First Year Learning Community. Biology 1407, Introductory Biology II, Spring 2015

Lectures: CI 113 MWF 11:00
Labs: CI 207 or CI 208

The course is co-taught by Brianna L. Adams, Savannah E. Wilkinson and David J. Grisé (instructor of record).

The schedule of SI sessions and office hours will be posted on Blackboard.
Dr. Grisé’s office is EN 311, e-mail david.grise@tamucc.edu, phone 825 3477

Please be aware that class will meet on Friday, 13 March and Monday, 23 March when making travel plans for spring break. Also, please be aware that class will meet on Friday, 3 April and Monday, 6 April when making travel plans for Easter. Because parents often make travel arrangements for students, be sure your parents are aware that classes will meet on these days. We have an exam scheduled for Friday, 7 March. Should you have a conflict and not be able to attend class on these days please let me know at least a week in advance. Decisions as to excuse a student from exams or assignments for these days will be made in accordance with University policies.

Students do not read the syllabus so I will put the important information about exams, Case Studies and Team Learning assignments here.
31 January 1st TLA chapter 21
5 February case study
7 February 1st exam (covers lectures on 22, 24, 27, 29, 31 January, 3 and 5 February)
21 February case study (chemistry exam)
28 February 2nd TLA chapter 24
7 March 2nd exam (covers lectures on 10, 12, 14, 17, 19, 21, 24, 26, and 28 February)
21 March 3rd TLA (chapter to be selected by students)
28 March 3rd exam (covers lectures on 3, 5, 17, 19, 21, 24 and 26 March)
4 April case study (chemistry exam)
11 April 4th TLA (chapter to be selected by students)
18 April 5th TLA, chapter 41
25 April 4th exam (covers lectures on 31 March, 2, 4, 7, 9, 11, 14 and 16 April)
2 May case study (chemistry exam)
9 May 11:00-1:30 Final exam (5th exam covers lectures on 18, 21, 23, 28, 30 April, 2 and 5 May)

POINTS IN THE CLASS (PLEASE NOTE, SOME CATEGORIES SUCH AS IN-CLASS QUESTIONS ARE APPROXIMATE, THE ACTUAL VALUE WILL BE SIMILAR BUT MAY NOT BE THE SAME AS LISTED HERE)

learning community bio 1407
<table>
<thead>
<tr>
<th>Assignment Points</th>
<th>% of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st TLA</td>
<td>30</td>
</tr>
<tr>
<td>2nd TLA</td>
<td>30</td>
</tr>
<tr>
<td>3rd TLA</td>
<td>30</td>
</tr>
<tr>
<td>4th TLA</td>
<td>30</td>
</tr>
<tr>
<td>5th TLA</td>
<td>30</td>
</tr>
<tr>
<td>1st exam</td>
<td>100</td>
</tr>
<tr>
<td>2nd exam</td>
<td>100</td>
</tr>
<tr>
<td>3rd exam</td>
<td>100</td>
</tr>
<tr>
<td>4th exam</td>
<td>100</td>
</tr>
<tr>
<td>5th exam</td>
<td>100</td>
</tr>
<tr>
<td>Comprehensive exam</td>
<td>100</td>
</tr>
<tr>
<td>Interdisciplinary assignment</td>
<td>100</td>
</tr>
<tr>
<td>In-class questions</td>
<td>150</td>
</tr>
<tr>
<td>1st case study</td>
<td>30</td>
</tr>
<tr>
<td>2nd case study</td>
<td>30</td>
</tr>
<tr>
<td>3rd case study</td>
<td>30</td>
</tr>
<tr>
<td>4th case study</td>
<td>30</td>
</tr>
<tr>
<td>MasteringBiology assignments</td>
<td>140</td>
</tr>
<tr>
<td>Pi Day challenge</td>
<td>20</td>
</tr>
<tr>
<td>Lab</td>
<td>400</td>
</tr>
<tr>
<td>Total</td>
<td>1680</td>
</tr>
</tbody>
</table>

**OVERALL CONTEXT**

**Course description:** This course is an overview of the major concepts in biological diversity and plant and animal biology. Laboratory work will include individual/team activities as well as technology-related assignments. This course counts toward the natural science component of the University Core Curriculum.

- **The Texas Higher Education Coordinating Board course objectives for courses such as bio 1406 that fulfill the core curriculum.**
- All core courses address critical thinking and communications.
- Each core course addresses an additional two core objectives. Objectives addressed by bio 1406 are teamwork and Empirical and Quantitative reasoning.

- For the critical thinking objective, students will gather and assess information relevant to a question. In lab and lecture students will gather data about a situation, graph those data, interpret these data and explain to others what these data tell us about the situation.

