Physiology Biology 3430.001
Life Sciences
Fall 2015

A. COURSE INFORMATION

Course number/section: Biology 3430.001
Class meeting time: TR 12:30 - 01:45 PM
Class location: BH 104
Course Website: https://bb9.tamucc.edu/

B. INSTRUCTOR INFORMATION

Instructor: Dr. Manuela Gardner
Office location: EN 314E
Office hours: TBA
Telephone: 361-825-3959
e-mail: Manuela.Gardner@tamucc.edu
Appointments: email Dr. Gardner

C. COURSE DESCRIPTION

Catalog Course Description
The study of physiological processes that are the product of complex interactions between tissues, organs and organ systems, with emphasis on the circulatory, respiratory, endocrine, muscular, digestive, and urogenital systems. Particular focus on homeostasis, and the role of the environment and evolution on organ systems. Students may not receive credit for both this course and either BIOL 2401 or BIOL 2402.

Safety training given during a laboratory meeting early in the semester is required for continued participation in this course.

D. PREREQUISITES AND COREQUISITES

Prerequisites
BIOL 1407.

Corequisites
Students enrolled in BIOL 3430 lecture MUST ALSO be registered in the laboratory portion of the course. IT IS ALSO STRONGLY SUGGESTED THAT STUDENTS NOT ENROLL IN THIS COURSE IF THEY HAVE NOT TAKEN BIOL/BIMS 2200.

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES


Other materials: Each student is required to have a stick/flash/thumb drive and one notebook for the lab. All students will need lab coats and must comply with all dress code regulations which includes wearing: long pants, closed toed and closed heel shoes, and putting up/back long hair.

Supplies

REQUIRED LABORATORY MATERIALS: A white laboratory coat is required. You may not attend the laboratory without a proper laboratory coat. Proper laboratory attire must be worn at all times, including during laboratory exams. If you do not have the proper attire, you can’t attend the laboratory.

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

Students will learn and use the vocabulary of physiology; students will learn and use the data of physiology as demonstrated by their ability to remember homeostatic values for cellular ions, membrane potential, hormones, blood pressure, pulse rate, body temperature, hematocrit, oxygen and carbon dioxide partial pressures, osmolarity, pH, sodium and potassium concentrations, glucose concentration, white blood cell count, etc.; students will learn the functions of: physiological systems, food, energy, temperature, muscle, internal transport, oxygen, carbon dioxide, excretion, water and salts; students will learn the integrative nature of physiology by studying the interaction of the various animal body's systems to produce homeostasis; students will develop a hypothesis and an experimental design for testing their hypothesis; students will conduct research and collect data according to their experimental design; students will present their research in written form according to standards used by typical scientific, peer-reviewed journal articles; students will present their research in oral form using Power Point slides and standard scientific meeting protocol. For all components that are examined within each topic in the schedule, the student will be expected to:

1. Understand and correctly use scientific and clinical terminology.
2. Recognize and identify structures in different species including their components.
3. Understand and explain how structures and their components interact to perform one or more functions.
4. Discuss homeostatic control mechanisms that regulate a particular structure/function, and what in turn that particular structure/function regulates.

5. Explain the structural and/or functional bases of selected clinical conditions, dysfunctions and disease states that help to explain the normal structure and function of the body by perturbing it.

6. Compare and contrast adaptations to extreme environments in different species.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

The instructor of this course will provide the students with: (1) information in the form of PowerPoint lecture notes posted on Blackboard, in-class lectures, films, handouts, in-class exercises, assigned readings, hands-on exercises, quizzes and supplemental readings; (2) specimens and models for hands-on examination in the laboratory; and (3) advice, supervision and guidance. The laboratories are designed to augment and promote the overall learning process. However, topics currently being covered in lecture may not always coincide with the topics currently being covered in laboratory.

H. MAJOR COURSE REQUIREMENTS AND GRADING

GRADING: Your final letter grade will be based on the points you earn in lecture and laboratory. The final grading scale will also be determined at the end of the semester, but the cut-off for each grade will be no higher than the following:

A ≥ 90% > B ≥ 80% > C ≥ 70% > D ≥ 60% > F

This course is designed so that lecture contributes 75% of your grade, and laboratory contributes 25% of your grade. The laboratory grade is part of your final grade; it does NOT stand on its own:

Lecture: 70%
Laboratory: 30%
TOTAL PERCENTAGE POSSIBLE: 100%

LECTURE EXAMINATIONS: I will give three examinations and one final during the course. I will be taking questions for these tests primarily from material covered in the lectures. Examinations can include multiple-choice, labeling, short answer questions and/or drawings. The three lecture examinations are sequential (i.e., each examination covers material from one specific section of the course). The final examination is comprehensive (i.e., covers material from the entire course).

