

Division of Earth, Life & Natural Sciences

Biology Department

<https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/biology/>

# BIOL 1308: General Biology I for Non-Science Majors

# | Lecture | #20074

Fall 2019 | 13 Weeks (9.6.2019-12.15.2019)

In-Person | Willie Lee Hall Campus 151| MW 8:00 a.m.-9:20 a.m.

3 Credit Hours | 48 hours per semester

## Instructor Contact Information

Instructor: Dr. Tom Loesch Office Phone: 713-718-7340

Office: Eastside, Room FM124.2B Office Hours: M-R 9:30-10:45 a.m.

HCC Email: [tom.loesch@hccs.edu](mailto:tom.loesch@hccs.edu) Office Location: Felix Morales FM 124.2B

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

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

Biology is an endless adventure with constant new developments. Biology is the study of life. Perhaps, the first thing that comes to mind when you think about life on earth is humans and familiar animals. In this course, you will also learn about bacteria, fungi, plants and other life forms on earth. This course introduces students to the nature of life, including the chemical foundation of life; plants, animal, humans and bacterial cell structure and function; DNA, genetics and evolution. You will learn about the various techniques used to study biology; gene cloning, gene editing and the exciting field of Genetic Engineering.

## My Personal Welcome

Welcome to General Biology I—I’m delighted that you have chosen this course. I will present the information in the most exciting way I know, so that you can grasp the concepts and apply them now and hopefully throughout your life. As you read and wrestle with new ideas and facts that may challenge you, I am available to support you. The fastest way to reach me is by my HCC email. The best way to really discuss issues is in person and I’m available during posted office hours or during class to tackle any questions you might have. My goal is for you to walk out of the course prepared to tackle the next courses in your bucket list.

As you read and wrestle with new ideas and facts that may challenge you, I am available to support you. The fastest way to reach me is by my HCC email. The best way to really discuss issues is in person and I’m available during posted office hours to tackle the questions. My goal is for you to walk out of the course with a better understanding of yourself and of Biology and how it relates to you. So please visit me or contact me by email whenever you have a question.

## Prerequisites and/or Co-Requisites

One year of high school biology/high school chemistry recommended, You must be placed into college level reading and writing as well as college math to take this course. Please carefully read and consider the repeater policy in the [HCCS Student Handbook.](http://www.hccs.edu/resources-for/current-students/student-handbook/)

Recommended co-requisite: BIOL 1106 Biology for Science Majors I (lab)

Please carefully read the repeater policy in the [HCCS Student Handbook.](http://www.hccs.edu/resources-for/current-students/student-handbook/)

## Canvas Learning Management System

All Biology sections utilize [Canvas](file:///C:\Users\Matt%20Webster\AppData\Local\Temp\Canvas) (<https://eagleonline.hccs.edu>) to supplement in-class assignments, exams, and activities.

## Open Lab Locations

[HCCS Open Computer Lab locations](https://www.hccs.edu/departments/division-of-instructional-services/institute-for-instructional-engagement--development/open-lab-schedule/) may be used to access the Internet and Canvas. **USE** [**FIREFOX**](https://www.mozilla.org/en-US/firefox/new/) **OR** [**CHROME**](https://www.google.com/chrome/browser/desktop/index.html) **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.

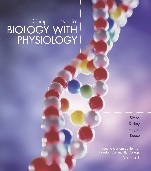
When applicable, look in Canvas for the scoring rubrics for assignments, samples of class assignments, and other information to assist you in the course.

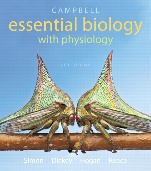
<https://eagleonline.hccs.edu/login/ldap>

# Instructional Materials

## Required Resources

**Course Required Resources:**

**ONLINE CLASSROOM:**  <https://eagleonline.hccs.edu/login/ldap> This is where you will find your instructional materials for the course. This is also where we communicate via email – the Canvas “inbox”.

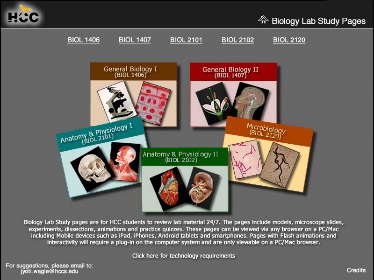
**TEXTBOOK**: **CAMPBELL ESSENTIAL BIOLOGY WITH PHYSIOLOGY with Modified MasteringBiology**, HCC Custom Edition, Vol. 1, By Simon, Reece, Dickey and Hogan, Pearson/Benjamin Cummings. **ISBN**: 1323751793 // 9781323751794.

