Relate the structure of plasma membrane to its functions



5.2. Designate the steps of membrane transport and importance of cell communication for different types of cells in reference to cell membrane structure.

6. Chapter 6

   6.1. Describe the process of energy transformation and explain the importance of enzymes in biochemical reactions.

7. Chapters 7 and 8

   7.1. Identify the substrates, products, and important chemical pathways related to cellular respiration, fermentation, and photosynthesis.

   7.2. Arrange and summarize the steps involved in these biochemical pathways.

8. Chapters 9 - 12

   8.1. Differentiate between the steps of mitosis and meiosis

   8.2. Qualitatively solve genetic problems based on Mendelian inheritance using monohybrid and dihybrid crosses, Punnett squares, and Pedigree charts.

   8.3. Discuss inheritance patterns of autosomal dominant/recessive and X-linked diseases in humans and different types of mutations.

9. Chapters 13 -15

   9.1. Describe in detail DNA structure and functions, and the steps of its replication.

   9.2. Explain the flow of genetic information from gene to protein and regulation of gene expression in prokaryote and eukaryotic cells.

10. Chapter 16

    10.1. Explain recombinant DNA technologies and what they can achieve.

    10.2. Describe how gene therapy may be used to cure a genetic disease.

    10.3. Describe what functional genomics, proteomics, and systems biology are and provide examples of discoveries in these research areas.

    10.4. Develop critical thinking skills and habits of active collaborative learning by working on a topic each in the field of biotechnology and nanotechnology and their applications in the health field. Correlate this technology with genome evolution, stem cell and cancer research.

    10.5. Identify modern technologies of cancer research, and correlate with genome evolution, pharmacogenomics, and stem cell research.

11. Chapter 17

    11.1. Describe the six steps of a viral replicative (lytic) cycle, and contrast it with the lysogenic cycle.

INSTRUCTOR GUIDELINES AND POLICIES

ATTENDANCE AND TARDINESS

Attendance is crucial in order to do well in this course, since there will be activities done every class period that cannot be done outside of class. Therefore, attendance will be recorded at the start of each class, **and will be part of the grade in this course.** It is a good idea to get a few names and phone numbers of others in the class so that you might reach them if you miss a class to arrange to get the information you missed as quickly as possible.

In case of a prolonged absence (2 or more class meetings), the Professor should be notified. Please come to class on time! It can be very distracting to both me and your fellow students, when you show up late for class.

You are also responsible for materials covered during your absences. Instructor **may** be willing to consult with you for make-up assignments, but it is your responsibility to contact the instructor.

Although it is your responsibility to drop a course for nonattendance, the instructor has the authority to drop you for excessive absences:

Students may be dropped from a course for failure to attend during the first week of instruction and after accumulating absences in excess of 12.5% of the total hours of instruction (lecture and lab) but again this is not automatic. For example:

> For a 4 credit-hour lecture and lab class meeting 6 hours per week (96 hours of instruction), you can be dropped after 12 hours of absence (4 class periods).

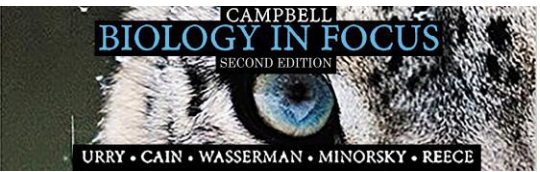
Departments and programs governed by accreditation or certification standards may have different attendance policies. Administrative drops are at the discretion of the instructor. Failure to withdraw officially can result in a grade of “F” or “FX” in the course.

ONLINE PARTICIPATION

This is a hybrid class. You are expected to participate regularly in the online activities as this is paramount to success in this class. Log in to work on your assignments. Do not wait until the last minute. From experience, students who complete the online homework assignments do very well on exams.

CELL PHONES, BEEPERS, MP3 AND OTHER MULTIMEDIA DEVICES

Cell phones are disruptive and should be silenced and placed out of view before class begins. Texting/conversing on cell phones are not allowed during class. After one warning, there will be a penalty of 5 points for each time this rule is disregarded. The instructor will ask the student who disregards this rule to leave the classroom if this rule is disregarded after 3 times.



