BIOLOGY I  
(BIOL 1406.003)  
Department of Life Sciences  
Spring 2020

A. COURSE INFORMATION

Course number/section: BIOL 1406.003  
Class meeting time: MWF 8:00 – 8:50 AM  
Class location: Engineering Building (RFEB) 106

B. INSTRUCTOR INFORMATION

Instructor: Dr. Heidi Ballew  
Office location: Tidal Hall (TH) 121  
Office hours: M 9:00 AM – 11:00 AM, W 9:00 AM – 12:00 PM  
Appointments: Please make appointment if you are unavailable during regular office hours.

C. COURSE DESCRIPTION

Catalog Course Description  
This course presents 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. This course provides the foundation for other biology courses.

D. PREREQUISITES AND COREQUISITES

Prerequisites: MATH-1314 and ENGL-1301 or ACT English score of 21 and ACT Math score of 21

Corequisites: Students must be enrolled in both lecture and laboratory sections and must attend the sections in which they are enrolled. Students must also be enrolled in a no-cost safety training course (SMTE 0091-Biological Laboratory Safety Seminar. Students that do not complete this safety course will be unable to remain in the laboratory and will lose all points associated with the laboratory section.

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required Textbook(s)  

- The TAMUCC bookstore sells a loose-leaf edition that comes bundled with access to
MasteringBiology. Access to MasteringBiology is required for homework. • 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)

Supplies and Equipment

• We will be using the Top Hat (www.tophat.com) classroom response system in class. You will be able to submit answers to in-class questions using Apple or Android smartphones and tablets, laptops, or through text message. You will need access to a smartphone, laptop, or tablet every day in class. You can visit the Top Hat Overview (https://success.tophat.com/s/article/Student-Top-HatOverview-and-Getting-Started-Guide) within the Top Hat Success Center which outlines how you will register for a Top Hat account, as well as providing a brief overview to get you up and running on the system. The course code will be provided in class so you can register. Should you require assistance with Top Hat at any time, they require specific user information to troubleshoot these issues. Please contact their Support Team through email (support@tophat.com), the in-app support button, or by calling 1-888-663-5491.

• 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, closed-heel shoes to enter the labs at any time (refer to lab syllabus for more details)
• Students must bring their school ID to exams. A calculator will be needed.

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 Discuss the basic concepts of chemistry as they relate to living organisms;
SLO 2 Describe how a living cell is constructed and recognize the relationships among its components;
SLO 3 Explain the physical and chemical bases for the activities of living cells and elucidate how these activities are controlled;
SLO 4 Demonstrate familiarity with the cellular and molecular processes involved in inheritance;
SLO 5 Identify examples of recent advances in applied cellular and molecular biology and evaluate their impacts on society.

Student’s abilities to complete these tasks will be evaluated through:
• Four exams (three regular exams and one final)
• Laboratory activities (see separate syllabus)
• Homework assignments administered through the Pearson MasteringBiology website
• Additional activities which may include: quizzes, group in-class or other activities.

G. INSTRUCTIONAL METHODS AND ACTIVITIES
Course topics will be covered by instructor-led lectures and other video supplements. Supplemental readings and material will be posted on Blackboard. Students are expected to come to class having read assigned material for the week prior to lecture and be prepared to participate and engage during class. Grading will be based on in-class participation and preparation, quizzes, and four exams.

H. MAJOR COURSE REQUIREMENTS AND GRADING
Lecture contributes 75% of your grade, and laboratory contributes 25% of your grade.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Exams</td>
<td>10% (each)</td>
</tr>
<tr>
<td>Final Exam</td>
<td>10%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>10%</td>
</tr>
<tr>
<td>Assignments</td>
<td>5%</td>
</tr>
<tr>
<td>MasteringBiology</td>
<td>10%</td>
</tr>
<tr>
<td>Lecture Participation</td>
<td>10%</td>
</tr>
<tr>
<td>Lab Grade</td>
<td>25%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

1. Lecture and Final Exams: The exams cover specific assigned topics. Exams may include multiple-choice, identification, fill-in the blanks, matching type, true-false, and short answer type questions. There are three lecture exams and final exam (cumulative) during the semester; each exam is worth 100 points.

   • If you leave an examination room—for any reason—you must turn in your exam and answer sheet and you will not be allowed to resume the examination. Attend to personal matters (e.g., restroom visits) before the examination.
   • Cheating and plagiarism are unacceptable behaviors.
2. **Quizzes**: Quizzes may be given at any time, announced or unannounced, in the beginning of class, middle of class, end of class, online, or take-home. These may be short multiple-choice questions, short answer questions, a short writing activity or simply a “minute paper” in which students provide anonymous feedback regarding the course content. If you miss a quiz, it will count as a 0. Overall quiz and assignment points will not exceed that of a regular exam (100 pts). Quizzes will count points toward the Quiz and Participation categories. Students are required to have a device at every lecture that will support the Top Hat app to participate in quizzes. They must be present to answer the questions and are not permitted to use another student’s app. Answering questions for another student absent in lecture is cheating and will not be tolerated. There is NO make-up for missed quizzes. The quizzes are worth 120 points.

3. **Assignments**: There is an assignment for each chapter to be discussed in lecture; These assignments can be accessed through Mastering Biology. The assignments open and close on particular dates. There is NO make-up for missed assignments. The assignments are worth 100 points.

4. **Participation**: Weekly participation points will be allocated based on attendance and participation during lectures and discussions. Attendance will be taken daily. Students are expected to come to class having read and completed assigned material for that week and be ready to engage in an interactive learning environment. Lecture participation is worth 100 points.