Quizzes covering concepts in lecture will be used to evaluate progress and will count as extra credit towards the lecture exams. These will be given randomly and may not be announced.

If your average grade from the three lecture exams is a B or higher, you can skip the final.
You must take the final if your average grade from the three lecture exams is a C (79%) or lower. This average does NOT include your laboratory %. Only lecture exams are counted towards this rule. *If you do not take the final with a C (79%) or lower in lecture (i.e. as stated in the previous sentence), I will count the final as a zero and it will be part of your grade for the course ie in this case it will not be redemptive.*

The final is redemptive. In other words, if you earn a higher score on the final than on one of your lecture exams, it will be doubled to replace your lowest examination grade: The average of the two highest non-final examinations plus double (2x) the final examination. Taking the final will not hurt you, it can only benefit you. Exception see “*” above.

Sample calculations: T = Tests in lecture; F = Final

- (T1 + T2 + T3)/3 = % in lecture. If that % is 79 or lower, you must take the final.
- Taking the final: (T + T + F + F)/4 = % in lecture after final. This gives the final a lot of power as it counts twice and replaces lowest lecture test grade.
- Not taking the final with a 79% or lower in lecture = 0 for final: (T1 + T2 + T3 + 0)/4 = % in lecture after final. In this case, your % in lecture will decrease as you did not take the final as required by the rules.

Because of this flexibility, however, **no make-up examinations are allowed, except in extreme emergency situations or official University business.**

**Lecture exams:** If you arrive after a student has left the exam, you can't take the exam and will receive a 0 for that exam.

In case of an official fire alarm or fire drill. If there is a fire drill or fire alarm during an exam and YOU have NOT finished your exam completely, I will apply the following correction: The following exam will replace your test and count twice. For example, if this happens during Test 1, Test 2 will replace test 1. Count test 2 score twice.

**Laboratory Points:** Specific laboratory grading, policies, and rules will be discussed separately, provided to you by a laboratory syllabus and again discussed thoroughly in lecture and the laboratory. **Teaching Assistants will not give extra points to students, unless specified by Dr. Gardner and given to all students.**
### ACTIVITY | % of FINAL GRADE
--- | ---
Lecture Exams (3) | 70%
Quizzes (1-3) | 10%
Final | 50%

Lab | 30%
Laboratory participation* | 5% of lab grade
Laboratory report | 15% of lab grade
Presentation*** | 10% of lab grade
Pre-lab exercises | 10% bonus of lab grade

*Laboratory participation will be noted by the Teaching Assistant. If you leave lab early, you will lose points. If you show up late, you will lose points. If you use your phone, you will lose points.

***Presentations will be evaluated by Dr. Gardner and your Teaching Assistant. The average from these evaluations will be your grade on the presentation.

Dr. Gardner will discuss the lab report details with you in lecture and will give you detailed instructions.

## I. COURSE CONTENT/ TENTATIVE SCHEDULE

<table>
<thead>
<tr>
<th>DATE (BY DAY OR WEEK)</th>
<th>TOPIC</th>
<th>CHAPTER(S)</th>
<th>ASSIGNMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/27</td>
<td>Introduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9/1; 9/3</td>
<td>Neurons, Synapses and Sensory Processes</td>
<td>Chapter 11, 12, 13</td>
<td></td>
</tr>
<tr>
<td>9/8; 9/10</td>
<td>Neurons, Synapses and Sensory Processes</td>
<td>Chapter 11, 12, 13</td>
<td></td>
</tr>
<tr>
<td>9/15; 9/17</td>
<td>Respiration</td>
<td>Chapter 21, 22, 23</td>
<td>Review for Test 1 9/24; Test 1: 9/29</td>
</tr>
<tr>
<td>9/22; 9/24</td>
<td>Respiration</td>
<td>Chapter 21, 22, 23</td>
<td></td>
</tr>
<tr>
<td>9/29; 10/1</td>
<td>Heart and Circulation</td>
<td>Chapter 24, 25</td>
<td></td>
</tr>
<tr>
<td>10/6; 10/8</td>
<td>Heart and Circulation</td>
<td>Chapter 24, 25</td>
<td>Test 1: 9/29</td>
</tr>
<tr>
<td>10/13; 10/15</td>
<td>Water, Salts and Excretion</td>
<td>Chapter 26, 27</td>
<td></td>
</tr>
<tr>
<td>10/20; 10/22</td>
<td>Water, Salts and Excretion</td>
<td>Chapter 28, 29</td>
<td></td>
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<tr>
<td>10/27; 10/29</td>
<td>Food Energy &amp; Temperature</td>
<td>Chapter 5, 6</td>
<td>Review for Test 2: 10/27; Test 2: 10/29</td>
</tr>
<tr>
<td>11/3; 11/5</td>
<td>Food Energy &amp; Temperature</td>
<td>Chapter 7, 8</td>
<td></td>
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Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.

