BIOL 1407: General Biology II
CRN 43806—Spring 2015
Lecture: Tuesday, 2:30pm-5:30pm, LHSB 316
Lab: Thursday, 2:30pm-5:30pm, LHSB 315
4 credit hour lecture/lab course, 96 hours per semester/ 16 weeks
Instructor/Contact Information: Brian C. Mahon
Email: brian.mahon@hccs.edu

COURSE DESCRIPTION: General Biology II (1407) General Biology II (1407) is a study of the broad diversity of organisms in the five kingdoms, evolution, the organ systems in animals and plants.It is a core curriculum course; it **cannot** be used in conjunction with BIOL 1308.

Prerequisites: BIOL 1406: General Biology I

TEXTBOOK: *Campbell, Biology, 10e, Vol. 2* Jane Reece, et al, Benjamin/Cummins Publishing Co., 2014 **ISBN:** 9781269751919
for HCCS Custom edition

LAB MANUAL: Biology: A Hands-On Experience, 1st edition, Marsha Turell and Jyoti Wagle (ed), Royal Publishing Co., 2010

Course Goal: Students should understand that evolution is a core theme of biology. They should become knowledgeable about the diversity of living organisms and develop an understanding of how organisms function.

Student Learning Outcomes (SLOs):

1. To state observations and inferences leading to Darwin's Theory of Evolution by means of natural selection, including perform an experiment in population genetics and analyze the data using the Hardy-Weinberg equations; to understand the importance of fossils and be able to calculate the age of a fossil by means of isotopic decay.
2. To explain the origin of species, the history of life on Early Earth, and to identify the key events in life's history, including the origins of single-celled organisms and the colonization of land.

3. To describe the evolutionary history of biological diversity, from bacteria/archae to protists, plants, fungi, and ultimately to animals/humans, including the structures, nutrition, reproduction, and characteristics of such organisms.
4. To compare and contrast taxonomic, morphological, digestive, and reproductive characteristics of Mollusca, Annelida, Arthropoda, Chordata, and Vertebrata in the Kingdom Animalia.
5. To understand the basic principles of animal form and function, including feedback control/homeostasis, to include the basic anatomy and physiology of the following 2 animal organ systems: digestive, cardiovascular, respiratory, immune, excretory, endocrine, reproductive, and nervous systems.
6. To develop critical thinking, scientific problem-solving, and communication skills by successfully participating in a case study or course-specific research project.
7. To apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes, anatomical models, and other laboratory equipment to collect and analyze data.

ALL text reading and chapter activities are to be completed the week the chapter reading is assigned. Bring textbook & lab manual to lab. It's a good idea to print out the course schedule to keep up with due dates for assignments and exams.

Tentative Schedule. All lecture topics could be altered as needed and some will be covered in lab period. Exam dates may also be shifted due to weather, etc. with notice via email.

Week	**Chapter**	**Lecture (Thursday, 2:30pm - 5:30pm)**	**Lab (Tuesday, 2:30pm - 5:30pm)**
week 1 **Jan. 19**	22 23	Evolution	Orientation, Evolution
week 2 **Jan. 26**	24 25	Origin of Species History of Life on Earth	1. Population Genetics
week 3 **Feb. 2**	26 27	Phylogeny Bacteria and Archaea	Phylogeny
week 4 **Feb. 9**	28	Protists **FIRST EXAM, Feb. 12** **Mastering Biology due Feb. 11**	2. Morphology and Simple Staining of Bacteria 3. Protists
week 5 **Feb. 16**	29, 30, 31	Plants, Fungi	4. A Brief Survey of the Plant Kingdom