Except when specifically allowed by the instructor, **no** devices that allow communication of any kind may be used during examinations - online or in-class. (Tests, quizzes, lecture exams, final exams, etc.) This includes, but is not limited to, cell phones, pagers, messaging devices, PDA's and computers with wireless network connections and calculators with IR communication capabilities. Use of a prohibited device during an examination is considered cheating (Scholastic Dishonesty) and falls under the HCC Academic Integrity policy.

Use of laptop computers are allowed as long as you use it for class work. If you refer to external websites not related to the class, you will lose computer use privileges for the rest of the semester.

WITHDRAWAL POLICY: Withdrawal from the course by the official day of record and prior to "W" Day, **(Friday Nov 2, 2018)** will result in a final grade of "W" on your transcript. Instructor approval is necessary if you want to withdraw after official day. No credit will be awarded for a course earning a "W." If you stop attending class, you must withdraw at the registration office prior to "W" day. If you stop attending class and do not officially withdraw, you will receive an "F" for the course.

Be certain you understand HCC policies about dropping a course and consult with a counselor/advisor to determine if withdrawing is in your best interest. It is your responsibility to withdraw officially from a class and prevent an "F" from appearing on your transcript.

SIX DROP RULE: Students who enrolled in Texas public institutions of higher education as first-time college students during the Fall 2007 term or later are subject to section 51.907 of the Texas Education Code, which states that an institution of higher education may not permit a student to drop (withdraw with a grade of "W") from more than six courses, including courses that a transfer student has previously dropped at other Texas public institutions of higher education that have already been counted against their six drop limit. Each student should fully understand this drop limit before you drop any course. Please see a Counselor or Advisor in our Student Services area for additional information and assistance.

In addition, withdrawing from a course may impact your financial aid award or eligibility. Contact the Financial Aid Office or website to learn more about the impact of withdrawing on financial aid.

OTHER OPERATING GUIDELINES

Please do not talk during class. If you feel the need to discuss something with a classmate, please do so outside. I will not be offended if you need to take an important conversation outside briefly so as not to distract your classmates. No cell phones on in class. Please turn them off or on vibrate. Assignments & Grading Policy

You are spending a good deal of time, energy and money on this course – please, make the most of your investment! There is a school-mandated attendance requirement for this course (please see the "Classroom Evaluation" section for a description). If you're still struggling with certain aspect of the course, please make an effort to see me and I will gladly make time to help you work through the material or assign you a tutor.

My purpose in this class is to act as your guide through this subject material. I also must make sure that your grade in this class indicates your mastery of the subject material required by this college. I am not here to spoon-feed you. It takes approximately 2-3 hours of study time for each hour of class time to master the material. This class will have

48 contact hours that comprise the normal class (3 hr. credit). The class and study time necessary to succeed in this class will be close to 150 200 hours (~10 – 15 additional hours per week)!

Academic Integrity: HCCS is committed to a high standard of academic integrity in the academic community. In becoming a part of the academic community, students are responsible for honesty and independent effort. Failure to uphold these standards includes, but is not limited to, the following: plagiarizing written work or projects, cheating on exams or assignments, collusion on an exam or project, and misrepresentation of credentials or prerequisites when registering for a course. Cheating includes looking at or copying from another student's exam, orally communicating or receiving answers during an exam, having another person take an exam or complete a project or assignment, using unauthorized notes, texts, or other materials for an exam, and obtaining or distributing an unauthorized copy of an exam or any part of an exam. Plagiarism means passing off as his/her own the ideas or writings of another (that is, without giving proper credit by documenting sources). Plagiarism includes submitting a paper, report, or project that someone else has prepared, in whole or in part. Collusion is inappropriately collaborating on assignments designed to be completed independently. These definitions are not exhaustive. When there is clear evidence of cheating, plagiarism, collusion, or misrepresentation, disciplinary action may include but is not limited to requiring you to retake or resubmit an exam or assignment, assigning a grade of zero or "F" for an exam or assignment; or assigning a grade of "F" for the course. Additional sanctions including being withdrawn from the course, program or expelled from school may be imposed on students who violate the standards of academic integrity.