J. COURSE POLICIES

Attendance/Tardiness
Attendance is the student’s responsibility and students are expected to attend every class and laboratory. Missing laboratories will result in loss of points.

ABSENCES: You are responsible for the material covered and assignments made in every lecture and laboratory regardless of whether you attend it. “I came in late and didn’t hear about the assignment,” is never an acceptable excuse. It is always your responsibility to determine what happened in class or laboratory during your absence. You must obtain class or laboratory notes from other students (i.e., I do not “share” my notes).

Points missed because of an unexcused absence (including tardiness and leaving early) cannot be recovered. An excused absence is emergency allows us to make alternative arrangements if necessary. The documentation required for an absence to be excused must be…

- from an appropriate source (e.g., doctor, dentist, funeral director) who states the nature of the event that caused (or will cause) your absence. Also must state appropriate date(s).
- in writing, on official stationery, and signed. (I do not return excuses to you.) Telephone calls, Faxes, and e-mails are not acceptable.
- presented prior to the absence for a scheduled event (e.g., university-sponsored activity, recognized religious holiday, military service).
- presented no more than one week after the date of an unexpected absence.
- Approved by Dr. Gardner. These rules apply to both lecture and laboratory. Your teaching Assistant cannot approve any such absences or make arrangements without Dr. Gardner’s approval. If these rules are not followed, you will not receive credit for assignments or tests.

UNACCEPTABLE EXCUSES: Only unavoidable absences are excused, so you should schedule routine personal events (e.g., vacations, weddings, reunions, non-emergency medical or dental visits, parent-teacher conferences, household or auto repairs) to avoid
conflicts with your classes. Oversleeping is never an acceptable excuse. Employment conflicts are not acceptable excuses for absences, tardiness, or leaving class early. (Once enrolled in a class, it is the student’s responsibility to arrange his or her work schedule so that no regularly scheduled class, laboratory, or examination time is missed). Texas waives jury duty for students, so jury duty is not an acceptable excuse.

If you arrange to take any test at an alternate time and do not show for that appointment, then you forfeit the opportunity to take the test except at its originally scheduled time. Special circumstances that may warrant giving an individual a make-up test will be referred to Student Affairs.

**Late Work and Make-up Exams**
LATE ASSIGNMENTS: You may always turn in assignments early. Except for excused absences, late assignments will not be accepted. If you know that you will have an excused absence when an assignment is due, you must turn in that assignment before its due date. You should turn in assignments that were missed because of an unexpected, excused absence as soon as possible, and the deadline for accepting this type of late assignment is one (1) week after the original due date.
Any situations for which you cannot provide an acceptable excuse as outlined above (e.g., “I have an excuse, but it is too personal to discuss with you”) will be referred to Student Affairs.

Make-up exam rules are discussed in section H.

**Extra Credit**
No individual extra credit assignments will be available in this class. I may provide opportunities for the entire class to earn additional bonus points (e.g., attendance, video assignments, written reports, library or web exercises, un-announced quizzes, etc.). Such opportunities may be offered or announced only once, so be in class, be on time and stay for the entire period. Extra points are also built into all examinations (as extra questions). Bonus points (from quizzes, exercises, etc.) cannot be made up—period.

**Cell Phone Use**
Cellular phones (including text messaging), pagers, and other “beepers” must be turned off in the classroom and laboratory. (I will make exceptions for certain “emergency” personnel, but you must see me to obtain this). I will remove points if the rules are not respected.

**Laptop Use**
You may use your laptop to take notes. Any disruptive behavior on your computer (facebook, games, etc) will result in loss of points.

**Food in Class**
No food is allowed in the classroom. You may bring water but make sure you keep the classroom clean. During exams absolutely no food or drink is allowed.
Missed Exam
See section H.