week 6 **Feb. 23**	32, 33	Animal Diversity, Invertebrates	Hermann Park Botany Field Trip
week 7 **Mar. 2**	34	Vertebrates, Human Evolution	6. Human Evolution
week 8 **Mar. 9**	40	Animal Structure and Function	**Lab Exam I: Mar. 10**
week 9 **Mar. 16**		Spring Break	Spring Break
week 10: **Mar. 23**	41	**SECOND EXAM**, **Mar. 26** **Mastering Biology due Mar. 25** Animal Nutrition	7. Animal Tissues 9. Digestive System
week 11 Mar. 30	42	Circulation and Gas Exchange	10, 11 Circulatory &Respiratory
week 12 Apr. 6	44	HMNS Texas Animal Trip	Immune system
week 13 Apr. 13	45	Osmoregulation and Excretion**.** **THIRD EXAM, Apr. 16** **Mastering Biology due Apr. 15**	12. ABO Blood Typing
week 14 Apr. 20	48, 49	Neurons, Nervous Systems	13. Excretory System
week 15 Apr. 27	50	Sensory and Motor Mechanisms	16. Nervous System and Sensory Organs
week 16 May 4		**Biome presentations**	**Lab Exam II: May 5** **Fetal Pig Dissection**
week 17 **May 11**		**No class**	**Exam 4 & District Exam: In Class, May 12** **Mastering Biology due May 11**

Instructional Methods:

We will meet twice per week: in the lab for laboratory /lecture on Tuesdays, and lecture on Thursdays. These will help with understanding of the course material. You will complete the lab exercise in class and **turn it in at the beginning of the next lab.** During lab, we will also review relevant lecture material.

Because learning requires active (not passive) involvement on the part of the learner, you must come to "class" ***prepared*****.** This includes having studied and being ready to work with all reading and other materials assigned prior to attempting any assessments. Minimum preparation is taking notes and thinking about personal application of the text material.

There are also graded homework assignments that will help clarify difficult concepts in the course. Included in these assignments are animations, activities and questions related to the topics. This is part of "Mastering Biology", which is a companion to the textbook .

EXAMS AND GRADING:

There will be a total of four lecture exams (four and a final). Each exam will contain a number (~50) of multiple-choice **questions**. Multiple choice questions need to be answered on the scantron. Each exam may also have additional questions, which can be multiple choice, fill in the blanks, labeling or short essay. Each exam has an equal value as the other exams (100 pts each). The final, 4th lecture exam is not cumulative **but it is mandatory**.

Important: The HCCS Biology program has instituted a District-wide compulsory standardized final. The questions will be tied to the SLOs stated in the syllabus for this course. This exam will be in addition to your fourth "Final" exam

Lab Participation: This includes your activity in lab, as well as completion of the lab reports. In addition, the pre-lab portion of the lab must be completed **prior** to coming to the lab. This is worth 50 points toward your grade.

Lab Practical: There will be two lab practical exams during the course. These will be explained in detail during our lab sessions. Each exam will be worth 100 points.

Out of the four lecture exams and two lab practical exams you have a choice to drop one exam. Your lowest grade automatically becomes your drop grade. Lecture and lab exams account for 500 points of your total course grade.

Biome Presentations: 100 points: You will be making a 20-30 minute small group presentation near the end of the semester. This will involve ongoing research about a biome and organisms that live in that biome (chapter 52). There will be a chapter quiz, and several update assignments for 30 points along the way. Dates will be assigned along the way.

Mastering Biology Homework Assignments: 100 points of your grade is with homework activities for each chapter through Mastering Biology. These activities may include questions and animations to answer. For each exam unit you will do the chapters for that

unit and they are due before each lecture exam. I will give you information about how to login to Mastering Biology in class.

GRADE COMPUTATION

5/6 Lecture exams & Lab practical exams (Lowest exam will be dropped)	500 pts
Mastering Biology Homework average	100 pts
District Final	50 pts
Biome Project/ Presentation	100 pts
Lab reports	50 pts
Total	**800 pts**

Issuance of Exam Grades:
Exam Grades will be posted on the Internet (Eagle Online 2) as soon as possible. Go to the course homepage, click on "Communications and Utilities" and check your grade under "My Grades" tool. This tool will have all your quiz and exam grades.
Grades will not be posted at any time during the semester. You can check your final grade on the web site www.hccs.edu **OR** call toll free 1-877-341-4300. The HCC system office will no longer mail the transcripts to you.

