BIOL 1106: General Biology | Laboratory | #10917
In-Person | Central College (CE) LHSB 305 1300 Holman Street, Houston, TX, 77004. | Monday 2-4:50 p.m.
1 Credit Hours | 48 hours per semester

Instructor Contact Information
Instructor: Pauline Ward, Ph.D.  Office Phone: 713-718-2538
Office: CE, Room LHSB 401  Office Hours: M & W 11 a.m-12:30 p.m.
HCC Email: pauline.ward@hccs.edu  Office Location: Learning Hub, 4th floor

Please feel free to contact me concerning any problems that you are experiencing in this course. Your performance in my class is very important to me. I am available to hear the concerns and just to discuss course topics.

Instructor’s Preferred Method of Contact
Please use the Eagle online/Canvas messaging system. Only in the event that Canvas is offline, please email me directly at Pauline.ward@hccs.edu. I only respond to HCC email addresses (not Gmail, etc.). I will respond to emails within 24-48 hours Monday through Friday; I will reply to weekend messages during the following week.

What’s Exciting About This Course
You will learn Biology through hands on laboratory experiments. You may even enjoy the lab component more than the lecture because it is hands on and will help in the understanding of key topics in Biology. Like scientists in research labs all over the world, you will follow the scientific method, design experiments and work as a team. You will learn to record your observations in the written lab reports. How useful is the microscope in viewing cells? Why do we need to stain cells? How are plant cells different from animal cells? How do cells divide and why? You will learn methods to find biological molecules in different foods, separate pigments from plants, isolate and separate DNA. In this lab course you will also learn how we inherit traits from our parents and will be able to do various genetics problems.
My Personal Welcome

Welcome! —I’m delighted that you have chosen this course. Biology is an exciting field of study and I look forward to working with each of you this semester as you conquer the learning objectives for this course. By taking an active part in your education, you will make your academic experience much more rewarding and exciting!!

Prerequisites and/or Co-Requisites

Pre/Co-requisite: BIOL 1306 Biology for Science Majors I (lecture). If you have enrolled in this course having satisfied these pre/co requisites, you have a higher chance of success than students who have not done so.

Please carefully read the repeater policy in the HCCS Student Handbook.

Canvas Learning Management System

All Biology sections utilize Canvas (https://eagleonline.hccs.edu) to supplement in-class assignments, exams, and activities.

Open Lab Locations

HCCS Open Computer Lab locations may be used to access the Internet and Canvas. USE FIREFOX OR CHROME AS THE INTERNET BROWSER.

HCC Online Information and Policies

For online/hybrid students. As an online /hybrid student, you are responsible for all information/requirements provided by the online college. Here is the link to information about HCC Online classes http://www.hccs.edu/online/. This includes the mandatory online course prior to start of class.

Scoring Rubrics, Sample Assignments, etc.

When applicable, look in Canvas for the scoring rubrics for assignments, samples of class assignments, and other information to assist you in the course. https://eagleonline.hccs.edu/login/ldap
Instructional Materials


The laboratory manual can be found at the HCC Bookstore. Order your laboratory manual here: HCC Bookstore

Suggested Resources

HCCS Biology Lab Study Pages
Click here to access Biology lab study pages online.

Other Instructional Resources

Tutoring
HCC provides free, confidential, and convenient academic support, including writing critiques, to HCC students in an online environment and on campus. Tutoring is provided by HCC personnel in order to ensure that it is contextual and appropriate. Visit the HCC Tutoring Services website for services provided.

Libraries
The HCC Library System consists of 9 libraries and 6 Electronic Resource Centers (ERCs) that are inviting places to study and collaborate on projects. Librarians are available both at the libraries and online to show you how to locate and use the resources you need. The libraries maintain a large selection of electronic resources as well as collections of books, magazines, newspapers, and audiovisual materials. The portal to all libraries’ resources and services is the HCCS library web page at http://library.hccs.edu.

