Biology 1406 Texas A&M University-Corpus Christi, Summer I 2015
Class meets MTWR 14:00 to 15:55 in CS 101
Dr. David J. Grisé assisted by Brianna Adams (SI leader)

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
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<tbody>
<tr>
<td>1 June, first day of class</td>
<td>2 June</td>
<td>3 June Mastering Biology assignments: tour of plant cell. Tour of animal cell</td>
<td>4 June 1st in-class team learning assignment. A tour of the cell, chapter 4.</td>
<td>5 June, no class on Fridays</td>
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<td>8 June</td>
<td>9 June</td>
<td>10 June 2nd in-class team learning assignment. An introduction to metabolism, chapter 6.</td>
<td>11 June</td>
<td>12 June</td>
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<td>15 June Mastering Biology assignments: Which wavelengths of light drive photosynthesis? Absorption spectra and photosynthetic pigments.</td>
<td>16 June 3rd in-class team learning assignment. Photosynthesis, chapter 8.</td>
<td>17 June end of material for 1st exam</td>
<td>18 June First exam</td>
<td>19 June</td>
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<tr>
<td>29 June Mastering</td>
<td>30 June</td>
<td>1 July</td>
<td>2 July, final exam</td>
<td>3 July,</td>
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<tr>
<td></td>
<td>5th in-class</td>
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Biology assignments:  
Chi square.  
Linked genes and linkage mapping  

| team learning assignment.  
The chromosomal basis of inheritance, chapter 12. |

Summer I 2015 has 19 class meetings. Lecture points make up 3/4 of your grade in the course. The remaining 1/4 of your grade is determined by the lab.

**Contact information**  
Office: Engineering 311. e-mail david.grise@tamucc.edu, phone 825 3477  
**class web site: Please see Blackboard**  
Office hours are posted on the class web site on Blackboard, other hours by appointment

**Course description:** Presentation of basic biological concepts including scientific method, cytology, energetics, nucleic acids and genetics. This course is suitable for all majors. 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 25% of your grade in the course.
Learning outcomes for bio 1406

- 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 the importance of biochemical pathways and the importance of cellular respiration and photosynthesis to organisms and the relationship between these processes.
- To identify and recognize the differences among competing theories about DNA as the genetic material and the mechanism of DNA replication.
- To understand the basic mechanisms of inheritance.
- Understand the importance of DNA to organism function and the mechanism of inheritance.
- To recognize DNA technology as an interdependence of science and technology and understand the influence of DNA technology on, and contribution to, modern culture.
- To understand and apply method and appropriate technology to the study of problems with a biological basis.
- Be able to collect, analyze and interpret results from experiments and communicate your findings to your colleagues.

A community of learners: You are part of the community of learners at Texas A&M University-Corpus Christi. I hope you are, or will become, an active member of this community. Each time I teach a course, I learn from students. I hope to establish an environment conducive to learning in my class. 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.

Team Learning: We will use a team learning approach in this class. Permanent groups will be established at the start of the course. Students will answer questions on their own then student groups will answer the SAME assignment. Groups will submit group consensus answers to 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 in groups. We will use the team learning approach on in-class team learning assignments and lecture exams as described below.

In-class team learning assignments: Students will come to class having read the material in the text that is listed in the calendar above. In class, students will INDIVIDUALLY submit their own answers to questions about the text reading. Each in-class team learning assignment is worth 50 points. Your individual answers to these questions count for 40% of your score (20 points) for the in-class team learning assignment. The other 60% of the score (30 points) for each in-class team learning assignment will be based on your group’s answers to the questions. You are not permitted to use the text 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.

Exams: For both exams, students will INDIVIDUALLY take the exam during the first half of the class period. This score will constitute 75% of your 200 point exam score (150 points). The other 25% of your exam score (50 points) will be from a GROUP exam. Without using any outside resources during the group portion of the exam or between the individual and group portions of the exam, your group will answer the SAME exam questions. The group score will constitute 25% of your exam score.

