

# Course Change Request

Date Submitted: 10/12/20 8:32 pm

Viewing: **BIOL 106 : Introductory Biology II**

## Laboratory

Last approved: 05/02/20 4:36 am

Last edit: 10/12/20 8:32 pm

Changes proposed by: dpolayes

**Catalog Pages  
referencing this  
course**

[Biology\\_\(BIOL\)](#)

[Department of Biology](#)

**Select modification type:**

### In Workflow

1. **BIOL Undergraduate Representative**
2. **SC Curriculum Committee**
3. SC Associate Dean
4. Assoc Provost- Undergraduate
5. Registrar-Courses
6. Banner

### Approval Path

1. 10/19/20 10:25 am  
Geraldine Grant  
(ggrant1): Approved  
for BIOL  
Undergraduate  
Representative

### History

1. Aug 29, 2017 by pchampan
2. Oct 4, 2017 by Mary Bernier (mbernier)
3. Jan 26, 2018 by Deborah Polayes (dpolayes)
4. Dec 20, 2018 by Gregory Craft (gcraft)
5. Mar 2, 2020 by Deborah Polayes (dpolayes)

6. May 2, 2020 by Tory Sarro (vsarro)

Substantial

**Are you completing this form on someone else's behalf?**

No

**Effective Term:** Fall 2021

**Subject Code:** BIOL - Biology

**Course Number:** 106

**Bundled Courses:**

**Is this course replacing another course?** No

**Equivalent Courses:**

**Catalog Title:** Introductory Biology II Laboratory

**Banner Title:** General Biology II - Lab Only

**Will section titles vary by semester?** No

**Credits:** 1

**Schedule Type:** Laboratory

**Hours of Lab or Studio per week:** 1

**Repeatable:** May be only taken once for credit, limited to 3 attempts (N3)

**Max Allowable Credits:**  
3

**Default Grade Mode:** Undergraduate Regular

**Recommended Prerequisite(s):**

**Recommended Corequisite(s):**

**Required Prerequisite(s) / Corequisite(s) (Updates only):**

or BIOL104F

**Registrar's Office Use Only - Required Prerequisite(s)/Corequisite(s):**

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
		BIOL 107	C	UG		Yes
Or		BIOL 107	XS	UG		
Or		BIOL 104T	C	UG		

**Registration  
Restrictions  
(Updates only):**

**Registrar's Office Use Only - Registration Restrictions:**

**Field(s) of Study:**

**Class(es):**

**Level(s):**

**Degree(s):**

**School(s):**

**Catalog**

**Description:**

**The labs will investigate cell diversity, metabolism, DNA, Genetics and human inheritance.**

**Formulating an hypothesis and using scientific literature will also be covered.** ~~The structure and function of major organ systems of animals and an examination of the structure and function of plants, emphasizing the higherplants.~~ Notes: Not available to students who have taken BIOL 104 or the equivalent.

**Justification:**

We are changing the scope of BIOL107 and the BIOL106 lab will reflect those changes. The 106 lab will stay separate, and will be an entirely independent class which does not require 107 as co-req. This class is for non-majors who are not going to take 213. There will be NO prerequisites or co-requisites. Please remove all prerequisites from this document

**Does this course cover material which crosses into another department?** No

**Learning Outcomes:**

1. Understand how scientific inquiry is based on investigation of evidence from the natural world, and that scientific knowledge and understanding: a) evolves based on new evidence, and b) differs from personal and cultural beliefs.
2. Recognize the scope and limits of science.
3. Recognize and articulate the relationship between the natural sciences and society and the application of science to societal challenges (e.g., health, conservation, sustainability, energy, natural disasters, etc.).
4. Evaluate scientific information (e.g., distinguish primary and secondary sources, assess credibility and validity of information).
5. Participate in scientific inquiry and communicate the elements of the process, including: a) making careful and systematic observations, b) developing and testing a hypothesis, c) analyzing evidence, and d) Interpreting results.