Supplementary Instruction
Supplemental Instruction is an academic enrichment and support program that uses peer-assisted study sessions to improve student retention and success in historically difficult courses. Peer Support is provided by students who have already succeeded in completion of
the specified course, and who earned a grade of A or B. Find details at http://www.hccs.edu/resources-for/current-students/supplemental-instruction/.
Course Overview

BIOL 1106 laboratory-based course accompanies BIOL 1306 Biology for Science Majors I. Laboratory activities will reinforce the fundamental principles of living organisms, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Study and examination of the concepts of cytology, reproduction, genetics, and scientific reasoning are included.

Core Curriculum Objectives (CCOs)

BIOL 1106 satisfies the Natural Science requirement in the HCCS core curriculum. The HCCS Biology Discipline Committee has specified that the course address the following core objectives:

- **Critical Thinking**: Students will demonstrate the ability to engage in inquiry and analysis, evaluation and synthesis of information, and creative thinking by completing a written assignment such as a book report, research paper, or essay.
- **Communication Skills**: Students will demonstrate effective development, interpretation and expression of ideas through written, oral, and visual communication by completing a written assignment such as a book report, research paper, or essay.
- **Quantitative and Empirical Literacy**: Students will demonstrate the ability to complete the required experiments, draw conclusions, record results in the form of graphs, tables in the laboratory manual, completing pre-lab and post-lab assignments, and answer questions on quizzes and exams that pertain to Course Student Learning Outcome #1 below.
- **Social Responsibility**: Students will demonstrate the ability to engage effectively in conducting laboratory experiments as a team, complete the conclusion and results as a follow up discussion, complete laboratory pre-lab and post-lab assignments, and answer questions on quizzes and exams that pertain to Course Student Learning Outcome #2 below.

Program Student Learning Outcomes (PSLOs)

Can be found at: [https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/biology/](https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/biology/)

Course Student Learning Outcomes (CSLOs)

Upon successful completion of BIOL 1106, students will:

1. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem-solving to make informed decisions in the laboratory. Communicate effectively the results of scientific investigations.
3. Explain the methods of inquiry used by scientist.
4. Identify the basic properties of substances needed for life.
5. Compare and contrast the structures, reproduction, and characteristics of prokaryotic cells, and eukaryotic cells.
6. Describe the structure of cell membranes and the movement of molecules across a membrane. 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.

**Learning Objectives**

Learning Objectives for each CSLO can be found at Learning Objectives for BIOL 1306
Student Success

Academic standards require a minimum of 3 study hours for every contact hour; meaning for a class that meets 3 hours per week, you need to budget and set aside a minimum of 9 hours each week to study and prep for your course success. Expect to spend at least twice as many hours per week outside of class as you do in class studying the course content. Additional time will be required for written assignments. The assignments provided will help you use your study hours wisely. Successful completion of this course requires a combination of the following:

- Reading the textbook
- Attending class in person and/or online
- Timely completion of assignments
- Participating in class activities
- Successful exam performance, including the mandatory final

There is no short cut for success in this course; it requires reading and studying the material using the course objectives as a guide.

Instructor and Student Responsibilities

As your Instructor, it is my responsibility to:

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through learner-centered instructional techniques
- Provide a description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness, and making up assignments
- Provide the course outline and class calendar that will include a description of any special projects or assignments
- Arrange to meet with individual students before and after class as required

As a student, it is your responsibility to:

- Attend class in person and/or online
- Participate actively by reviewing course material, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook
- Complete the required assignments and exams
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments
- Attain a raw score of at least 50% on the departmental final exam
- Be aware of and comply with academic honesty policies in the HCCS Student Handbook
Assignments, Exams, and Activities

LAB PRACTICAL Exams (60%)
There will be a total of three regular Lab Practical Exams during the course. These will be explained in detail during our lab sessions. Note: Scantrons are not needed for Lab Practical Exams. Each exam accounts for 30% of your grade. Out of the three lab practical exams, one exam grade will be dropped. If you take all of these three exams, your lowest grade automatically becomes your drop grade. If you miss an exam it automatically becomes your drop exam. If you miss a second exam, you will receive a grade of 0% for that exam.

LAB SKILLS EXAM (10%):
This will include Pipetting technique and use of the Microscope.