- For the communication skills objective, students will develop, interpret, and express ideas through written communication in lecture, on Calibrated Peer Review assignments and on exams.

- For the empirical and quantitative reasoning objective, in lecture and lab students will manipulate and analyze numerical data and arrive at an informed conclusion. This objective will be linked to
the communication skills objective because students will report their conclusions on lab reports, classroom assignments and exams.

-For the teamwork objective, students will integrate different viewpoints as a member of a team during group work in lecture and in lab. Because science is a group endeavor and interdisciplinary groups are increasing important in many fields within biology, assignments done in your team learning groups make up approximately 30% of your grade in the course.

**Specific learning outcomes for these sections of bio 1407**

- To recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry.
- Be able to formulate testable hypotheses and predications from these hypotheses.
- Have a functional knowledge of the theory of evolution and understand its importance as the unifying theme in biology.
- Understand how the modern synthesis combines evolutionary theory with Mendelian genetics and advances in other fields
- Have a working knowledge of the Hardy-Weinberg Law or Equilibrium. Understand that this is the basis of comparison and it is the as the expectation when no evolutionary forces at work in a population
- Understand how evolutionary forces (gene flow, genetic drift, mutation) act in populations and how these forces can lead to speciation or prevent speciation.
- Understand how the fundamental differences in animal and plant life cycles influence inheritance of mutations and speciation.
- Understand how natural selection can lead to a loss of genetic diversity in populations or can lead to maintenance of genetic diversity in populations
- Understand the mechanisms that can lead to speciation.
- Have an understanding of phylogeny and systematics.
- Understand a portion of the vast biological diversity on our planet
- Have a working knowledge of ecological concepts in population and community ecology
- Understand aspects of physiology including animal and plant body organization, transport in both groups and homeostasis.
- Understand that this is an important part of the syllabus to read because it summarizes what you should take away from the course.

**A community of learners.** You are part of the first year learning community at Texas A&M University-Corpus Christi. I hope you are, or will become, an active member of this learning community. Each time I teach a course, I learn from students. I hope to establish an atmosphere in which students learn from each other. As a result of taking my class and working with your fellow students, I hope you learn how to learn about issues that have a biological basis. We should all be learning from each other and learning how to learn from each other. As a result of our collective efforts, I hope I continue to improve as an instructor and that you benefit from taking my course.

**Resources to assist you in Bio 1407.**

**SI sessions**

SI sessions are student driven. SI leaders will discuss the material students have questions about. STEP sessions provide a structured setting for you to ask questions about the material covered in lecture or the material in the readings from the text that will not be covered in lecture. SI sessions
give you an opportunity for active learning. There is abundant research indicating that listening to material does not help students understand that material. Asking questions you have about the material for the TLAs during office hours or SI sessions is an efficient way to better understand the material covered in class and the material from the text for the Team Learning Assignments.

Please consider attending SI sessions regardless of your grade in the course. Students doing well in the course and students who are not doing so well in the course will benefit from attending SI sessions. Also, don’t wait until the session before the exam to start attending SI sessions. We have data that indicates that attending SI sessions on a regular basis increases your grade in the course. A great way to prepare for the comprehensive final is to attend the SI session just after an exam. Asking questions about the questions you did not answer correctly on the exam will help you answer the question correctly on the comprehensive final.

-Captivating and Engaging Leaders in Life Sciences (CELLS) mentoring program.
At least one CELLS mentor will attend your seminar class on a regular basis. CELLS mentors are sophomore, junior, or senior level students who have done well in my 1406 and 1407 classes. Your CELLS mentor will regularly visit your seminar class to answer questions and provide perspective on how to do well in my class and your future biology classes. They will also be able to answer questions about core classes and instructors for those classes. Please contact your CELLS mentor if you have questions about anything at the University. Because they are students, they have had to contact many of the University offices that you will deal with during your time at TAMUCC. Your CELLS mentor will be able to direct you the proper University resource. Take advantage of their experience for both class-related and University-related issues.

I am extremely grateful that so many students are volunteering their time to be a CELLS mentor. Their willingness to take time out of their busy schedule to assist students in this class is evidence of their commitment to the University, the Department of Life Sciences and to this class. Please take advantage of their willingness to help you succeed during your first year.

STUDENT-CENTERED LEARNING

-Lecture: This is not an instructor-based class. If you do not start making the transition to become an active, independent, self-directed learner you will not do well in this class. You have assistance in making the transition to become an active, independent, self-directed learner. The instructor is not the only person in the room with information about the topics covered in lecture. The lectures are structured so that students can interact with other students during the class. If you have questions about what is being covered in class, ask questions of other students during the time allotted to discuss in-class Qwizdom questions. Also, during class, feel free to ask one of the co-instructors questions about the material we are covering in class.

