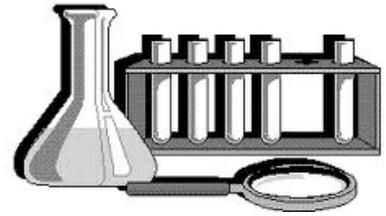


# Biology 115: Principles of Biology Laboratory Fall 2015 Syllabus



TA:  
Office Location:  
Office Hours:  
Phone:  
Email:

Academic Specialist for Biology 115 Lab:

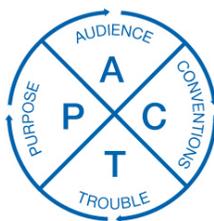
Lab Managers:

Office Location:  
Office Hours: By Appointment  
Phone:  
Email: [biology115lab@mail.wvu.edu](mailto:biology115lab@mail.wvu.edu)

**Course Description:** BIOL 115 Laboratory is the laboratory portion of an introductory course presenting basic principles of modern biology. This course represents the first in a four-course, integrated sequence required of biology majors. You must register for both a lecture section and a laboratory section. This course fulfills GEC Objective 2: Basic Math & Scientific Inquiry.

*Biology 117 has been designated as a SpeakWrite course by the Eberly College of Arts and Sciences. As part of the Eberly College's commitment to fostering effective communication skills, this course will:*

- *Emphasize informal and formal modes of communication*
- *Teach discipline-specific communication techniques*
- *Use a process-based approach to learning that provides opportunities for feedback and revision*
- *Base a substantial portion of the final grade on successful spoken and/or written performance (~33%)*



**Purpose:** What exactly do I want to happen?  
**Audience:** Who is reading, listening, or viewing?  
**Conventions:** What is expected in this context?  
**Trouble:** What could get in the way of my goals?

**Learning objectives:** Upon successful completion of the course, students will be expected to:

- 1) Work collaboratively to formulate hypotheses, design and run experiments, analyze and interpret data and apply the scientific method to solve problems and make predictions
- 2) Collect and record data that will be used to generate appropriate data tables and graphs
- 3) Communicate experimental findings in a scientific format

## **Required Materials:**

**Lab Notebook:** A notebook for lab notes is required. Carbonless duplicating notebooks are recommended.

### **Lab Book:**

Pechenik, J.A. 2015. *A Short Guide to Writing About Biology*, 9<sup>th</sup> ed. Pearson Education, Inc., NJ, 272 pp.

(Older editions may be acceptable.)

**Course Website:** Information about this course's policies, schedules, assignments, etc., can be accessed on the class eCampus website. Log on at:

<https://ecampus.wvu.edu>

## **Attendance Policy:**

- Attendance and participation in lab are required to pass Biology 115. You are expected to attend and participate in the lab for the full amount of time scheduled for your section. **If more than 2 labs are missed, you WILL NOT BE ABLE TO PASS THE CLASS.**
- If you miss lab, you must contact your TA within 24 hours. If you fail to do so, you will not be permitted to turn in work completed during lab and you will receive a 10% deduction for work assigned on that day. It may be possible to make arrangements to make up a missed lab by attending another lab section or meeting with your TA; however, you will only be allowed this accommodation twice and only if you contact your TA within 24 hours of the missed lab. Within these guidelines, make-up labs are granted at the discretion of your TA and lab course coordinators.
- If you arrive more than 10 minutes late to lab, your TA will record your tardiness. Any assignments due on a day you arrive tardy will be counted late and have 10% deducted from the score (see section on Assignments). If you arrive late again, you will be considered absent; your TA may ask you to leave and may allow you to make up the lab at another time (if you have not already used this privilege). If you have already made up two labs when you arrive late, you will not be permitted to receive credit for in-class work and receive a 10% deduction for assignments given on the day you are tardy, just like if you were absent.
- Students who expect to have University excusable absences (i.e. athletes, members of the Pride) should discuss absences with their TA as soon as possible at the beginning of the semester and create a plan for scheduled missed labs.
- Students who miss classes because of extreme circumstances such as an extended hospital stay or death in the family should contact the Office of Student Life in Elizabeth Moore Hall at (304) 293-5611 as soon as possible. At their discretion, this office may provide letters to inform a student's instructors of such "serious, verifiable" circumstances. For typical illnesses and absences, follow the syllabus policies outlined above.

## **Dress Policy:**

- Close-toed shoes, long pants/skirts and covered shoulders are required at all times while working in the laboratory. Failure to dress appropriately may result in being sent home.