BEHAVIOR AND ETIQUETTE

Students are expected to conduct themselves as adults. This includes courteous and respectful behavior towards instructor and classmates. Disruptive behavior or any behavior that interferes with any educational activity being performed by the instructor will not be allowed. Additionally, no student may interfere with his/her fellow students' right to pursue their academic goals to the fullest in an atmosphere appropriate to a community of scholars. Disruptive behavior may result in removal from the class.

DRESS CODE: Appropriate attire is required at all times.

QUESTIONS/PROBLEMS: Please make sure that if you have any questions or problems at any time, that you first contact me as soon as possible. The worst thing you can do is wait to contact me or to not take advantage of the resources available to you. By taking an active part in your education, you will make your academic experience much more rewarding and exciting!!

INSTRUCTORS'S ASSURANCE

Response time: All email correspondence will be via students' @hcc.edu email and Eagle Online (Canvas) accounts. It is therefore strongly encouraged that you check this email account often. I will reply to emails within a 24-hour period Monday through Friday. Emails received late Friday or over the weekend, as well as during holidays, will be replied to on the next official working morning. Students will be provided the opportunity to review and discuss their exams with the instructor.

STUDENT EVALUATION:

ASSESSMENT

In order to determine whether this course is meeting the objectives, a variety of classroom assessment techniques will be used, including exams, and laboratory work. In addition to assessing student progress, these assessment instruments will help the instructor improve this course. These assessments are designed to assess your ability to communicate both orally and in writing, think critically and demonstrate global awareness.

EXAMS: There will be five lecture exams, plus a final exam. Exams will be in a multiple-choice, short answer and /or essay format. Each lecture exam will be worth 100 percent and you will be able to drop your lowest exam score.

MASTERINGBIOLOGY: Reading homework and Mastering Biology assignments will be assigned. You are expected to complete the assignments when they are due. Course ID for MasteringBiology:

Upon entering the course, you will be prompted to enter your CRN number: **19265**

PLEASE NOTE: It's very important you either purchase your book/access code bundle from the HCC Bookstore OR purchase directly online via the registration process as detailed in the video below. HCC has custom courses set up with a negotiated price for HCC students – if an access code is purchased at any other retailer, it will not work.

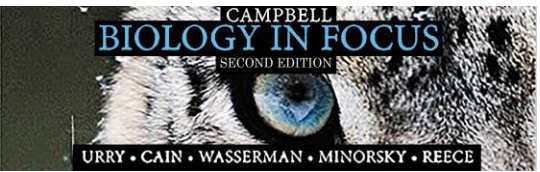
Further detailed information is at the end of the syllabus.

PROJECTS: There will an assigned class project due at the end the semester. Topics will be assigned to groups of students and each group will have the option of choosing how to present their project.

MISSED ASSIGNMENTS:

The first two times a student misses an assignment, an early alert notification will be sent to academic advisors. If the student misses a third assignment, the student will be dropped from this class.

MAKE UPS: **There are no make ups.** Every assignment, quiz, and exam MUST be done by the deadline. NO EXCUSES. NO EXEMPTIONS. It takes discipline and diligence to succeed in an intensive course such as microbiology. DO NOT wait until the minute before you do your assignments. Procrastination is a thief of progress. Don't allow it to steal your grades.