**Letter Grades**: Your final letter grade will be based on your average in lecture (75% of final grade) and laboratory (25% of final grade). Statistical manipulations (e.g., curving) may be performed for examinations or the final grade. 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:

\[
A \geq 90\% > B \geq 80\% > C \geq 70\% > D \geq 60\% > F
\]

• I will rectify any clerical, mathematical, and/or other errors. However, you have one (1) week to notify me of such errors after an assignment, quiz or examination is returned.
I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>DATE (BY DAY OR WEEK)</th>
<th>TOPIC</th>
<th>WEEKLY CHAPTER READINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Syllabus, BB, and Introduction</td>
<td>1</td>
</tr>
<tr>
<td>Week 2</td>
<td>Chemical content of life and Carbon and the molecular diversity of life</td>
<td>2-3</td>
</tr>
<tr>
<td>Week 3</td>
<td>A tour of the cell</td>
<td>4</td>
</tr>
<tr>
<td>Week 4</td>
<td>A tour of the cell (cont’d), Review, and EXAM I</td>
<td>4</td>
</tr>
<tr>
<td>Week 5</td>
<td>Membrane transport and Introduction to metabolism</td>
<td>5-6</td>
</tr>
<tr>
<td>Week 6</td>
<td>Introduction to metabolism (cont’d) and Cellular respiration and fermentation</td>
<td>6-7</td>
</tr>
<tr>
<td>Week 7</td>
<td>Photosynthesis</td>
<td>8</td>
</tr>
<tr>
<td>Week 8</td>
<td>The cell cycle (mitosis), Review, and EXAM II</td>
<td>5-9</td>
</tr>
<tr>
<td>Week 9</td>
<td>Spring Break</td>
<td></td>
</tr>
<tr>
<td>Week 10</td>
<td>Meiosis and Mendelian genetics</td>
<td>10-11</td>
</tr>
<tr>
<td>Week 11</td>
<td>Mendelian genetics (cont’d) and Chromosomal Basis of Inheritance</td>
<td>11-12</td>
</tr>
<tr>
<td>Week 12</td>
<td>Chromosomal Basis of Inheritance (cont’d) and Molecular basis of Inheritance</td>
<td>12-13</td>
</tr>
<tr>
<td>Week 13</td>
<td>Molecular basis of Inheritance (cont’d), Review, and EXAM III</td>
<td>10-13</td>
</tr>
<tr>
<td>Week 14</td>
<td>Gene expression</td>
<td>14</td>
</tr>
<tr>
<td>Week 15</td>
<td>Regulation of gene expression and Catch up</td>
<td>15; review</td>
</tr>
<tr>
<td>Week 16</td>
<td>Course Review</td>
<td></td>
</tr>
<tr>
<td>Week 17</td>
<td>FINAL EXAM</td>
<td>1-15</td>
</tr>
</tbody>
</table>

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.

The time and point schedule may require adjustment. Additional assignments may or may not be provided at the Instructor’s discretion. Such assignments might include homework, group projects, reading assignments, quizzes, etc. Every attempt will be made to follow the time and evaluation schedules shown here. It is the student’s duty to attend each class session, and regularly visit BlackBoard to be aware of all assignments, deadlines, and changes to such.

J. COURSE POLICIES

Attendance/Tardiness
Attendance is mandatory. Students are expected to attend all classes. Should you miss a lecture session, it is your responsibility to find out what you missed, get notes, and learn about changes in the syllabus. There are no excused absences. A missed assignment during class will result in a deduction of participation points for that assignment. Note that I may choose to have “pop” quizzes, and/or “attendance” quizzes as part of the points. Coming to lecture on a regular basis should result in a higher grade, and if you come to class often, it will help you do well in this course. Students with a university approved scheduled absence (athletics, military duty, etc.) must contact the lecture instructor well in advance of a scheduled absence. Exams may be taken early (within one week of the scheduled exam) when the student notifies the instructor of a pre-planned excused absence well in advance to the absence. Students who do not arrange to take exams ahead of time will not be eligible for this special consideration. A written excuse from the university department involved is required.

Late Work and Make-up Exams
You may always turn in assignments early. Except for excused absences, late assignments will not be accepted. If you know in advance 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.

Extra Credit
There is no individual extra credit. There will be a few extra credit opportunities available to the entire class. Such opportunities will be announced in class and on Blackboard.
  a) There can be bonus points built as extra questions during quizzes and assignments. These bonus points cannot be made up.
  b) 15 bonus points are given to students who attend 90% of class lecture days. This 15- bonus points will be all or none, which means if your attendance is less than 90% you will not get the 15 bonus points. Attendance in class is taken by answering an attendance question using Top Hat at the end of the lecture. If you leave early and cannot answer this question, you are marked absent.
Cell Phone Use
Cell phone use that is unrelated to class quizzes on Top Hat is not permitted at any time.

Laptop Use
Laptops may be used during lectures, although students are encouraged to take handwritten notes. Laptops and tablets can only be used during Top Hat quizzes, but may not be used during regular exams, quizzes, or weekly in-class assignments.

Food in Class
Allowed if not disruptive to class activities.

Participation
Consistent absences will have a negative effect on your participation score, and you will miss information that will be asked on exams that cannot be found in any of the available course materials.

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)**
  I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with your academic advisor, the Financial Aid Office, and me, before you decide to drop this course. Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Please consult the Academic Calendar [http://www.tamucc.edu/academics/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](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**
  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.
• **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.