**Attach Syllabus**

[New-106-Syl-Fall2021.pdf](#)

**Additional Attachments****Specialized Course****Categories:**

Mason Core

Select the Mason Core Requirement the course is proposing to fulfill:

**Foundation****Courses:****Exploration****Courses:**

Natural Sciences w/Lab

**Integration****Courses:****Natural Sciences with Lab**

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**Course must meet the following learning outcomes:**

1. Understand how scientific inquiry is based on investigation of evidence from the natural world, and that scientific knowledge and understanding: a) evolves based on new evidence, and b) differs from personal and cultural beliefs
2. Recognize the scope and limits of science.
3. Recognize and articulate the relationship between the natural sciences and society and the application of science to societal challenges (e.g., health, conservation, sustainability, energy, natural disasters, etc.).
4. Evaluate scientific information (e.g., distinguish primary and secondary sources, assess credibility and validity of

information).

5. Participate in scientific inquiry and communicate the elements of the process, including: a) making careful and systematic observations, b) developing and testing a hypothesis, c) analyzing evidence, and d) Interpreting results.

**I affirm that I have attached the following using the syllabus and attachment buttons provided above: (see “?” for help with submission)**

**Additional  
Comments:**

**Reviewer  
Comments**

Key: 1408

# BIOLOGY 106 LAB

COURSE SYLLABUS – FALL 2021

## LAB INSTRUCTOR CONTACT INFO:

**Sections 201, 202, 203:**

**Sections 204, 205, 206:**

## COURSE COORDINATOR

Dr. E. Epstein [eepstei@gmu.edu](mailto:eepstei@gmu.edu)  
Exploratory Hall 2219

## REQUIRED LAB MANUAL

**Lab Manual:** Epstein and Luther. 2020. *Introductory Biology for Non-majors Laboratory Manual BIO 107*. 6<sup>th</sup> Ed. Hayden-McNeil Publishing, Inc., Plymouth MI.

**Recommended eText:** Shuster, Vigna, and Tontonoz. 2018. *Scientific American Biology for a Changing World*. 3<sup>rd</sup> edition. Macmillian Learning, New York.

## REQUIRED TECHNOLOGY FOR THIS COURSE **adapted from the Stern Center**

**Blackboard Access.** You'll need your Mason username (NetID) and password to access Blackboard. Log in to [mymason.gmu.edu](http://mymason.gmu.edu) and select the Courses tab to locate your course. Blackboard Mobile App can help you keep track of your online courses using your mobile device.

**Check your Internet Connection.** To complete and turn in your assignments, you will need consistent basic wireless or cellular connection at your home or study site.

**Consider back-up access.** If your wireless goes down or you're out of data, is there a library or other location you can go to safely to access instructions and download large files or videos? Note for students in Fairfax County, Virginia: Fairfax County Public Libraries WiFi may be accessed from all Library branch parking lots, every day 6 AM – 10 PM.

## BIOL 106 – DESCRIPTION, GOALS, AND LEARNING OBJECTIVES:

Biology 106, when taken with or after completing BIOL107, is an approved Mason Core Natural Science course with a laboratory experience. The Mason Core natural sciences courses engage students in scientific exploration; foster their curiosity; enhance their enthusiasm for science; and enable them to apply scientific knowledge and reasoning to personal, professional and public decision-making.

To fulfill the requirements of the Mason Core program, students in BIOL 106 will

1. Understand how scientific inquiry is based on investigation of evidence from the natural world, and that scientific knowledge and understanding: a) evolves based on new evidence, and b) differs from personal and cultural beliefs.
2. Recognize the scope and limits of science.
3. Recognize and articulate the relationship between the natural sciences and society and the application of science to societal challenges (e.g., health, conservation, sustainability, energy, natural disasters, etc.).
4. Evaluate scientific information (e.g., distinguish primary and secondary sources, assess credibility and validity of information).
5. Participate in scientific inquiry and communicate the elements of the process, including: a) making careful and systematic observations, b) developing and testing a hypothesis, c) analyzing evidence, and d) Interpreting results.

It is the instructors' aim that we enable our students to achieve these goals!

**It is strongly recommended that students successfully complete BIOL103 prior to taking BIOL 106 or BIOL 107.**

## Course Policies

**GMU e-mail:** All George Mason students are issued an e-mail account. **Email communications will be only conducted through your GMU email account.** George Mason policy is to use only the GMU e-mail accounts. Therefore, it is necessary for the students to activate and frequently check their GMU e-mail to ensure receiving messages in a timely fashion. Be advised that GMU e-mail messages are considered official University correspondence; therefore, proper attention to and consideration of them must be given. It is your responsibility as the learner to stay informed.