Appeals: For either the in-class team learning assignments or the exams, students may not use the text, notes, or other resources during either the individual or group portions of assignment. However, once the assignment 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 is 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. If the group’s appeal is granted, the scores of all group members will be adjusted.

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 and University sponsored events. In the case that you have a scheduled medical appointment 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 and University sponsored events. In the case that you have a scheduled medical appointment 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. Note: we will require
students to give us their ID to get a responder or batteries. They will give us back the
responder or batteries at the end of the class.

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.

All students must have a TAMU-CC e-mail account. Posting grades
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.

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

-Text and required equipment: Paper copy of the text: Campbell Focus on Biology. 1st
edition. Lisa A. Urry, Michael L. Cain, Steven A. Wasserman, Peter V. Minorsky,

MasteringBiology. When 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 1406, Summer 2014. All are available at the University
Bookstore.

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.
**Academic honesty:** All students are expected to be familiar with TAMU-CC’s Academic Honesty Statement found in the catalog.

**Make up or late work.**
Exams: The Summer term goes by very quickly. If anything happens that causes you to miss an exam, notify me (e-mail is great for this purpose) immediately! You cannot get behind in this class during the summer, there is very little time for making up an exam, so we need to get a plan in place as soon as possible in the unlikely event that something happens that causes you to miss an exam.

In class daily assignments and in-class team learning assignments: These assignments MUST be taken in class! You are responsible for bringing your Qwizdom responder to class. You are responsible for making sure that the batteries are working. Bring spare batteries to class. The only reason a student would be permitted to make up an in-class assignment is because they had a medical-related conflict. If you have a previously scheduled medical appointment you must contact me BEFORE the lecture and ask to make up any assignment during class. I will require documentation in order for you to make up the in-class assignment.

**Pre-lab assignments:** All students are expected to come to lab ready to conduct the lab. To increase student readiness for labs, and therefore increase student learning, each student must complete a short pre-lab quiz on Blackboard before coming to lab. You can retake the quiz several times but there will be a waiting period between each attempt. You will not receive full credit on the quiz unless all questions are answered correctly. The pre-lab quiz will ask lab-related questions that can be answered by reading the appropriate part of the text or lab manual. The first lab, scientific inquiry, and the DNA structure, replication and transcription and translation lab will not have a pre-lab quiz. All other labs will have pre-lab assignments. **Pre-lab assignments must be completed by NOON of the day of the lab even if you are in the 4:00 lab!**

Your lowest lab score will be dropped.

Your overall lab score in points will be compiled as follows:

<table>
<thead>
<tr>
<th>Day</th>
<th>Lab</th>
<th>Points</th>
<th>Pre-lab quiz</th>
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</thead>
<tbody>
<tr>
<td>4-Jun</td>
<td>Safety/Scientific inquiry</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>5-Jun</td>
<td>Lab skills</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>9-Jun</td>
<td>Osmosis</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>11-Jun</td>
<td>Enzymes</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>12-Jun</td>
<td>Yeast 1</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>16-Jun</td>
<td>Yeast 2</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>18-Jun</td>
<td>Photosynthesis</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>19-Jun</td>
<td>No lab!</td>
<td>0</td>
<td>0</td>
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<tr>
<td>23-Jun</td>
<td>Mitosis/meiosis</td>
<td>15</td>
<td>5</td>
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25-Jun Genetics 15 5
26-Jun PCR I 15 5
30-Jun PCR II 15 5
2-Jul Exam 85 0
total 250 50

The complete lab syllabus is in the lab manual and is not repeated here.

**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.

**Evaluation of students**
200 points first exam
200 points final exam
75-150 points from daily in-class assignments
250 points in-class team learning assignments
50 points from MasteringBiology
250 points from lab
50 points from pre-lab quizzes

A= 89.5% or more of total points
B= 79.5% to 89.4% of total points
C = 69.5% to 79.4% of total points
D = 59.5% to 69.4% of total points

THERE IS NO EXTRA CREDIT!