LAB REPORTS (10%). Please note, you may collaborate in class to complete some sections of the lab report. However, each student should contribute equally to get full credit. “Connect with the concepts” and assigned lab homework sections must be completed independently outside the laboratory and individuality will be looked for in these sections. Lab books must be checked by the Instructor before leaving lab to ensure completion by the end of the lab session. The Instructor will also collect the lab manuals at the end of the semester to ensure completion and correctness of all required activities. Note. Some parts of the labs will be assigned as homework- these must be completed individually by the start of class on the due date assigned by the Instructor (5% OF THIS GRADE).

PERFORMANCE (10%). Students must be present and actively engaged and must contribute fully to the lab sessions. Group effort will be allowed in the lab but each student must participate fully in the activities to receive full credit. Students must be present for the entire lab period.

PRE-LAB REPORTS (5%):
These must be completed independently on the day prior to the day we carry out the corresponding lab and will be checked at the start of the class.

ORAL EVALUATION (5%). Students are required to read the short lab Objectives and Introductions BEFORE coming to class and will be examined orally on these topics. In addition, students will need to give a summary report of the experiments performed at the end of the class period to their classmates and Instructor. More details will be provided in class.

Grading Formula

- 2 of 3 Lab Practical Exams; 30% each for total of 60% Lab Skills Exam 10%
- Lab reports 10%
- Performance 10%
- Pre-lab reports 5%
- Oral evaluation 5%

TOTAL 100%

Incomplete Policy:
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 85% 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.
- In all cases, the instructor reserves the right to decline a student’s request to receive a grade of Incomplete.

HCC Grading Scale can be found on this site under Academic Information: http://www.hccs.edu/resources-for/current-students/student-handbook/
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<th>Week</th>
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| 1. Aug 26 | **ORIENTATION**  
Lab 1. Safety & procedures  
Lab 2. Scientific method |
| 2. Sept 2 | **Monday Sept 2 Labor Day: No class** |
| 3. Sept 9 | Pre-Labs 1-4 due at start of class. Oral test on Lab 3-4 Objectives and Introduction  
Homework due at start of class: **Lab 1 & 2**-Complete lab report.  
Lab 3. Measurements  
Lab 4. Basic Chemistry |
| 4. Sept 16 | Pre-Lab 5 & 6 due at start of class. Oral test on Lab 5 & 6 Objectives and Introduction  
Homework due at start of class: **Lab 4**-Complete lab report.  
Lab 5. Water and its Properties  
Lab 6. Biomolecules |
| Sept 23 | Pre-Lab 7 due at start of class. Oral test on Lab 7 Objectives and Introduction  
Homework due at start of class: **Lab 6-D3 & D4; E1-E4, Lab 7-1-6**  
Lab 6. Biomolecules-continued  
Lab 7. The Microscope |
| 6. Sept 30 | **LAB BOOK COLLECTION FOR GRADING. Need to have LABS 1-7 COMPLETE**  
LAB EXAM #1: Lab 1-7  
Lab 8. Cell Structure and Function |
| 7. Oct 7 | Pre-Lab 9 & 10 due at start of class. Oral test on Lab 8 & 9 Objectives and Introduction  
Homework due at start of class: Competed **Lab 8** report.  
Lab 9. Diffusion and Osmosis  
Lab 10. Enzymes: Catalysts of Life |
| 8. Oct 14 | Pre-Lab 11 due at start of class. Oral test on Lab 10 & 11 Objectives and Introduction  
Homework due at start of class: Competed **Lab 9** report.  
Lab 10. Enzymes: Catalysts of Life-continued  
Lab 11. Cellular Respiration & Fermentation |
| 9. Oct 21 | Pre-Lab 12 due at start of class. Oral test on Lab 12 Objectives and Introduction  
Homework due at start of class: Competed **Lab 10** report.  
Lab 11. Cellular Respiration & Fermentation-continued  
Lab 12. Photosynthesis |
| 10. Oct 28 | Pre-Lab 13 due at start of class.  
**LAB BOOK COLLECTION FOR GRADING. Need to have LABS 8-12 COMPLETE**  
LAB EXAM #2 : Lab 7-12  
Lab 13. Cell Division-Mitosis |
| 11. Nov 4 | Pre-Lab 14 & 15 due at start of class. Oral test on Lab 13 & 14 Objectives and Introduction  
Homework due at start of class: Competed **Lab 13 & 14** report.  
Lab 14: Cell division Meiosis  
Lab 15. Mendelian genetics |
| 12. Nov 11 | Pre-Lab 16 due at start of class. Oral test on Lab 15 & 16 Objectives and Introduction  
Homework due at start of class: Competed **Lab 15** report.  
Lab 15. Mendelian genetics-continued  
| 13. Nov 18 | Pre-Lab 17 & 18 due at start of class. Oral test on Lab 17 & 18 Objectives and Introduction  
Homework due at start of class: Competed **Lab 16** report.  
Lab 17. DNA Extraction, structure & Replication  
Lab 18. Gel Electrophoresis |
| 14. Nov 25 | Pre-Lab 19 due at start of class. Oral test on Lab 19 Objectives and Introduction  
Homework due at start of class: Competed **Lab 17 & 18** report.  
Lab 19. Protein Synthesis |
| 15. Dec 2 | **LAB BOOK COLLECTION FOR GRADING. Need to have LABS 13-19 COMPLETE**  
LAB EXAM #3: Lab 13-19 |
| 16. Dec 9 | **LAB SKILLS EXAM: Practical: Including Pipetting technique and use of the Microscope.** |
Syllabus Modifications
The instructor reserves the right to modify the syllabus at any time during the semester and will promptly notify students in writing, typically by e-mail, of any such changes.