*\*\*Textbook may be obtained at HCC Bookstores under either cover.*

**ONLINE HW SITE:**  [www.PearsonMastering.com](http://www.PearsonMastering.com) Your personalized student access code for this site is stocked bundled with your text, or you can buy it separately from the Bookstore(s), or you can purchase it online directly from the website. \*\*NOTE: You will **access via embedded “MyLab & Mastering” link** in the Canvas course, and input your student code!!!

The book is included in a package that contains the text as well as an access code and are found at the [HCC Bookstore](https://hccs.bncollege.com/webapp/wcs/stores/servlet/BNCBHomePage?storeId=19561&catalogId=10001&langId=-1). You may either use a hard copy of the book or rent the e-book from Pearson. Order your book here: [HCC Bookstore](https://hccs.bncollege.com/webapp/wcs/stores/servlet/BNCBHomePage?storeId=19561&catalogId=10001&langId=-1)

## Suggested Resources



### HCCS Biology Lab Study Pages

[Click here to access Biology lab study pages online.](https://iied21.hccs.edu/JyotiW/BiologyLabs/index.html)

## 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](http://www.hccs.edu/resources-for/current-students/tutoring/) 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](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

In BIOL 1308, 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 Objectives (CCOs)](https://www.hccs.edu/programs/catalog/academic-information/)

BIOL 1308 satisfies the Natural Science requirement in the HCCS core curriculum for non-Science Majors. 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 explore the scientific research methods that are used in the study of biology. They will learn to interpret numerical data in charts, graphs, and tables that are in their textbooks and other resources. Students should be able to carry out basic mathematical operations including calculating percentages and frequencies. In addition, students will complete textbook reading assignments and answer questions on quizzes and exams that pertain to Course Student Learning Outcome #2
* ***Social Responsibility***: Students will demonstrate the ability to engage effectively in class activities and discussions, complete textbook reading assignments, and answer questions on quizzes and exams that pertain to Course Student Learning Outcome #10 below.

## Program Student Learning Outcomes (PSLOs)

Can be found at:

<https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/biology/>

## Course Student Learning Outcomes (CSLOs)

Upon completion of BIOL 1306, the student will be able to:

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

Learning Objectives for each CSLO can be found at [Learning Objectives for BIOL 130](http://learning.hccs.edu/programs/biology)8

# 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](http://www.hccs.edu/resources-for/current-students/student-handbook/)

# Assignments, Exams, and Activities

**Online Homework Assignments;**

There will be mandatory online homework assignment on the Mastering Biology site ([www.masteringbio.com](http://www.masteringbio.com/) ). The course ID for your course is listed on my “Learning Web”. Each student is responsible for registering on the mastering biology website using an access code. The access code comes with the new book. The information regarding the access code will be given to you. The homework assignments will be graded and will contribute to 10% of the final grade. The due dates for the assignments will not be extended. Please read the instructions regarding mastering biology on the learning web or blackboard before you start taking the assignments.

## Exams

There will be 6 lecture exams and a final exam. Lecture exams will consist of multiple-choice questions. They will cover material we cover in class, important concepts and discussion from the text book as well as figures from the text book. You will get a maximum of one hour or one and half-hour period to complete your lecture exam. The final exam will be comprehensive (it will cover all the chapters). There will be a departmental final that all students need to take. You may take 2 finals one by the department and one by your instructor. The average of both final exams will be included in your final grade. The lecture exams will follow lectures. **No cell phones are allowed in use at any time in the classroom as it disturbs the class. Audible cell phone ringing may result in your removal from class that day. Cell phone use during examination will be considered cheating and will result in course failure.**

There will be no make-up exams and final exams are mandatory. One lecture exam out of the six may be dropped for the final computation with proper documentation. Please note: All students are required to take the final exam. Failure to take the final exam will result in an 0 grade for the final.

HCC does not provide students with Scantron forms. They are sold in campus bookstores.