**ATTENDANCE:** Regular attendance in laboratory is crucial to successful completion of this course. Attendance is mandatory. Students are responsible for being aware of all information and announcements presented in announcements (both in-person and online) and all emails. **Students in online lab sections are required to view all lab presentation materials and announcements.** Online classes offer students flexibility in planning much of their own schedule, but be careful not to fall behind: Plan on doing the same amount of work as is required for a face-to-face class. For BIOL106, expect 8 – 12 hours a week for the prelab reading, lab activities, and post-lab write ups. There are no due date extensions possible. Be aware that failure to complete one lab may negatively impact your ability to complete other, later assignments! Missed lab assignments will be given the grade of "0", and there are no make-up assignments. **Three missed lab exercises will result in a total grade of zero (0) for the entire course.**

**Check your email and Blackboard Announcements regularly & often. Your instructor will be sending you updates, announcements, and reminders. Update notifications on Blackboard, so you're always up-to-date.**

Students are also responsible for being sure they are properly enrolled in the course. If a student drops the course, he or she must see to the paperwork him or herself, and in a timely fashion. Instructors will not "automatically" drop a student who merely stops coming to class.

**STUDENTS WITH DISABILITIES:** Both lab and lecture instructors are happy to make arrangements with students with disabilities. These arrangements, however, **must** be made through the Office of Disability Services (ODS) at 993-2474. Please contact both the ODS **and** your instructors as soon as possible for any accommodations you might need.

**CLASSROOM BEHAVIOR:** If something is not clear to you, by all means, ask questions! A well-timed question can help everyone in class, even the instructor. Students are asked to be respectful and considerate of one another. To that end, when attending a online session, please mute your mic when you are not speaking. If it is necessary to carry on activities that are not directly related to the material being presented in class, please leave the lab or logout of the system and conduct these activities elsewhere. In order to make the most effective use of both students' and instructor's time and energy, disruptive students may be asked to leave.

Use good "[Netiquette](#)" when you are participating in online activities (email, discussion board, online sessions, etc). In discussions and peer reviews, critique ideas but treat people respectfully & professionally. Remember that tone and humor may be easily misinterpreted by others in online discussions.

**CANCELED CLASSES:** If an assignment is due on a day on which classes are canceled for any reason, the assignment will be due on the next scheduled class. Call (703) 993-1000 for official notification of canceled classes.

**HONOR CODE:** Students are required to read and adhere to the George Mason University Honor Code. Ignorance of the Honor Code is no excuse for infractions thereof. The GMU Honor Code is enforced in all Biology courses. All work done in lecture and lab (exams, data sheets, quizzes, etc.) must be the sole work of the individual student whose name appears on the assignment. Copying data, falsifying data, failing to give credit to referenced sources, cheating on exams and quizzes are among violations of the Honor Code, and will be dealt with most seriously.

**Important warning regarding online study sites:** Some kinds of participation in online study sites violate the Mason Honor code: these include accessing exam or quiz questions for this class; accessing exam, quiz, or lab assignment answers for this class; uploading of any of the instructor's materials or exams; and uploading any of your own answers or finished work. Always consult your syllabus and your professor before using these sites. **Violators will be reported to the Office of Academic Integrity.**

## Grading

**Lab Pre-Reading Assignments:** Most of the labs have a 5-point assignment that should be completed before beginning the remainder of the activities. These will be due as stated by your instructor. Late assignments will not be accepted. Pre-reading assignments will not be accepted if the student doesn't also participate in the laboratory exercise.

**Lab Data Sheets include** all datasheets and associated questions and are located at the end of each Lab exercise. Note the due dates given by your lab instructor. Each assignment will be worth 20 points.

**Home Lab Activities and Modifications for Online Labs:** Online sections of the course use laboratory activities that have been modified for the online environment. **Most lab exercises have required, hands-on home activities that are mandatory parts of the assignments for the course.** The details for completing these assignments and activities will be posted regularly in your lab course Blackboard page. Students must use common sense as well as any follow carefully any particular precautions and instructions issued by the lab instructor, and should reach out to instructor with concerns and guidance on any home activity.