SUGGESTED STUDY TIPS FOR GENERAL BIOLOGY!
1. You may find it helpful to define important terms, using notecards is a good way to do this. However, knowing the key terms just provides the foundation for understanding key concepts in biology. It is important to relate terms to each to fully understand and synthesize information we discuss.
2. Read the chapter outline at the end of each chapter.
3. Try to answer the questions at the end of each chapter. If you cannot figure out the answers, be sure to ask me when we have lab.
4. Your Campbell Mastering Biology site has many resources from the publisher, including a glossary of terms, self-tests and many interactive exercises and animations, as well as the homework quiz assignments.
5. The college has a Biology Computer Lab for tutorials and classroom assignments.
6. Exchange phone numbers with some of your classmates; you may want to form a study group or need to find out about missed classes or assignment.
7. A Biology tutor will be available **at no cost** to students during the semester. The tutoring schedule will be posted in the classroom and online. If needed, see the tutor early, not the day before the exam. The Learning Emporium (tutoring lab) is located in SanJac Bldg.
8. Open labs will be scheduled to review for the lab practical exams. The schedule will be posted in class and online.
9. Lab study pages are available on line to review lab materials as well. Here is the link: http://imc02.hccs.edu/BiologyLabs/index.html

HCC Policy Statement: ADA
Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the Disability Services Office at the respective college at the beginning of the semester. Faculty

is authorized to provide only the accommodations requested by the Disability Support Services Office. (The Disability Support Services Office at Central is in the Learning Hub room 106, 713/718-6164.)

Disability Support Services Offices:
System: 713.718.5165
Central: 713.718.6164 – also for Deaf and Hard of Hearing Services and Students Outside of the HCC District service areas.
Northwest: 713.718.5422, Northeast: 713.718.8420
Southeast: 713.718.7218, Southwest: 713.718.7909

After student accommodation letters have been approved by the DSS office and submitted to DE Counseling for processing, students will receive an email confirmation informing them of the Instructional Support Specialist assigned to their professor.

HCC Policy Statement: Academic Honesty
Scholastic Dishonesty as explained in the *Student Success Student Handbook* is as follows (I would suggest that you obtain a copy of the Handbook as it provides a good deal of material with which successful students are aware):
Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. Penalties and/or disciplinary proceedings may be initiated by College System officials against a student accused of scholastic dishonesty.
"Scholastic dishonesty" includes, but is not limited to, cheating on a test, plagiarism, and collusion.
"Cheating" on a test includes:
 Copying from another student's test paper;
 Using materials during a test that are not authorized by the person giving the test;
 Collaborating with another student during a test without authority;
 Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of an unadministered test;
 Bribing another person to obtain a test that is to be administered.

"Plagiarism" means the appropriation of anther's work and the unacknowledged incorporation of that work in one's own written work offered for credit.
"Collusion" means the unauthorized collaboration with another person in preparing written work offered for credit.

EGLS3 -- Evaluation for Greater Learning Student Survey System

At Houston Community College, professors believe that thoughtful student feedback is necessary to improve teaching and learning. During a designated time near the end of the term, you will be asked to answer a short online survey of research-based questions related to instruction. The anonymous results of the survey will be made available to your professors and department chairs for continual improvement of instruction. Look for the survey as part of the Houston Community College Student System online near the end of the term.

HCC Policy Statement: Student attendance, 3-peaters, withdrawal deadline
 H.C.C.S. policy states that you can be withdrawn by your instructor after missing 12.5% of the course; in this course that is equal to 8 total hours. If you withdraw from a class for excessive absences, you will receive a grade of "W". This is not negotiable and cannot be

changed for a letter grade. If you are on financial aid or an F1 student, you may be particularly affected and could forfeit your financial aid or be out of compliance, and have your F1 status revoked. These are serious consequences, and it is your responsibility to maintain required attendance. Check with your instructor about specific attendance policies.

