

BIOL 2455: GENERAL BIOLOGY II

Fall Semester, 2014

Biology Department, Dr. Jacqueline Horn, Department Chair

COURSE DESCRIPTION

This course is required of all biology majors. Topics include animal tissues and organ systems, animal structure and function, life processes, biological diversity, and the theory of evolution. This course includes one semester hour credit for laboratory sessions.

COURSE SEQUENCE IN CURRICULUM

This course is required of all biology majors

PRE-REQUISITE INFORMATION

BIOL 2454

INSTRUCTOR INFORMATION

Name: Dr. Kari Brewer Savannah
E-mail: DrBrewerSavannah@gmail.com
Office Phone: 281-649-3053
Office Location: S107B
Office Hours: See schedule posted on office door and Blackboard. MW 10-11am, TTh 11am-noon and by appointment. Students may also make an appointment by emailing DrBrewerSavannah@gmail.com.

Web Page Address, Web Board, ListServ: Blackboard

LEARNING RESOURCES

Course Text: 1) *Biology: Tenth Edition*. Raven et al., McGraw Hill. 2014. Full Version with Connect Plus. ISBN: 9780077705701.
Laboratory Text: 2) *Laboratory Manual for General Biology I & II Custom Lab Manual, 6^h Ed.*, Perry, Morton, and Perry, Brooks/Cole 2014. ISBN: 1-3050-2813-9 (this **bundle** contains items 3 and 4 below).
3) *Dissection Guide and Atlas to the Fetal Pig*, David G. Smith and Michael P. Schenk, Morton Publishing Company.
Supplementary Text: None
Other Required Materials: 4) Dissection kit is required for the laboratory portion of this class

COURSE OBJECTIVES

Purpose of the course:

This course is offered to provide the student with a survey of animal diversity, the structure and function of animal organ systems, animal reproduction and development and theories about the origin and evolution of life.

Aims for the course:

The students will gain an understanding of the structure and function of animal organs that participate in the integument, skeletal, muscular, nervous, circulatory, immune, respiratory, digestive, urinary, endocrine, and reproductive systems. In addition, an understanding of the relationships between the different animal phyla will be gained, an appreciation of different theories of evolution and the origin of life will be gained and finally, an understanding of animal development from fertilization to maturation will be

expected. The course employs a conceptual approach to learning with emphasis placed upon the understanding of complex biological processes.

On completion of this course, students should be able to:

- a) Understand animal tissue structure and function
- b) Understand anatomical details of the major organs and systems
- c) Describe molecular processes involved in organ function
- d) Describe development of animals
- e) Understand animal diversity and the relationships between the various major groups of animals
- f) Discuss scientific theories of the origin of life and the theory of evolution

RELATION TO DEPARTMENTAL GOALS AND PURPOSES

“The Biology Department will:”

“...prepare students for their careers by offering biology courses with an academically rigorous, contemporary curriculum to support their major requirements or liberal arts education and to encourage a lifetime of learning.”

“...offer experiences for undergraduate research in the biological sciences that provide the opportunity to develop professionalism and skills in experimentation and data analysis, interpretation, and presentation.”

“...provide mentoring and experiences that enable students to graduate in an appropriate time with the appropriate qualifications and professional attitudes required for success and service.”

“...provide a Christian environment in which students, faculty and staff integrate the principles of the biological sciences with their faith.”

RELATION TO COLLEGE GOALS AND PURPOSES

“...to prepare students for careers and further education in the natural sciences and mathematics in a nurturing Christian environment. The College will also serve the HBU community by providing science and mathematics classes that empower HBU students to meet the goals and requirements of their field of study and enrich their liberal arts education.”

RELATION TO THE PURPOSE STATEMENT OF THE UNIVERSITY

University mission and purpose statement from the Houston Baptist University Catalog, 2009-2010: “...to provide a learning experience that instills in students a passion for academic, spiritual, and professional excellence as a result of our central confession, “Jesus Christ is Lord”

“...Committed to providing a responsible and intellectually stimulating environment that:

- fosters spiritual maturity, strength of character, and moral virtue as the foundation for successful living
- develops professional behaviors and personal characteristics for life-long learning and service to God and to the community
- meets the changing needs of the community and society
- remains faithful to the ‘**Nature of the Institution**’ statement”

“...Promotes learning, scholarship, creative endeavor, and service”.

ATTENDANCE

Please see the official Attendance Policy in the HBU Classroom Policy on Blackboard. Students missing more than 25% of the class will be given a failing grade.

Attendance will be taken during each class period. Absences may be excused with the proper written documentation (example: a letter from a doctor on letterhead). Tardiness and leaving class before dismissal count as half an absence.

ACADEMIC ACCOMODATIONS

Students needing learning accommodations should inform the professor immediately and consult the Academic Accommodations section of the HBU Classroom Policy posted on Blackboard.

COURSE REQUIREMENTS & GRADE SCALE

Course requirements:

Students will take six lecture quizzes (lowest will be dropped) and four lecture exams. Students will also do online homework assignments on McGraw Hill's Connect Biology website and Blackboard. Quizzes will be worth 10% of the overall grade while homework will be worth 5% of the overall grade. The lowest exam grade will be dropped and the highest three exam grades will be worth 20% each. The laboratory grade will be worth the remaining 25% of the grade in this course.

The lab grade will be obtained from the laboratory instructor. Students must take a laboratory midterm and a final practical exam. Weekly lab quizzes and in-class assignments are also given at the discretion of the lab instructor.

