Biology 1406, Introductory Biology I, Fall 2015
First Year Learning Community sections lectures: CI 113 MWF 11:00 or 1:00
Non-learning Community section lecture EN 106 MWF 9:00
Labs: CI 207 or CI 208

A. COURSE INFORMATION

Course number/section:  BIOL 1406. 1S (730), 2S (731), 3S (732), 1V (801), 2V (802),
3V (803), 4V (804)
Class meeting time: MWF 11:00
Class location: CI 113
CourseWebsite: https://bb9.tamucc.edu/webapps/portal/frameset.jsp?tab_tab_group_id=-2
1&url=%2Fwebapps%2Fblackboard%2Fexecute%2Flauncher%3Ftype%3DCourse%26id%3D_44573_1%26url%3D

Course number/section:  BIOL 1406. 4S (733), 5S (734), 6S (735), 1W (851), 2W (852),
3W (843), 4W (845)
Class meeting time: MWF 13:00
Class location: CI 113
CourseWebsite: https://bb9.tamucc.edu/webapps/portal/frameset.jsp?tab_tab_group_id=-2
1&url=%2Fwebapps%2Fblackboard%2Fexecute%2Flauncher%3Ftype%3DCourse%26id%3D_44573_1%26url%3D

Course number/section:  BIOL 1406.002
Class meeting time: MWF 9:00
Class location: EN 106
CourseWebsite: https://bb9.tamucc.edu/webapps/portal/frameset.jsp?tab_tab_group_id=-2
1&url=%2Fwebapps%2Fblackboard%2Fexecute%2Flauncher%3Ftype%3DCourse%26id%3D_44573_1%26url%3D

Labs for all the above sections meet in CI 207 or CI 208

B. INSTRUCTOR INFORMATION

Instructor: David J. Grisé
Office location: EN 311
Office hours: TR 10-noon
Telephone: 361 825 3477
e-mail: david.grise@tamucc.edu
Appointments: to schedule an appointment, please send an e-mail requesting an
appointment to the above e-mail address

C. COURSE DESCRIPTION
Catalog 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.

Extended Course Description
Even if you never have a position in a biology-related field, this course and your experience at TAMUCC will beneficial to you. This course covers many topics that have a biological basis that are important issues in our society. I hope that this course gives you the skills to follow the debate about these issues and make an informed choice on these issues. This course provides you with the basic skills required to do well in other biology courses that you will take as part of your degree plan.

D. PREREQUISITES AND COREQUISITES

Prerequisites
Students must have college algebra or its equivalent

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required Textbook(s)

Important: If purchasing the text from another source, be sure that you purchase an access code for MasteringBiology or that the text you purchase comes with an access code for MasteringBiology.

Electronic version of the text. If you purchase an access code for MasteringBiology, including the access code in the above option from the publisher, you will be able to access the electronic version of the text on the MasteringBiology site (www.pearsonmylab.com)

Please note that the electronic version of the text is NOT free. You have to purchase MasteringBiology either with the paper copy of the text or by itself to be able to access the electronic version of the text. You will NOT be able to access the electronic version of the text unless you purchase MasteringBiology.

Laboratory Manual for Biology 1406, Fall 2015. The lab manual will be available on Blackboard. You do NOT have to purchase the lab manual at the University Bookstore

Supplies
Access code for MasteringBiology (please see above)
Classroom response system responder providing that the system is ready to use fall 2015
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.

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.

By the end of this course, students should be able to:

- SLO 1. Diagram why science cannot prove hypotheses to be true but can prove hypotheses to be false
- SLO 2. Compare and contrast the processes of cellular respiration and photosynthesis
- SLO 3. Starting with a cell with two pair of chromosomes, diagram the process of meiosis with a crossover event between two loci
- SLO 4. Develop a hypothesis for a chi square test to determine if two traits are linked or unlinked.

The most important content for students to learn are contained in the above student learning outcomes.

The most important skills for students to acquire or refine in this course are to develop and evaluate hypotheses. These skills are contained in the above student learning outcomes.

This course emphasizes that students should become independent learners.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

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 questions. Also, during class, feel free to ask the
instructor or one of the SI leaders 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.

-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.

H. MAJOR COURSE REQUIREMENTS AND GRADING

Student learning outcomes are assessed by in-class activities and questions, assignments on MasteringBiology and questions on exams. The above four student learning outcomes will be assessed as described below.

SLO 1. Students will be required to diagram the “truth table” on the 1st and 2nd exams and use this diagram to explain why science cannot prove hypotheses to be true but can prove hypotheses to be false

SLO 2. Questions during class and on the 3rd exam require students to diagram the processes of cellular respiration and photosynthesis and compare and contrast the processes of cellular respiration and photosynthesis

SLO 3. On the fourth exam, students are given a diagram of a cell with two pair of chromosomes and asked to diagram the process of meiosis with a crossover event between two loci

SLO 4. On the fifth exam, students are asked to develop a hypothesis for a chi square test to determine if two traits are linked or unlinked.