**All Lab Assignments must be submitted online through your Lab Blackboard page.** Your instructor will provide you with specific details on how to format assignments for submission.

**Honor Code applies to Lab Assignments:** The lab manual and your instructor will indicate when students should conduct experiments, share data or materials as part of a pair or a group. We encourage outside study groups, but pre-lab assignments and lab data sheets *must be written individually and not copied from anyone else*. IF THIS IS NOT CLEAR, ASK THE INSTRUCTOR. IDENTICAL ASSIGNMENTS WILL EACH RECEIVE A GRADE OF ZERO. Instructors will specifically discuss what constitutes plagiarism on written work assigned in this class. If students have any questions about what constitutes plagiarism on any written assignment, they should ask the instructor BEFORE turning in work. Plagiarized work will receive a score of zero. Work done in a previous semester may not be turned in for credit. Such assignments will receive a score of zero and be report to the office of Academic Integrity.

**270 points are available in the course. Final grades in BIOL106 are assigned on the following scale:** 98.0-100% = A, 93.0 – 97.9% = A-, 90.0-92.9 = A-, 88.0-89.9% = B+, 83.0-87.9=B, 80.0-82.9% = B-, 78.0-79.9% = C+, 70.0-79.9% = C, 60.0-69.9% = D, 59.9% and below is F.

## WHERE TO GET HELP!

Biology is a fascinating subject, but one which some students find daunting. If you find yourself having any difficulties in this course, see your instructor (lab, lecture, or both) at the outset. All instructors have posted office hours, during which appointments are not necessary. In addition, many instructors may be able to meet students outside of their posted hours in order to accommodate student schedules. It is the instructors' job to provide all the help they can to students; it is the students' job to ask for individual help when they need it.

Much of the material in Biology 106 builds on material covered previously in the semester, therefore it is necessary to have a good understanding of one concept before moving on to the next. If you feel your understanding is inadequate; if you feel you are getting "lost," **see your instructor immediately!!** We are here to help!

[Many tips for successful online learning can be found here.](#) Be proactive and take responsibility for your learning. In an online environment, your professor may have fewer “clues” about whether or not you understand course content. Reach out to your instructor if there is something that is not clear to you, or if you are having difficulty keeping up with the course. If you are having issues with the technology, let your instructor know and then contact [Courses Support](#) for help.



**Learning Services** If you need assistance, please contact Learning Services at 703- 993-2380, or via email at [lsstaff@gmu.edu](mailto:lsstaff@gmu.edu). Learning Services offers online [academic coaching](#) and [academic workshops](#), as well as a list of Mason [tutoring](#) resources.

**Counseling and Psychological Services** Counseling and Psychological Services (CAPS) remains available to provide services to Mason students. Please see CAPS' website for a list of hours and resources. CAPS also offers [virtual workshops](#) focused on healthy coping skills. Contact CAPS at 703-993-2380.

**Office of Diversity, Inclusion, and Multicultural Education** ODIME offers support to our Mason's diverse student populations, including Asian/Pacific American, Black/African American/African Heritage, Hispanic/Latino(a), Middle Eastern and North African (MENA), and Native American/Indigenous heritages.

**Disability Services** Disability Services is available to serve all students with disabilities, including those with cognitive, learning, psychological, sustained head injuries, sensory, mobility, and other physical impairments.

Many students find joining study groups with fellow classmates useful and enriching both academically and personally. Learning outside the classroom may be the most important learning of all! Make use of the many rich academic and personal resources that continue to be available at Mason!

## Biology 106 Lab Schedule

### Fall 2021

Week of semester	Lab exercise
Week 1	#1 Cell Diversity
Week 2	#2 Hypothesis Testing with <i>Physarum</i>
Week 4	#3 Digestion and Enzymes
Week 5	#4 Photosynthesis and Gas Exchange
Week 6	#5 Respiration
Week 7	#6 Metabolism and Nutrition
Week 8	#7 DNA
Week 9	#8 Mitosis and Meiosis
Week 10	#9 Genetics and Human Inheritance
Week 12	#10 Scientific Literature
Week 13	#11 Presentation

**Instructors are not obligated, and indeed are discouraged from transmitting any type of grades to students via e-mail. Final course grades will be available to students via Patriot Web by the deadline for grade submission as set by George Mason University.**