K. COLLEGE AND UNIVERSITY POLICIES

- **Academic Integrity (University)**
  It is expected that university students will demonstrate a high level of maturity, self-direction, and ability to manage their own affairs. Students are viewed as individuals who possess the qualities of worth, dignity, and the capacity for self-direction in personal behavior.

- University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) **In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade. This includes both the lecture and laboratory.**

  - You must be prepared to present a photo ID at all examinations.
  - Different test forms may be prepared for a single examination. To ensure that the appropriate key will be used to grade your answer sheet, always follow instructions on the test or answer sheet, or given orally by the instructor.
  - If you leave an examination room—for any reason—you must hand in your answer sheet and you will not be allowed to resume the examination. Attend to personal matters (e.g., rest room visits) before the examination.
  - Be on time! **Anyone arriving after someone has completed an examination and left the room will not be allowed to take that examination.**
  - Any form of academic misconduct in lecture or laboratory will result in an F in the course.

  See Full University Policy at [http://catalog.tamucc.edu/content.php?catoid=10&navoid=313#Academic_Integrity](http://catalog.tamucc.edu/content.php?catoid=10&navoid=313#Academic_Integrity)

- **Classroom/Professional Behavior**
  - You are adult University students. I will treat you as such, and I will expect you to act as such. You will act with courtesy and respect. **I will not tolerate disruptive, disrespectful, or abusive behavior/language directed toward anyone in this class** (i.e., student or instructor). Violations range from **talking during class to outright insubordination**, and will result in penalties that range from the student being asked to stop to the student being “escorted” from the class - permanently.
  
  - Texas A&M University-Corpus Christi has a diverse student population that
represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

- **Deadline for Dropping a Course with a Grade of W (University)**
The grade of W will be assigned to any student officially dropping a course by Friday, November 6, 2015. No student is eligible to receive a W without completing the official drop process by this deadline. Visit the Office of the University Registrar for the Course Drop Form that must be submitted. After November 6, 2015 a student will not be allowed to drop a course.

- **Grade Appeals (College of Science and Engineering)**
As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at [http://www.tamucc.edu/provost/university_rules/index.html](http://www.tamucc.edu/provost/university_rules/index.html), and the College of Science and Engineering Grade Appeals webpage at [http://sci.tamucc.edu/students/GradeAppeal.html](http://sci.tamucc.edu/students/GradeAppeal.html). For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

- **Disability Services**
Disability Services (DS) is the hub for coordinating services and accommodations to ensure accessibility and utilization of all programs for all Texas A&M University-Corpus Christi students with disabilities. Our services are designed to meet the unique educational needs of enrolled students with documented permanent or temporary disabilities. DS provides intake and consultation services to students seeking to register with our office. DS reviews an individual’s documentation of disability and assesses eligibility for services and the determination of reasonable accommodations. For more information visit the Disability Services Office at 116 Corpus Christi Hall or go to [http://disabilityservices.tamucc.edu/](http://disabilityservices.tamucc.edu/)
L. OTHER INFORMATION

SUPPLEMENTAL INSTRUCTION (SI), TUTORING AND OTHER SERVICES: To be successful in this course, and most others, you must cultivate good note-taking skills, organization skills, study habits, and test-taking strategies from the very beginning. Your lecture and laboratory instructors are always available for help, but don’t wait until it is too late!

Students who have done well in this class in the past may have been hired to lead Supplemental Instruction (SI) sessions outside of class meeting times. You will receive a schedule of SI sessions separately from this syllabus. Please take advantage of your SI leader’s expertise.

Attend SI sessions on a regular basis; don’t wait until the session before an examination to start attending SI sessions. A great way to prepare for the comprehensive final is to attend the SI session just after an examination. At these sessions, your SI leader can review any questions you had difficulty answering correctly. Asking questions about the questions you did not answer correctly will help you answer other questions about that concept correctly if they appear on the comprehensive final.

The Center for Academic Student Achievement (CASA) (825-5933) provides free tutoring, test-taking strategies, and extra help. Take advantage of this service! The center has copies of the text and CD-ROM and is an invaluable source for help. In addition, tutors may be set up for this class specifically and a schedule with times and location will be placed on the website at the beginning of the semester. Should you have test anxiety, stress problems or need help with study skills, the University Counseling Center (University Center, 825-2703) also provides a free service.

GENERAL DISCLAIMER

I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.