Grading standards:

Four lecture exams (three exams during the term + a comprehensive final during Final Exams week) will make up 65% of the final course grade. Active learning (McGraw-Hill Connect Biology homework, in-class work, and quizzes) will make up 10% of the final course grade.

The lab grade represents 25% of the grade for the course. Please see **separate lab syllabus** for grading standards. Typically the lab grade is based on two practical exams, weekly quizzes, in-class work, participation in Data Analysis Workbook discussions, and overall participation in lab activities.

The grading scale is as follows:

A = 90 – 100; B = 80 – 89; C = 70 – 79; D = 60 – 69; F = below 60

PROFICIENCIES:

Technology component:

Microscopy and internet usage

Designated essay/writing component:

Each test contains essay questions

Reading component:

The students are asked to read the text and answer reading comprehension questions on the examinations.

Oral communication component:

Not applicable.

Mathematics component:

Not applicable

Critical thinking component:

The laboratory includes the study of prepared microscope slides and dissected specimens, which promotes skills in pattern-recognition.

LATE WORK & TEST POLICY

Late work:

Not accepted. The student is responsible for obtaining notes from another student in the class if one is willing to share notes.

Missed tests:

In order to receive an excused absence for an exam, you must talk to the instructor (in person or by email with a response from professor) BEFORE the exam, otherwise you will receive a 0 for the exam. In addition to talking with the instructor, a written excuse will be required. Appropriate written excuses that will be accepted are a physician's note, athlete's travel schedule, and other documents deemed appropriate by the instructor.

Only one missed lecture exam can be made up, all others will be recorded as a zero. The comprehensive section on the final exam will be used as the make-up exam grade.

There are **no makeups** for missed work of the following types: lecture quiz, lab quiz, lab practical exam, online assignment, and in-class assignments.

EVALUATION

Method of student appraisal of faculty:

Students will be given an opportunity to appraise the professor by completing the IDEA Faculty Evaluation Questionnaire, and/or the COSM course evaluation at the end of the semester. The instructor, the department chairman and dean will review the responses of the students after the completion of the course.

Method of evaluating student response to course:

Students will be given an opportunity to describe their response to the course by completing the IDEA Faculty Evaluation Questionnaire and/or the COSM course Evaluation at the end of the course. The instructor, the department chairman and dean will review the responses of the students after the completion of the course.

Laboratory Segment:

SEE SEPARATE LAB SYLLABUS FOR THE LAB SCHEDULE AND MORE DETAILS.

LAB ATTENDANCE IS MANDATORY.

***** There are multiple sections of lab each semester. Please make sure you are following the correct lab schedule.**

LABORATORY DRESS CODE

Students may be asked in advance to wear closed-toed shoes and long pants during certain experimental procedures.

LABORATORY CONDUCT AND SAFETY

Attention female students: IMPORTANT INFORMATION FOR THIS COURSE: IF A STUDENT IS PREGNANT OR NURSING, SHE WILL NOT BE ALLOWED TO ATTEND THE LABORATORY SESSIONS BECAUSE SOME OF THE CHEMICALS, WHICH ARE NORMALLY INNOCUOUS, USED IN THESE LABORATORY EXPERIMENTS, MAY BE HARMFUL TO A DEVELOPING FETUS. IF A STUDENT BECOMES PREGNANT DURING THE COURSE, SHE MUST STOP ATTENDING THE LABORATORY SESSIONS IMMEDIATELY AND SHE IS TO NOTIFY HER PROFESSOR. THE PROFESSOR WILL DISCUSS OPTIONS THAT THE STUDENT WILL HAVE TO ENABLE HER TO COMPLETE THE COURSE REQUIREMENTS.

TOPICAL OUTLINE - include table, calendar, or topical outline with dates

Lecture Schedule:

Week	Date(s)	Topic
1	8/26, 8/28	Ch 42 Animal body, principles of regulation
2	9/2, 9/4	Ch 43 The nervous system
3	9/9, 9/11	Ch 46 The musculoskeletal system
3	9/10/14	Census Date /Last day to drop without a "W"
4	9/16, 9/18	Ch 44 The sensory system
5	9/23	Review for Exam I
	Thursday 9/25	EXAM 1 (Covers Ch 42, 43, 44, 46)
6	9/30, 10/2	Ch 49 The circulatory system
7	10/7, 10/9	Ch 51 The immune system
8	10/14, 10/16	Ch 48 The respiratory system
	Tuesday 10/21	EXAM II (Covers Ch 48, 49, 51)
9/10	10/23, 10/28	Ch 47 The digestive system
10, 11	10/30, 11/4	Ch 50 Osmotic regulation and urinary system
10	10/31	Last date to drop with a "W"
11/12	11/6, 11/11	Ch 45 The endocrine System
	Thursday 11/13	EXAM III (Covers Ch 45, 47, 50)
13	11/17, 11/19	Ch 52 The reproductive system
14	11/25	Ch 53 Animal Development
14	11/27	Thanksgiving Holiday – NO CLASS
15	12/2	Ch 53 Animal Development (cont'd)
	12/4	Review for cumulative final exam
16	See schedule on www.hbu.edu	Exam 4 - Final Exam (Cumulative) (Dec. 9-12, 2014)

The content of this outline and the attached schedule are subject to change at the discretion of the professor.

Student Signature – I have read and understand the syllabus for this class. I understand that the content of this syllabus and the topical outline are subject to change at the discretion of the professor. I have read and understand the HBU Classroom Policy posted on Black Board. **I promise to uphold the Code of Academic Integrity at Houston Baptist University and will not tolerate its violation by others.**