Final Withdrawal Deadline for Regular Term, Tuesday, March 24, 4:30pm

HOW TO DROP

 If a student decides to drop or withdraw from a class upon careful review of other options, the student can drop online prior to the deadline through their HCC Student Center.

 HCC and/or instructors may drop students for excessive absences without notification (see Class Attendance below).

 Students should check HCC's Academic Calendar by Term for drop/withdrawal dates and deadlines. Classes of other duration (mini-term, flex-entry, 8-weeks, etc.) may have different final withdrawal deadlines. Please contact the HCC Registrar's Office at 713.718.8500 to determine mini-term class withdrawal deadlines.

Repeat Course Fee: The State of Texas encourages students to complete college without having to repeat failed classes. If you repeat the same course more than twice you may be subject to higher tuition and fees (currently $50 and $3/CEU contact hour.) A course is considered a "repeat" if you received a grade of A-F, a W, or an I. Check with a counselor to see if this rule applies to any of your courses. A fuller discussion of the rule is on the homepage under Current Student and Admissions (scroll down).

Success in this course depends solely on the individual student!
The following are strongly recommended for each student:

 Read and understand all elements of the Syllabus, and Student handbooks. Give your instructor both day and evening phone numbers and your e-mail address.

 Read and comprehend the required chapters in the textbook prior to the exams.

 Successfully complete all requirements of this course as outlined in this document.

 Contact me if you have any questions regarding any element of the course you do not understand.

HINT: Work hard from the beginning of the semester rather than playing "catch-up" during the second half of the semester!!

Important Dates

January 19	Last Day for Drop/add/swap (online only) Martin Luther King Holiday
February 16	President's Day Holiday
March 16-22	Spring Break
March 24	Last Day for Administrative and Student Withdrawal (4:30pm)
April 3	Spring Holiday
May 11-17	Final Exams
May 22	Grades available to students

RULES, REGULATIONS AND OTHER INFO

1. Textbook and lab manual is required.

2. Full class attendance in lab is required. Students with more than four unexcused absences may result in an administrative withdrawal. Students are responsible for everything covered during their absence, and it is the student's responsibility to consult with the instructor for make-up assignments.

3. **NO MAKE-UP EXAMS WILL BE GIVEN.** If you are late for a lecture or a lab exam, you will be allowed to take the exam as long as no one else has completed the exam and left the room. Also, you will get only the remaining time to take your exam.

4. The lecture exams will consist of various types of questions including multiple choice, completion, matching, diagrams, definitions and essays.

5. **Technology in the classroom:** NO technology (cell phones, computers, cameras, ear phones, etc.) are allowed in the classroom unless permitted by your professor. Cellular phones (and other technology) create annoying and unnecessary interruptions and distractions to you, your classmates, and the professor during class. Take the responsibility and be courteous, and show respect. Please **switch them OFF or leave them at home.** If unpermitted technology is used during a test, a grade of F will automatically be assigned.

6. No children are allowed in the laboratory.

7. Eating, drinking, or smoking is NOT allowed in the laboratory.

8. You must read the laboratory safety rules before doing any of the lab exercises.

9. The laboratory safety release form must be signed during the first lab session.

10. Lab reports are an important part of the course and to be completed at the end of the lab period. Although students work in groups, individual active participation is expected.

Information about Mastering Biology

Mastering Biology is a study tool that you will use during the semester. I have assigned weekly homework assignments for each chapter that will be help you get ready for exams. These assignments will be due before each unit lecture exam.
With your Campbell Biology textbook you received an access code for Mastering Biology.
The url for the website is www.pearsonmastering.com
The course number for you to register for this course is: central60634

Addendum:

HCC is committed to provide a learning and working environment that is free from discrimination on the basis of sex which includes all forms of sexual misconduct. Title IX of the Education Amendments of 1972 requires that when a complaint is filed, a prompt and thorough investigation is initiated. Complaints may be filed with the HCC Title IX Coordinator available at 713 718-8271 or email at oie@hccs.edu.
This syllabus is adapted from one by Ms. M. Turell, HCC Central