Instructor’s Practices and Procedures

Missed Assignments

NO MAKE-UP FOR LAB EXAMS

No extensions on deadlines for quizzes or assignments

Academic Integrity
You will be required to sign an academic integrity commitment and return to the Instructor by the first week of class. This form will be provided on the first day of class.

This instructor 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 will include but is not limited to 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 a student who violates the standards of academic integrity.

Here’s the link to the HCC information about academic integrity (Scholastic Dishonesty and Violation of Academic Scholastic Dishonesty and Grievance): http://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/

Attendance Procedures

Attendance is mandated by the state. You are expected to attend the entirety of the scheduled classes. You are also responsible for materials covered during your absences. Instructors may be willing to consult with you for make-up assignments, but it is your responsibility to contact the instructor. Class attendance is monitored daily. It is your responsibility to drop a course for nonattendance (Nov 1 by 4:30 pm). The instructor also has the authority to drop you for excessive absences. You may be dropped from a course after accumulating absences in excess of 12.5 percent of the total hours of instruction (lecture and lab). For example:
- For a 3 credit-hour lecture class meeting 3 hours per week (48 hours of instruction), you can be dropped after 6 hours of absence.
- 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.
- **Students who stopped attending class**: The Department of Education now requires that we make a distinction between an “earned” grade of “F” (i.e. for poor performance) and a grade of “F” due to a lack of attendance. To make that distinction, we have created a new grade, “FX” for failure due to lack of attendance. Faculty will not be allowed the option of submitting a grade change form changing the grade of FX (or F) to W, if the student stopped attending class. Failure to alert instructor of missed exams and lack of attendance will result in this FX grade option.

**Student Conduct**
As your instructor and as a student in this class, it is our shared responsibility to develop and maintain a positive learning environment for everyone. All students in HCC are required to follow all HCC Policies & Procedures, the Student Code of Conduct, the Student Handbook, and relevant sections of the Texas Education Code, both in the classroom and online in our Canvas supplemental course. Students who violate these policies and guidelines will be subject to disciplinary action that could include denial of access to course-related material and Canvas shell, and/or being removed from the class.

**Instructor’s Course-Specific Information (As Needed)**

**Course material** handed out in class or posted online is for your personal use only and it is not permissible to share or distribute any of this material without my prior consent.

It is your responsibility to meet the course deadlines. Please take note of exam, quizzes and assignment deadlines. It is also your responsibility to check CANVAS daily for any new announcements or updates. You can set up in your CANVAS course settings to have notifications of new announcements sent to your phone or email.

**Electronic Devices**

**Cellphone, Laptop, Camera, Recording and/or other Electronic Devices** are prohibited in classrooms, laboratories, faculty offices, and other locations where instruction, tutoring, or testing occurs, unless directed otherwise by the Instructor.