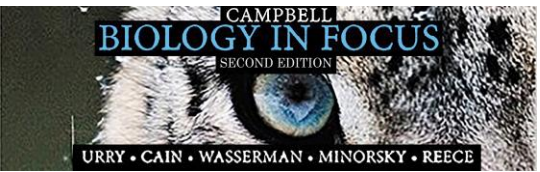
GRADE DETERMINATION

Your Grade Will Be Determined by the Following	Percent of Final Grade
Lecture Exams (4 out of 5)	50%
MasteringBiology Assignments	25%
Class Project	10%
Attendance	5%
Final Examination – District wide	10%

Attendance:	
1 absence	5 out of 5%
2 absences	3 out of 5%
>2 absences	0 out of 5%

Letter Grade Assignment

Letter Grade	Final Average in Percent
A	>89.4
B	79.5 - 89.4
C	69.5 - 79.4
D	59.5 - 69.4
F	<59.5



REPEATING COURSES (THREE-PEAT RULE)

As a result of recent Texas legislative changes, please be advised that HCC is charging additional tuition for students who enroll in the same class three or more times at HCC. While it is the hope of HCC that students will be successful in their first attempt at classes, we realize that life demands, academic struggles, and other issues may result in students needing to take the same class more than once. Speaking with an advisor will help you develop student success skills, improving your overall academic performance. If a student repeats a course in which a grade (A-F) has been received, the highest grade received at HCC is the permanent grade for the course and will be used in computing the GPA. All grades earned in a given course will be reflected on the transcript. Other colleges may compute the GPA differently than HCC.

INCOMPLETE "I" GRADES: In this course, the purposes of the "I" (incomplete) grade is for students who are caught up and passing at the student withdrawal deadline, and then have a medical or other problem that prevents them from completing the course. If you are not passing at the student withdrawal deadline, you should drop yourself from the course, or you will likely earn an "F." An incomplete "I" grade will be given only if all of the following conditions are met:

- You have earned at least 60% of the available points by the date that the "I" grade is requested.
- You can provide documentation showing why you should earn an incomplete, such as a doctor's note, etc.
- You must be passing with a grade of "C" or better.
- You must request the incomplete in writing **BEFORE Sunday, Dec. 2nd, 2018**

HCCS IS COMMITTED TO YOUR SUCCESS

EARLY INTERVENTION PROGRAM AND SERVICES

Your success is our primary concern! If you are experiencing challenges achieving your academic goals, please contact your instructor or an early intervention coach. HCC can provide assistance with academic needs, ADA accommodations, classroom difficulties, financial concerns, and other issues.

TUTORING

HCCS provides free online tutoring for all HCC students. Go to www.hccs.upswing.io; log in instructions will be provided on the tutoring page homepage.

COUNSELING SERVICES

Mission Statement: The mission of the HCC Counseling Department is to provide holistic support for students pursuing their educational goals. In order to accomplish this mission, we will provide a full range of professional services including personal and career counseling, academic skills enhancement, outreach programming, consultation, and crisis intervention.

HCC Counselors include licensed professionals (and Counseling interns) with masters or doctoral degrees. HCC Counselors provide the following services:

- Academic Advising
- Career Counseling
- Disability Support Services
- Personal Counseling
- Student Success Workshops
- Transfer Advising
- Degree Plan Completion
- Transcript Evaluation

If you are interested in developing any of the desirable outcomes or receiving any of the services listed above, please contact a counselor at any of the HCC colleges.

http://www.hccs.edu/district/students/counseling/ (click on link on right side to see all counselors and their contact information).

ADA POLICY: Students who require reasonable accommodations for disabilities are encouraged to report to the counselor's office to make the necessary arrangements. Faculty is authorized to provide only the accommodations requested by the Disability Support Services Office.

To visit the ADA Web site, log on to www.hccs.edu, click Future students, scroll down the page and click on the words Disability Information. For questions, please contact Donna Price at 713.718.5165 or the Disability Counselor at your college.

HCC ADA College Counselors:		
District ADA Coordinator	Donna Price	713.718.5165
Central ADA Counselors	Jaime Torres Martha Scribner	713.718.6164
Northeast ADA Counselor	Kim Ingram	713.718.8420
Northwest ADA Counselor	Mahnaz Kolaini	713.718.5422
Southeast ADA Counselor	Jette Lott	713.718.7218
Southwest ADA Counselor	Dr. Becky Hauri	713.718.7910
Coleman ADA Counselor	Dr. Raj Gupta	713.718.7631

EGLS3 (EVALUATION FOR GREATER LEARNING STUDENT SURVEY SYSTEM)

At Houston Community College, professors believe that thoughtful student feedback is necessary to improve teaching and learning. During a designated time near the end of the term, you will be asked to answer a short online survey of research-based questions related to instruction. The anonymous results of the survey will be made available to your professors and department chairs for continual improvement of instruction. Go to www.hccs.edu/egls3 for more information.

