



**Division of Earth, Life & Natural Sciences  
Biology Department**

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

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**Biol 1308: Biology for Non-Science Majors I | Lecture |  
# 16435**

Spring 2020 | 16 Weeks (1.21.2020-5.17.2020)

Online

3 Credit Hours | 48 hours per semester

**Instructor Contact Information**

Instructor:	Renu Jain, Ph.D.	Office Phone:	713-718-2537
Office:	Central, LHSB Room 401	Office Hours:	M&W 3:30-4:30 p.m.
HCC Email:	<a href="mailto:renu.jain@hccs.edu">renu.jain@hccs.edu</a>	Office Location:	Central College

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 prefer the email. 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 the study of life. Learning and understanding Biology helps you know:

1. How and why things happen in the physical world
2. More about yourself and your daily experiences.
3. How to live a healthier life and improve the lives of others.
4. How different organisms interact with each other, as well as our impact on them.

**My Personal Welcome**

Welcome to Introductory Biology—I'm delighted that you have chosen this course! One of my passions is to know as much as I can about human behavior, and I can hardly wait to pass that on. 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 to tackle the questions. My goal is for you to walk out of the course with a better understanding of yourself and of human behavior. So please visit me or contact me by email whenever you have a question.

### **Prerequisites and/or Co-Requisites**

Biology 1308 requires college-level reading and writing skills. Research indicates that you are most likely to succeed if you have already taken and passed ENGL 1301. The minimum requirements for enrollment in Biology 1308 include placement in college-level reading (or take INRW 0420 or ESOL 0360 as a co-requisite). If you have enrolled in this course having satisfied these prerequisites, you have a higher chance of success than students who have not done so.

There are no prerequisites/co-requisites for this course, though the complementary Biol 1108 lab experience is suggested.

Please carefully read the repeater policy in the [HCCS Student Handbook](#).

### **Canvas Learning Management System**

All Biology sections utilize [Canvas](https://eagleonline.hccs.edu) (<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**

As an online 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

This Non Majors Biology Course (Biol 1308) is part of a pilot **Z-degree** program, and low cost program which means there is no standard textbook requirement for this course. Instead we will be using **open educational resources** (OER) provided through the Canvas course shell. It is important for you to follow course content in a timely manner as directed in the course schedule.

You'll access all course materials inside our learning management system, Canvas. Just log into the course site and navigate to the course content.

Use the "Study Plan" link in any module to access the text and other learning activities. You'll also see links for quizzes, discussions, and other assignments. Check out "Succeeding with Waymaker" for a quick overview of how the course works.

## 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

This course is designed to give the students the basic knowledge of life sciences. Topics include basic biological chemistry, cellular morphology, metabolism, Mendelian and molecular genetics.

### Core Curriculum Objectives (CCOs)

BIOL 1308 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 draw conclusions based on the systematic analysis of topics using observation, experiment, and/or numerical skills by completing textbook reading assignments, completing assignments, and answering questions on quizzes and exams that pertain to Course Student Learning Outcomes below.
- **Teamwork:** Students will demonstrate the ability to consider different points of view and to work effectively with others to support a shared purpose or goal by completing textbook reading assignments, completing assignments, and answering questions on quizzes and exams that pertain to Course Student Learning Outcomes below.

### Program Student Learning Outcomes (PSLOs)

1. Will display an understanding of biological systems and evolutionary processes spanning all ranges of biological complexity, including atoms, molecules, genes, cells, and organisms.
2. Will integrate factual and conceptual information into an understanding of scientific data by written, oral and/or visual communication. (This may include successful completion of a course-specific research project or a case study module).
3. Will demonstrate proficiency and safe practices in the use of laboratory equipment and basic laboratory techniques.
4. Will apply principles of the scientific method to problems in biology in the collection, recording, quantitative measurement, analysis and reporting of scientific data.