-Team Learning Assignments: We will use a team learning approach in this class. The goal of a team learning approach is to assist students in their development as independent learners. Students will read material in the text. The material for Team Learning Assignments will NOT be covered in lecture. Rather than lecturing on this material students can ask other students questions about the material or ask questions during SI sessions or office hours. Students are expected to better understand the material as a result of discussing the material during the group portion of the team learning assignments.
Permanent team learning groups will be established at the start of the course. Students will answer questions on their own then team learning groups will answer the same or similar questions. Research examining team learning assignments show that the group score is HIGHER than individual scores and that students understand concepts much better as a result of discussing questions and course material in groups. We will use the team learning approach on in-class team learning assignments as described below.

In-class team learning assignments: Students will come to class having read the assigned portion of the text. These readings will be announced in lecture in advance of the in-class team learning assignment. These readings will also be listed on the calendar on Blackboard. On Friday, using the Qwizdom responders, students will INDIVIDUALLY submit their own answers to questions about the text reading. Then, each team learning group will discuss the same questions and each student in the group will submit their answer to the questions.

Each in-class team learning assignment is worth 30 points. Your individual answers to these questions count for 40% of your score (12 points) for the in-class team learning assignment. The other 60% of the score (18 points) for each in-class team learning assignment will be based on your answer to the questions after consulting your group members. You are not permitted to use the text or notes about the readings for either portion of the assignment. After the group portion of the exam is completed, you may use the text to better understand the answers to the questions or to appeal questions.

Appeals: Students may not use the text, notes, or other resources during either the individual or group portions of in-class team learning assignments or team learning exams. However, once the assignment or exam has been completed, students may use any resource they wish to appeal any question for which the group feels the answer is incorrect or the question or answer choices are unclear. All appeals must be in writing, must fully explain why the group feels there is a problem with the question and must be agreed to by the entire group. All appeals must be to me before I leave the classroom. If the group’s appeal is granted, the scores of all group members will be adjusted.

Cell/smart phones and computers: Use of devices that can connect to the internet will not be allowed during the individual or group portion of team learning assignments. If a student is found to be using a cell phone, smart phone, or computer the device will be taken and put on the desk up front so the student can pick up their device after class.

Absences: You MUST be present in class to receive points for the group portion of the team learning assignments. The only exceptions are medical appointments, religious obligations as described in the University catalog, and University sponsored events. In the case that you have a scheduled medical appointment, a religious obligation or University sponsored event that prevents you from attending lecture, please let me know in advance of lecture. Should you not be able to attend lecture due to a medical emergency, please let me know about the situation as soon as possible.

-Daily in-class assignments: For almost every lecture, there will be a question worth a small amount of points to start lecture. Also, during lecture there will be questions for points. Students are encouraged to discuss these questions with other members of their team learning group. In
addition, there will be a few times when groups will work on questions related to course material. These questions are designed to help students understand how to answer questions on the exams.

**Qwizdom responders.** You are required to bring your functioning Qwizdom responder to each class meeting. You MUST be present to receive credit for in-class assignments. The only exceptions are medical appointments, religious obligations as described in the University catalog, and University sponsored events. In the case that you have a scheduled medical appointment, religious obligation or University sponsored event that prevents you from attending lecture, please let me know in advance of lecture. Should you not be able to attend lecture due to a medical emergency, please let me know about the situation as soon as possible.

You are not permitted to use another student’s responder. Answering questions for another student not present in lecture is cheating and will not be tolerated. If you are seen using two responders, both will be confiscated and we will all sort it out later.

Answers to any type of Qwizdom question that are written on paper will NOT be accepted. There are no exceptions to this policy. I have a few responders that you can sign out should you forget your responder. I have extra batteries that you can sign out if your batteries go low. If you forget your responder and all my extra responders are signed out, you will not be able to answer the Qwizdom questions. To obtain a Qwizdom responder or batteries, we will require students to give us their ID or something of value to get a responder or batteries. Your ID or something of value will be returned after class when you return the responder or batteries.

I will NOT check the results of a Qwizdom assignment for ANY student. When you take an assignment using Qwizdom, the Qwizdom responder shows you the answer you selected. Be sure you see the answer you intended to select. Since I have been using the Qwizdom system, I have checked answers at the request of students well over one hundred times. I have never found a problem with the Qwizdom system. Most of the time, a student mistakenly selected an incorrect answer or didn’t answer the question at all.