## Assignments:

- Assignments are due at the beginning of the class period on the specified due date; 10% will be deducted for each day the assignment is late, including weekends. You must submit the assignments by the beginning of lab in order for them to be considered on time even if you do not attend the lab the day the assignment is due.
- Most assignments will require electronic submissions through eCampus. Additionally, your TA may require a paper copy. You must submit all required copies to receive credit. Lab assignments should be handed directly to your TA (not to the lecture instructor or placed in mailboxes). Consult your TA for instructions on how to submit assignments outside of your scheduled lab time. Emailed assignments will not be graded. **If there are difficulties submitting assignments through Turnitin, you must submit a help ticket request to the IT service help desk (<http://it.wvu.edu/>, (304) 293-4444) to resolve the issue. You must also email the assignment and associated help desk ticket number to your TA by the due date and time to show it was completed on time.** Your assignment will not be graded until it is submitted through Turnitin. Late work will not be accepted after 10 days.
- Should you miss a lab, it is your responsibility to request and obtain information regarding any missed assignments from your TA and lab partners. No deadline adjustments will be made for assignments, so please do this in a timely manner to allow yourself adequate time to complete your assignment.
- Assignment scores will be posted on eCampus throughout the semester. It is your responsibility to monitor your scores. Any questions regarding scores must be brought to the attention of your TA and lab course coordinators within two weeks of the posting date for individual assignments. After this time period, requests to review scores will not be considered.
- You are encouraged to make use of the on-campus resources to help with your writing. For handouts on getting started with writing up to revising and editing go to <http://speakwrite.wvu.edu>. For more individualized help, the Eberly Writing Studio in G02 Colson Hall has trained peer consultants that will work with you. To make an appointment call 304-293-5788 or visit the Eberly Writing Studio link on the speakwrite website.
- There will be quizzes assigned and posted on eCampus throughout the course. When assigned, you will be able to take the quiz until the time of your next lab section meeting, and then access to the quiz will end.

## Grading:

- It is not possible to pass Biology 115 without passing the lab portion AND lecture portion. If you fail the lab OR lecture, you fail the course as well. (F in course if either lecture portion OR lab portion <60%)
- Your grade will be based on your performance on the following:
  - **Online Quizzes (~15%).** Weekly quizzes will test for basic understanding and application of concepts. They will include questions from completed labs as well as questions that require you to explore sources of information to prepare for upcoming labs, such as your lab books, your textbook, or websites. You will have from the time quizzes are assigned until the beginning next lab to complete the quizzes.
  - **In-class Activities and Assignments (~15%).** You will be working in class as a group to complete such tasks as brainstorming ideas, solving problems, and collecting experimental

data. You will be asked to submit documentation of your work. For example, at the end of some laboratory sessions you may be asked to submit a copy of lab notes. After other sessions you may be asked to submit a worksheet showing calculations of practice data sets. In addition to scores on these assignments, a portion of this grade will be derived from evaluations of your in-class efforts by fellow lab partners and your TA.

Homework Assignments (~70%). These assignments are to be completed outside of class and include summaries of scientific articles, essays, and lab reports. Lab reports are written in the style of a peer-reviewed primary scientific journal article and contain introduction, methods, results with figures and/or tables, and discussion sections. Each student is expected to perform library research and find information from textbooks, review articles, and primary journal articles to cite in their reports. You will synthesize knowledge gained from these to provide background information and rationale for each of the experiments performed in the lab, then compare and contrast your own experimental findings with the published data. Figures and tables are included in all reports and results from appropriate statistical analyses are used draw conclusions. You will receive comments and feedback on drafts of reports before a final version is submitted to allow you the opportunity to refine writing styles. At least once during the semester, you will review a peer's draft of a lab report using the rubric for the assignment. Guidelines and a rubric for lab reports will be provided.