### Course Student Learning Outcomes (CSLOs)

Upon successful completion of this course, students will:

1. Distinguish between prokaryotic, eukaryotic, plant and animal cells, and identify major cell structures.
2. Identify stages of the cell cycle, mitosis (plant and animal), and meiosis.
3. Interpret results from cell physiology experiments involving movement across membranes, enzymes, photosynthesis, and cellular respiration.
4. Apply genetic principles to predict the outcome of genetic crosses and statistically analyze results.

5. Describe karyotyping, pedigrees, and biotechnology and provide an example of the uses of each.
6. Identify parts of a DNA molecule, and describe replication, transcription, and translation.
7. Analyze evidence for evolution and natural selection.

### **Learning Objectives**

1. Consistently demonstrates knowledge of scientific terminology, and its complete use in living organisms
2. Consistently able to demonstrate knowledge of principles of living organisms and complete knowledge of physical and chemical properties of life.
3. Able to explain function at the level of molecules and cells, to include biological macromolecules, cellular organization, communication, and cell division.
4. Able to explain and apply the knowledge of energy transformations.
5. Able to explain the metabolic reactions associated with cellular activities, such as the processes of glycolysis, fermentation, cellular respiration, and photosynthesis.
6. Consistently able to explain the molecular sequence of events involved in the flow and expression of genetic information in prokaryotic and eukaryotic cells.
7. Able to explain the process of DNA replication and RNA transcription, protein biosynthesis and mutation.
8. Consistently demonstrates knowledge of Mendelian genetics.
9. Proficiency in performing and interpreting genetic problems.
10. Able to describe advances made in the understanding of genes and chromosomes since Mendel.
11. Consistently differentiates between appropriate and inappropriate experimental design. Takes appropriate steps or explains appropriate steps independently and correctly.
12. Able to distinguish a theory from a hypothesis.

## 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 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

- **Lecture exams (59% of the grade):** There will be a total of four lecture exams. The questions will be primarily multiple choice, along with some true or false, fill in the blank, picture identification, and short essay questions. Each exam has equal weight-age with other exams. Make up exams will be given only in case of emergency and at the discretion of the instructor. The instructor reserves the right NOT to give make-up exams. You will be asked to provide documentation for an emergency that causes you to miss an exam.  
*All Lecture exams* will be online through Canvas using the Respondus lockdown browser and webcam. A link to download the software will be active when you start the exam. Students with disabilities who need special help taking tests as part of reasonable accommodation should contact the Office for Students with Disabilities for information regarding testing.
- **Discussion postings (5% of the total grade)** - There are a total four discussion postings, out of which two will be counted towards the final grade computation. If you complete all four your highest two scores will be taken into consideration.
- **Assignments (5% of the total grade)** - There are a total four assignments (one for each module) only two will be counted towards the final grade computation. If you complete all four, your highest two scores will be taken into consideration.
- **Module Quizzes (20% of the grade):** One homework assignment per module will be administered through canvas to help better understand the content.
- **Syllabus Quiz (1% of the total grade)** - Required. The syllabus quiz will also count as your attendance. Failure to complete this quiz will result in an automatic drop from the course for non-attendance.
- **Final Exam (10% of the grade):** Final exam is a comprehensive departmental final exam which is to be taken in person at the DE testing centers. This is a required component of the grade. Final exam will be administered on **May 8-10** at DE testing centers.

### DE Testing Locations

#### **Friday, May 8:**

Central Campus - San Jacinto Building. - 1300 Holman Houston, TX 77004 - 1st Floor  
Exam times: 4:00 PM -9:00 PM Last Admit 7:00pm

#### **Saturday, May 9:**

Spring Branch Campus - 1010 W. Sam Houston Pkwy N Houston, TX 77043  
Exam times: 10:00 AM - 3:00 PM Last Admit 1:00pm

#### **Sunday May 10:**

Eastside Campus - 6815 Rustic Houston, TX 77087 3rd floor (Workforce Building)  
Exam times: 10:00 AM -3:00 PM Last Admit 1:00pm

**You do not need to make a prior appointment, but please ensure you reach the testing center before the last admit with a valid photo ID.**