## In-Class Activities

**We will be having in class, face to face verbal exams to make sure you are reading and studying the material assigned.**

## Final Exam

All students will be required to take a comprehensive departmental final exam consisting of 50 multiple- choice questions. Students must provide their own Scantron forms (FORM NUMBER 882-E-LOVAS). All the information students need to prepare for the exam is in the [*Final Exam Handbook*](http://learning.hccs.edu/programs/psychology/psyc-2301-departmental-final-exam-preparation-resources).

## Grading Formula

## Grade Determination:

All the exams will be considered towards final grade.

Four Lecture exams ---------------------------- - -400 pts.

Assignments on Mastering Biology --------------100 pts

Final Exam ----------------------------------------- - 100 pts

Total Points -------------------------------------------- 600

A = 90-100 %

B = 80-89, C = 70-79, D = 60-69,

F = Below 60.

| **Grade** | **Total Points** |
| --- | --- |
| A | 90% |
| B | 80% |
| C | 70% |
| D | 60% |
| F | <60% |

### 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 BEFORE the official drop date.
* 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/**](http://www.hccs.edu/resources-for/current-students/student-handbook/)

# Course Calendar

**Class Schedule**

Week 1 Ch.1 Introduction: Themes in the study of life

Week 2 Ch.2 Essential Chemistry for Biology

Week 3 Ch.3 The Molecules of Life

Week 4 Ch.4 A Tour of the Cell.

**Lecture Exam 1 Ch. 1 to 3**

Week 5 Ch.5 The Working Cell

**Week 6**  Ch.6 Cellular Respiration

Week 7 Ch.7. **Photosynthesis**

**Lecture Exam 2 Ch. 4 to 6**

**W**eek 8Ch.8 Genetics

**Week 9** Ch.9 Patterns of Inheritance

Week 10 Ch.10 The Structure and function of DNA

**Lecture Exam Ch. 7-9**

Week 11 Ch.11 How Genes are controlled

Week 12 Ch.12. DNA Technology

Week 13 Ch.13. Evolution and Diversity

**Lecture Exam 4 Ch.10 to 12**

Week 14 Departmental Final Exam and Possible Test 5 over Chapter 13

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## 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

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.

Assignments (e.g. critiques) not turned in on time will be docked 10% of their final value for *each* class day that they are late.

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 over 48 **contact hours** (3 hr. credit). **The class and study time necessary to succeed in this class will be close to 150 hours (10 hours per week)!**

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.

## Academic Integrity

Students are expected to comply with stated policies in HCCS student handbook concerning academic honesty. Cheating will not be tolerated. There will be no talking, looking on other people’s papers or in any way try to cheat on any examination. This can lead to expulsion from Houston Community College. This is your official warning! Your first offense will be your last in my class.

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

1. Attendance at lecture is importance since most exam material will come from the lecture notes. Students are expected to attend classes regularly and on time. Latecomers distract the class and are not appreciated. Students are responsible for materials covered during their absences. Class attendance is checked daily by instructors. *A student may be dropped from a course for excessive absences after the student has accumulated absences in excess of* ***12.5%*** *of the hours of instruction (including lecture and laboratory time)*. **Note that 12.5% is approximately 4 classes for a 3-semester hour course.** If circumstances significantly prevent you from attending classes, please inform me. It is the responsibility of each student to amend their professional/personal schedule to meet the class schedule. If you wish to drop the course, it is **your responsibility** to go online and do it. I usually will not drop students for non-attendance.

## Student Conduct

Students should be on time for class and be prepared with required materials including textbook and lab manual. Full class attendance is required including lecture and lab portions. Full attention during lecture and lab is required. No use of any electronic devices during the class period unless approved by your instructor. Students are expected to conduct themselves as adults. This includes courteous and respectful behavior towards the 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.

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

## Electronic Devices

Absolutely no phone or other personal electronic devices are to be used during class (lecture and lab). This includes making or taking a call, reviewing messages, texting, playing games, checking email, surfing the web, anything that involves a phone or other personal electronic device. 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 our regular scheduled breaks 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.

# [Biology Program Information](https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/biology/)

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/>

# HCC Policies

Here’s the link to the HCC 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.

<http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/>

## Campus Carry Link

Here’s the link to the HCC information about 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/resources-for/current-students/student-e-maileagle-id/) 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/>)

## 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/>

## 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](mailto:Institutional.Equity@hccs.edu)

<http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/>

## 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.

<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/>

## Department Chair Contact Information

Dr. DaeJan Grigsby

Email: daejan.grigsby@hccs.edu

Phone: 713-718-7775