## Course Schedule:

	Date	Topic	Assignments	
1	Aug 17-21	Introduction to the Course ACAT Exams	<ul style="list-style-type: none"> <li>Quiz 1</li> </ul>	10 pts
2	Aug 24-28	Scientific Articles	<ul style="list-style-type: none"> <li>In-Class (IC): Notes and Participation</li> <li>Homework (HW): Comparing Articles Essay – due Lab 3</li> <li>Quiz 2</li> </ul>	6 pts 20 pts 12 pts
3	Aug 31-Sept 4	Termites	<ul style="list-style-type: none"> <li>IC: Notes and Participation</li> <li>HW: Testing Hypothesis Worksheet (THW)- Experiment - due Lab 4</li> <li>HW: THW -Termite article - due Lab 4</li> <li>Quiz 3</li> </ul>	6 pts 20 pts 20 pts 12 pts
	Sept 7-11	NO CLASS-Labor Day Recess Sept 7		
4	Sept 14-18	Qualitative Measurements (Organic Molecules I)	<ul style="list-style-type: none"> <li>IC: Notes and Participation</li> <li>HW: THW on experiment - due Lab 5</li> <li>HW: Write Introduction – due Lab 6</li> <li>Quiz 4</li> </ul>	6 pts 20 pts 15 pts 10 pts
5	Sept 21-25	Quantitative Measurements (Organic Molecules II)	<ul style="list-style-type: none"> <li>IC: Notes and Participation</li> <li>HW: Write Methods – due Lab 6</li> <li>Quiz 5</li> </ul>	6 pts 15 pts 12 pts
6	Sept 28-Oct 2	Statistics (Organic Molecules III)	<ul style="list-style-type: none"> <li>IC: Notes, worksheet and Participation</li> <li>HW: Write Results and Discussion - due Lab 7</li> <li>Quiz 6</li> </ul>	26 pts 30 pts 10 pts
7	Oct 5-9	Biofuels/Yeast Fermentation I	<ul style="list-style-type: none"> <li>IC: Notes and Participation</li> <li>HW: Begin writing Introduction and Methods for Biofuels report – report draft due Lab 9</li> <li>HW: THW on biofuel/fermentation article – due Lab 8</li> <li>Quiz 7</li> </ul>	6 pts 20 pts 9 pts
	Oct 12-16	NO LAB THIS WEEK-Fall Break Recess Oct 12-13		
8	Oct 19-23	Biofuels/Yeast Fermentation II	<ul style="list-style-type: none"> <li>IC: Notes and Participation</li> <li>HW: Complete biofuels report – report draft due Lab 9</li> <li>Quiz 8</li> </ul>	6 pts 50 pts 12 pts
9	Oct 26-30	Bacterial Transformation I	<ul style="list-style-type: none"> <li>IC: Notes and Participation</li> <li>HW: THW on bacterial transformation article – due Lab 10</li> <li>HW: Peer Review – due Lab 10</li> <li>Quiz 9</li> </ul>	6 pts 20 pts 25 pts 9 pts
10	Nov 2-6	Bacterial Transformation II/ Biofuels Peer Review	<ul style="list-style-type: none"> <li>IC: Notes and Participation</li> <li>Revise Biofuel Report-due Lab 11</li> <li>Quiz 10</li> </ul>	6 pts 100 pts 9 pts
11	Nov 9-13	Bacterial Transformation III/ Presentation Preparation	<ul style="list-style-type: none"> <li>IC: Notes and Participation</li> <li>HW: Bacterial Transformation Questions – due Lab 12</li> </ul>	6 pts 100 pts
12	Nov 16-20	Presentations	<ul style="list-style-type: none"> <li>IC: Presentations</li> </ul>	25 pts
	Nov 23-27	NO LAB THIS WEEK-Fall Recess Nov 23-27		
13	Nov 30-Dec 4	Last lab		

\*\*Please note: The course schedule may be modified during the semester to manage unforeseen circumstances.

### **Academic Integrity:**

- The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, TAs and course coordinators will enforce rigorous standards of academic integrity in all aspects and assignments of this course. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the Student Conduct Code [http://studentlife.wvu.edu/office\\_of\\_student\\_conduct/](http://studentlife.wvu.edu/office_of_student_conduct/) Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see your TA *before* the assignment is due to discuss the matter.

Assignments completed outside of lab are expected to be done individually and represent independent work. Acts of academic dishonesty or plagiarism of any sort will not be tolerated and will be reported immediately according to University policies and procedures. Examples of unacceptable conduct include, but are not limited to:

- Copying another student's work
- Working collaboratively on independent assignments
- Improperly citing sources
- Providing your work for another student to use

### **Disability Statement:**

- If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise your TA and course coordinators and make appropriate arrangements with the Office of Disability Services (293-6700). Please do this during the first week of class if possible, so that such accommodations may be arranged.

### **Social Justice:**

- West Virginia University is committed to social justice. Your TA and course coordinators concur with that commitment and expect to maintain a positive learning environment based on open communication, mutual respect, and non-discrimination. Our University does not discriminate on the basis of race, sex, age, disability, veteran status, religion, sexual orientation, color or national origin. Any suggestions as to how to further such a positive and open environment in this class will be appreciated and given serious consideration.