TENTATIVE COURSE SCHEDULE

MODULE	WEEK OF …	LECTURE – ONLINE & F2F	ONLINE ASSIGNMENTS
UNIT 1	8/29	Syllabus; **Chapter 1** – Evolution and the Foundations of Biology **Chapter 2** - The Chemical Context of Life	MB Assignments Chapters 1 – 3 **Due Sun Sept 9 @ 11:00PM**
	9/5	**Chapter 3** - Carbon and the Molecular Diversity of Life	
	9/12	**Exam 1 (Chapters 1 – 3: In Class)**	
UNIT 2	9/19	**Chapter 4** - A Tour of the Cell	MB Assignments Chapters 4 - 6 **Due Sun Oct. 30 @ 11:00PM**
	9/26	**Chapter 5** - Membrane Transport **Chapter 6** - An Introduction to Metabolism	
	10/3	**Exam 2 (Chapters 4-6: Online)** **Chapter 7** - Cellular Respiration & Fermentation	
UNIT 3	10/10	**Chapter 8** - Photosynthesis	MB Assignments Chapters 7 - 10 **Due Sun Oct 21 @ 11:00PM**
	10/17	**Chapter 9** - The Cell Cycle; **Chapter 10** – Meiosis	
	10/24	**Exam 3 (Chapters 7- 10: In Class)**	
UNIT 4	10/31	**Chapter 11** - Mendel & the Gene Idea **Chapter 12** - The Chromosomal Basis of Inheritance **Last day to Withdraw – Nov 2**	MB Assignments Chapters 11 – 13 **Due Sun Nov. 11 @ 11:00PM**
	11/7	**Chapter 13** - The Molecular Basis of Inheritance **Exam 4 (Chapters 11 – 13: Online)**	
UNIT 5	11/14	**Chapter 14** - From Gene to Protein	MB Assignments Chapters 14 - 17 **Due Sun. Dec. 2 @ 11:00PM**
	11/21	**Chapter 15** - Regulation of Gene Expression	
	11/28	**Chapter 16** – Development, Stem Cells, and Cancer **Chapter 17** - Viruses	
	12/5	**Exam 5 (Chapters 14-17: In Class)** Presentations	
	12/12	**Final Exam**	

Caveats: The instructor reserves the right to make changes to the syllabus (and schedule) and will notify students of those changes in class.

Student Registration Instructions for Canvas

First, enter your Canvas course

1. Sign in to Canvas and enter your Canvas course.
2. Do one of the following:
   - » Select any Pearson link from any module.
   - » Select a MyLab and Mastering link in the Course Navigation. Next, select **Open MyLab and Mastering** or a content link.

NEXT, GET ACCESS TO YOUR PEARSON COURSE CONTENT

1. Enter your Pearson account **username** and **password** to **Link Accounts.**

   You have an account if you have ever used a MyLab or Mastering product.

   - If you don't have a Pearson account, select **Create** and follow the instructions.

2. Select an access option:
   - » Enter the access code that came with your textbook or that you purchased separately from the bookstore.
   - » If available for your course,
     - Buy access using a credit card or PayPal.
     - Get temporary access.
3. From the You're Done page, select **Go to My Courses.**

Note: We recommend you always enter your Mastering Biology course through Canvas.

GET YOUR COMPUTER READY

For the best experience, check the system requirements for your product at https://www.pearsonmylabandmastering.com/system-requirements/

Need help?

For help with Mastering Biology for Canvas, go to https://help.pearsoncmg.com/integration/cg/canvas/student/en/content/get_started.ht