**INTERDISCIPLINARY ASSIGNMENT FOR SPRING SEMESTER**
Please see the material for your seminar class for details on this assignment. The grade on this assignment is used in all your other learning community courses. In my class, the grade on the project will account for a total of 100 points.

**INDIVIDUAL LECTURE EXAMS**

**Exams, all sections**
There are a total of six individual exams (four individual exams given during a lecture period and a two part final). The four individual exams given during a lecture period are 100 points each. The final is a two part exam for a total of 200 points. The first 100 points of the final covers the last block of material (it is the fifth individual exam). The second 100 points of the final covers material from the previous blocks of material. You may use calculators during all exams. However, use of cell phone calculators is NOT permitted. The use of i-pods or other electronic devices is NOT permitted.

I do not assign a curve to each exam.
Unless they make prior arrangements, ALL students MUST take the final exam at the assigned
time. Please note that arrangements to take the exam at a different time require approval of the
instructor.

-Make-up exams
I will follow University policy should you miss an exam due to a University-related event or
religious obligations. For students missing exams for other reasons such as family events or illness,
please contact me.

RESOURCES REQUIRED FOR BIO 1407
-Lab coats. All students are required to have a lab coat when entering the labs for any reason. In
addition, to the lab coat, students must be wearing long pants and closed-toe, close-heel shoes to
enter the labs at any time

-All students must have a TAMU-CC e-mail account
All students must have a TAMU-CC e-mail account (your islander account). I e-mail your grades
to your islander e-mail account. Grades will NOT be posted anywhere! Please go to
http://www.tamucc.edu/ise.html to obtain a new islander account. Either check your islander e-mail
account on a regular basis or forward your islander e-mail to your hotmail, yahoo, etc. e-mail
account.

Lisa A. Urry, Michael L. Cain, Steven A. Wasserman, Peter V. Minorsky, Robert B. Jackson and
Jane B. Reece. ISBN 0321955226. Electronic version of the text. If you purchase an access code
for MasteringBiology you will be able to access the electronic version of the text on the
MasteringBiology site.

Qwizdom student responder with batteries (Required for every lecture). Laboratory Manual for
Biology 1407, Spring 2015. All are available at the University Bookstore.

All or part of the following chapters in the text will be covered in this course: 19, 20, 21, 22, 23, 24,
25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 40, 41, 42, 43

UNIVERSITY AND CLASS POLICIES
Class attendance
My attendance policy is the same as the University's. Please read the University’s attendance policy
in the catalog. I expect students to attend every scheduled class meeting including labs.
Attendance is not used to determine grades. If you come to class often, you should do well in my
course. In addition, there will be in-class assignments during most lectures, so coming to lecture on
a regular basis should result in a higher grade.

-Scores sent by e-mail
Please check your scores I send to your Islander e-mail account! It is your responsibility to be sure
that I have correctly recorded your scores. From the time I e-mail grades for an assignment or exam,
you have five class days to inform me there might be a problem with your score. After five class
days, I will assume that scores for that assignment or exam are correctly recorded.

-Dropping the course
If you drop the class between 29 January and 11 April, you will be assigned a grade of W. Please be sure you read and understand the University’s drop policy found on page 32 of the catalog before you drop any class.

**Academic Honesty**
All students are expected to be familiar with TAMU-CC's Academic Honesty Statement found on page 38 of the 2007-2008 catalog.

**Students with Disabilities and Veterans**
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call or visit Disability Services at (361) 825-5816 in Driftwood 101.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

**Grade Appeal Process.** 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 on 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 on the process, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, consult Texas A&M University-Corpus Christi University Procedure 13.02.99.C2.01 Student Grade Appeal Procedures (http://www.tamucc.edu/provost/university_rules/index.html), and the College of Science and Engineering Grade Appeals webpage (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 or the College of Science and Engineering Dean’s Office.

**Academic Advising**
The College of Science and Technology requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. The College's Academic Advising Center is located in Faculty Center 178, and can be reached at 825-6094.

**EVALUATION OF STUDENTS IN ALL SECTIONS OF THE COURSE**

**Assignment of course grades, all sections.**
Grades for students in all sections of the course will be assigned as follows:

- **A** = 89.5-100 % of the total points
- **B** = 79.5-89.4 % of the total points
- **C** = 69.5-79.4 % of the total points
- **D** = 59.5-69.4 % of the total points
I use the above percentages to assign grades. After reading this section, you should know how I am going to assign grades. Please be sure you get enough points to get the grade you want. There will always be someone who just missed a D, or a C, or a B, or an A. I have to draw lines between grades. No matter where I draw the line, someone is on the wrong side of the line. Don't let that someone be you. You have plenty of help in my class. Take advantage of the resources I offer.

THERE IS NO EXTRA CREDIT!