If your work or family situation requires that you be available via phone, your phone can be on vibrate mode and you can take the call during a break or you can exit the class to review the call. Notify your friends, family, employers, and anyone else who regularly contacts you that you will be in class and that you should be contacted only when necessary. The taking of calls during class is not only disruptive but it is also discourteous to classmates and the instructor.

**STUDENTS ARE NOT PERMITTED TO HAVE ELECTRONIC DEVICES DURING EXAMS**
All phones, watches or other electronic devises must be placed at the top of the classroom during any exams and testing. Students found with a devise on or near their presence during an exam (even if not looking at it actively at that time) will be considered as having cheated in that exam. Students with disabilities who need to use a recording device as a reasonable
accommodation should contact the Office for Students with Disabilities for information regarding reasonable accommodations.

**Biology Program Information**

The Biology area of study here at HCC covers the smallest and simplest organisms (microbiology) to the largest and most complex organisms (human anatomy and physiology, zoology, botany).

**AWARD TYPES:** Associate in Science  
**AREA OF STUDY:** Science, Technology, Engineering & Math

Please visit link: [https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/biology/](https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/biology/)
HCC Policies
Here’s the link to the HCC Student Handbook [http://www.hccs.edu/resources-for/current-students/student-handbook/](http://www.hccs.edu/resources-for/current-students/student-handbook/)  In it you will find information about the following:

- Academic Information
- Academic Support
- Attendance, Repeating Courses, and Withdrawal
- Career Planning and Job Search
- Childcare
- disAbility Support Services
- Electronic Devices
- Equal Educational Opportunity
- Financial Aid TV (FATV)
- General Student Complaints
- Grade of FX
- Incomplete Grades
- International Student Services
- Health Awareness
- Libraries/Bookstore
- Police Services & Campus Safety
- Student Life at HCC
- Student Rights and Responsibilities
- Student Services
- Testing
- Transfer Planning
- Veteran Services

**EGLS³**
The EGLS³ ([Evaluation for Greater Learning Student Survey System](http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/)) will be available for most courses near the end of the term until finals start. This brief survey will give invaluable information to your faculty about their teaching. Results are anonymous and will be available to faculty and division chairs after the end of the term. EGLS³ surveys are only available for the Fall and Spring semesters. -EGLS3 surveys are not offered during the Summer semester due to logistical constraints.

**Campus Carry Link**
Here’s the link to the HCC information about Campus Carry: [http://www.hccs.edu/departments/police/campus-carry/](http://www.hccs.edu/departments/police/campus-carry/)

**HCC Email Policy**
When communicating via email, HCC requires students to communicate only through the HCC email system to protect your privacy. If you have not activated your HCC student email account, you can go to [HCC Eagle ID](http://www.hccs.edu) and activate it now. You may also use Canvas Inbox to communicate.

**Housing and Food Assistance for Students**
Any student who faces challenges securing their foods or housing and believes this may affect their performance in the course is urged to contact the Dean of Students at their
college for support. Furthermore, please notify the professor if you are comfortable in doing so.

This will enable HCC to provide any resources that HCC may possess.

**Office of Institutional Equity**

Use the link below to access the HCC Office of Institutional Equity, Inclusion, and Engagement ([http://www.hccs.edu/departments/institutional-equity/](http://www.hccs.edu/departments/institutional-equity/))

**disAbility Services**

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including long and short term conditions, mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to [http://www.hccs.edu/support-services/disability-services/](http://www.hccs.edu/support-services/disability-services/)

**Title IX**

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual’s fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex—including pregnancy and parental status in educational programs and activities. If you require an accommodation due to pregnancy please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:

David Cross  
Director EEO/Compliance  
Office of Institutional Equity & Diversity  
3100 Main  
(713) 718-8271  
Houston, TX 77266-7517 or Institutional.Equity@hccs.edu  

**Office of the Dean of Students**

Contact the office of the Dean of Students to seek assistance in determining the correct complaint procedure to follow or to identify the appropriate academic dean or supervisor for informal resolution of complaints.

Department Chair Contact Information

Dr. DaeJan Grigsby
Email: daejan.grigsby@hccs.edu
Phone: 713-718-7775