## Grading Formula

Lecture Exams (Lowest grade dropped)	59%	<b>HCC Grading Scale</b> A = 100 – 90: .....4 points per semester hour B = 89 – 80: .....3 points per semester hour C = 79 – 70: .....2 points per semester hour D = 69 – 60: .....1 point per semester hour 59 and below = F.....0 points per semester hour W(Withdrawn).....0 points per semester hour I (Incomplete).....0 points per semester hour AUD (Audit) .....0 points per semester hour To compute grade point average (GPA), divide the total grade points by the total number of semester hours attempted. The grades "IP," "COM" and "I" do not affect GPA.
Chapter Quizzes	20%	
Assignments	5%	
Discussion	5%	
Final Exam	10%	
Syllabus Quiz	1%	
Total Score	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 **BEFORE May 1, 2020**
- ✓ 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/>



## Course Calendar

Week	Modules	Reading Assignments	Testing Schedule
1/21	1	Welcome! Introduction to Biology Today	
1/27	2	Chemistry of Life	
2/3	3	Important Biological Macromolecules	<a href="#">February 3<sup>rd</sup> at 5 pm: Syllabus Quiz</a> <a href="#">February 10 midnight: Discussion #1</a> <a href="#">February 10 midnight: Assignment #1</a>
2/10			<a href="#">February 14 midnight: Quizzes, Modules 1-3</a> <a href="#">February 15 midnight: Exam 1, ONLINE, Modules 1-3</a>
2/17	4	Prokaryotes and Eukaryotes	
2/24	5	Cell Membranes	
3/2	6	Metabolic Pathways	<a href="#">March 10th midnight: Discussion #2</a> <a href="#">March 10th midnight: Assignment #2</a>
3/9			<a href="#">March 13th midnight: Quizzes, Modules 4-6</a> <a href="#">March 14th midnight: Exam 2, ONLINE, Modules 4-6</a>
3/16		<b>SPRING BREAK</b>	
3/23	7	Cell Division,	
3/30	8	DNA Structure and Replication	
4/6	9	DNA Transcription and Translation	<a href="#">April 10th midnight: Discussion #3</a> <a href="#">April 10th midnight: Assignment #3</a>
4/13			<a href="#">April 17th midnight: Quizzes, Modules 7-9</a> <a href="#">April 18th midnight: EXAM 3, ONLINE, Modules 7-9</a>
4/20	10 11	Gene Expression, Trait Inheritance	
4/27	12	Evolution	
5/4	13	Modern Biology	<a href="#">May 6th midnight: Quizzes, Modules 10-13</a> <a href="#">May 7 midnight: Exam 4, ONLINE, Modules 10-13</a> <a href="#">May 8-10: FINAL EXAM (on campus, testing centers, comprehensive) at DE testing centers</a>
5/11			<a href="#">May 12 midnight: Discussion #4</a> <a href="#">May 12 midnight: Assignment #4</a>

January 17	Last Day for drop/add
<b>February 3</b>	Official Day of Record
April 6 before 4:30 pm	Last Day for Administrative and Student Withdrawal
May 18	Grades available to students

## **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**

- The Instructor DOES NOT have to announce/tell you of upcoming assignments in person. This is a college course and you have to keep yourself informed by keeping up with your canvas. All assignments and quizzes will be posted with dates and the dates will be updated as the semester goes on. It is your responsibility to keep up.
- A grade of ZERO will be awarded for any missed work or test without proper documentation of a health emergency. A make up is NOT a retake of the same exam. There is no repeating of examinations or "dropping" of lowest grade/s. The Instructor must be given advance notice of absence.

### **Academic Integrity**

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

Scholastic Dishonesty will result in a referral to the Dean of Student Services. See the link below for details.

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 lecture and lab 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. Although it is your responsibility to drop a course

for nonattendance, the instructor 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 grade option.

### **Student Conduct**

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

### **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/>

## 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

### EGLS<sup>3</sup>

The EGLS<sup>3</sup> (Evaluation for Greater Learning Student Survey System) 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. EGLS<sup>3</sup> 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](#) 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](mailto:daejan.grigsby@hccs.edu)

Phone: 713-718-7775