Points in learning community sections of bio 1406 fall 2015

MWF 11:00 and 1:00

learning community fall 2015

<table>
<thead>
<tr>
<th>assignment</th>
<th>points</th>
<th>% of grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>individual exams</td>
<td>610</td>
<td>35.7</td>
</tr>
</tbody>
</table>
team learning assignments 150 8.8
daily questions 150 8.8
case studies 100 5.8
MasteringBiology Scientific Skills Exercises 50 2.9
MasteringBiology chapter assignments 150 8.8
interdisciplinary experience 100 5.8
lab 400 23.4
total 1710 100.0

Points in non-learning community section of bio 1406 fall 2015
MWF 9:00
non-learning community fall 2015

<table>
<thead>
<tr>
<th>assignment</th>
<th>points</th>
<th>% of grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>individual exams</td>
<td>610</td>
<td>37.9</td>
</tr>
<tr>
<td>team learning assignments</td>
<td>150</td>
<td>9.3</td>
</tr>
<tr>
<td>case studies</td>
<td>100</td>
<td>6.2</td>
</tr>
<tr>
<td>daily questions</td>
<td>150</td>
<td>9.3</td>
</tr>
<tr>
<td>MasteringBiology chapter assignments</td>
<td>150</td>
<td>9.3</td>
</tr>
<tr>
<td>MasteringBiology Scientific Skills Exercises 50</td>
<td>50</td>
<td>3.1</td>
</tr>
<tr>
<td>lab</td>
<td>400</td>
<td>24.8</td>
</tr>
<tr>
<td>total</td>
<td>1610</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Please note that the point total for the daily questions and MasteringBiology assignments may change.

Assignment of course grades
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.

I. COURSE CONTENT/SCHEDULE

The complete course calendar is posted on Blackboard.
Exam dates: 9 September, 25 September, 9 October, 30 October, 20 November.
Final exam for MWF 9:00 is from 8:00 to 10:30, Monday 7 December
Final exam for MWF 11:00 is from 11:00 to 1:30, Friday, 4 December
Final exam for MWF 1:00 is from 11:00 to 1:30, Wednesday, 9 December
http://registrar.tamucc.edu/final_exams/

CHAPTERS/ASSIGNMENTS FROM THE TEXT AND/OR MASTERINGBIOLOGY

All or part of the following chapters in the text will be covered in this course.
Chapter 1, Introduction: Evolution and the Foundations of Biology.
Chapter 2, The Chemical Context of Life.
Chapter 3, Carbon and the Molecular Diversity of Life.
Chapter 4, A Tour of the Cell.
Chapter 5, Membrane Transport and Cell Signaling.
Chapter 6, An Introduction to Metabolism.
Chapter 7, Cellular Respiration and Fermentation.
Chapter 8, Photosynthesis.
Chapter 9, The Cell Cycle.
Chapter 10, Meiosis and Sexual Life Cycles.
Chapter 11, Mendel and the Gene Idea.
Chapter 12, The Chromosomal Basis of Inheritance.
Chapter 13, The Molecular Basis of Inheritance.
Chapter 14, Gene Expression: From Gene to Protein.
Chapter 15, Regulation of Gene Expression.

The following Scientific Skills Exercises in MasteringBiology will be assigned for points. Each exercise is 5 points.

Chapter 1. Interpreting a pair of bar graphs.
Chapter 2. Interpreting a scatter plot with a regression line.
Chapter 4. Using a scale bar to calculate volume and surface area of a cell.
Chapter 6. Making a line graph and calculating a slope.
Chapter 7. Making a bar graph and evaluating a hypothesis.
Chapter 8. Making scatter plots with regression lines.
Chapter 11. Making a histogram and analyzing a distribution pattern.
Chapter 12. Using the chi square test.
Chapter 13. Working with data in a table.
Chapter 15. Analyzing DNA deletion experiments.

A complete list of due dates for assignments is on the Blackboard calendar and will not be repeated here.

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**
Students are expected to attend all class meetings. If you are late for class, please come into the room as quietly as possible. It is better to be late that not be there at all.

**Late Work and Make-up Exams**
Students may complete the MasteringBiology assignments

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.

**Extra Credit**
There is no extra credit

**Cell Phone Use**
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.

**Laptop Use**
Students are encouraged to use laptop computers if they feel that use of their laptop will be helpful to them. However, as seen above, laptops may not be used during the team learning assignments

**Food in Class**
Please respect other students and limit your eating food in the class.

Missed Exam
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.

Participation
Participation within your team learning group is essential.

K. COLLEGE AND UNIVERSITY POLICIES

- **Academic Integrity (University)**
  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.

- **Classroom/Professional Behavior**
  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

- **Statement of Civility**
  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. Please consult with the instructor before you decide to drop to be sure it is the best thing to
do. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Should dropping the course be the best course of action, visit the Office of the University Registrar for the Course Drop Form that must submitted. No student is eligible to receive a W without completing the official drop process by this deadline. Please consult the Academic Calendar (http://www.tamucc.edu/academics/calendar/) for the last day 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, and the College of Science and Engineering Grade Appeals webpage at 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**
  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 (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.

  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.

  http://disabilityservices.tamucc.edu/

- **Statement of Academic Continuity**
  In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be
operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

L. OTHER INFORMATION

- Academic Advising
  The College of Science & Engineering 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. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

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.