**Biology I, Biol 1406**  
Department of Life Sciences  
Spring 2017

A. **COURSE INFORMATION**

Course number/section: Biol 1406.730/ 731/ 732  
Class meeting time: MWF 9:00 – 9:50 am  
(Lab: various times; must attend assigned labs)  
Class location: Lecture: Center for Sciences (CI) 101  
Labs meet in CI 206 or 207  
Course Website: (Island Online/Blackboard Portal): [https://bb9.tamucc.edu/](https://bb9.tamucc.edu/)

B. **INSTRUCTOR INFORMATION**

Instructor: Dr. Judy Metcalf  
Office location: EN-309  
Office hours: MWF 10:00 – 11:00 am; TR 12:00 – 1:00 pm, or by appointment  
NOTE: From May 3 – May 10, office hours are by appointment only  
Telephone: (361) 825-3959  
e-mail: judy.metcalf@tamucc.edu  
Appointments: A student may make an appointment to see me at times other than the scheduled office hours. I am available for consultation and extra help, but it is the student’s responsibility to request such help. *If I am unavailable during office hours, I will post a note on my office door.*

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

SMTE 0091 is a co-requisite for this course. Documented completion of this safety training is required early in the semester for continued participation in this course. Safety training given during a laboratory meeting early in the semester is required for continued participation in this course.

Extended Course Description  
Even if you never have a position in a biology-related field, this course and your experience at TAMUCC will be 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:**
MATH-1314 and ENGL-1301 or ACT English score of 21 and ACT Math score of 21

**Corequisites:**
SMTE0091

E. **REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES**

**Required Textbook:**
*Campbell BIO In Focus, with Mastering Bio. 2nd edition. 2016.* Urry, LA, Cain, ML, Wasserman, SA, Minorsky, PV, and Reece, JB. Pearson, Boston, MA.


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 2016. The lab manual will be available on Blackboard. You do NOT have to purchase the lab manual at the University Bookstore.

**Supplies and Equipment:**
- 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 (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:
1. Four exams (three regular exams and one final)
2. Laboratory activities (see separate syllabus)
3. Possible (TBD) additional activities which may include: quizzes, group in-class activities or other activities.

G. **INSTRUCTIONAL METHODS AND ACTIVITIES**

Instructional methods may include PowerPoint lectures, videos, group activities, quizzes, supplemental questions and homework, and weekly review sessions via supplemental instruction.

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 student learning outcomes will be assessed as described below:

SLO 1. On the 1st exam, students are given a diagram of an animal or plant cell and asked to label the organelles

SLO 2. Questions during class and on the 2nd 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 3rd 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. Also, students are asked to develop a hypothesis for a chi square test to determine if two traits are linked or unlinked.
<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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<tbody>
<tr>
<td>Exams</td>
<td>50%</td>
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<tr>
<td>Quizzes &amp; Assignments (including Mastering Biology)</td>
<td>15%</td>
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<tr>
<td>Shared Project (LC) (100 points)</td>
<td>10%</td>
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<tr>
<td>Lab grade</td>
<td>25%</td>
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<tr>
<td>TOTAL</td>
<td>100%</td>
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**Letter Grades:** Your final letter grade will be based on your average in lecture. Statistical manipulations (e.g., curving) may be performed once—at the end of the semester—not for each examination. 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 will not change a legitimate course grade just because you “need” it (for financial aid, to get into professional school, etc.). The grading section of this syllabus describes how I assign grades. Please be sure you earn 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. Although I reserve the right to curve, doing so is usually not necessary. (Curves are based on statistical analysis of the entire class’s performance, not on the needs of individual students.) I have to draw lines between grades, and no matter where I draw them, someone is on the wrong side. Don’t let that someone be you. You have plenty of help in my class. Take advantage of the resources I offer. The reasons for receiving a grade of “I” (incomplete) are clearly defined in the University Catalog; this “grade” cannot be used simply to prevent a student from receiving an unwanted grade in a class.
- I only discuss grades in person (i.e., I do not discuss grades or matters relating to grades over the telephone or by e-mail). If you wish to know your final grade before the official grade report is mailed to you, please see me in person or provide me with a self-addressed, stamped envelope.

**Examinations:** There will be four examinations (three lecture exams plus the final exam), taking questions for these tests primarily from material covered in the lectures, from handouts and other assignments, and from readings in the textbook and MasteringBiology. Examinations may consist of essay, short-answer, compare-contrast, fill-in-the-blank, multiple-choice, matching, making and/or labeling drawings, and/or various types of “flex” questions (i.e., anything is fair game). The first three examinations are sequential (i.e., each examination covers material from one specific section of the course, as listed below under course schedule). The final examination is comprehensive (i.e., covers material from the entire course), and redemptive (i.e., it can count as nothing; it can replace single examination; or it can be your entire examination grade). Thus, your examination grade can come from a percentage derived
from:

1) the final examination alone…

2) the average of the four examinations…

3) the average of the three highest examinations with the final used to replace the lowest examination…

… whichever method gives you the highest percentage.

- 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.
- Be on time! Anyone arriving after someone has completed an examination and left the room will not be allowed to take that examination.
- Cheating and plagiarism are unacceptable behaviors.

I. COURSE CONTENT/SCHEDULE

The complete course calendar is posted on Blackboard.

Exam dates: Fri, February 17; Fri, Mar 24; Fri, Apr 21,
Final exam: Wednesday, May 10, 8:00 – 10:30 am (CS 101)

http://registrar.tamucc.edu/Register%20for%20Classes/Final_Exams.html

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.

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.
Course topics and schedule outline (Note: Schedule is tentative and subject to change – all changes will be announced in class and on blackboard):

<table>
<thead>
<tr>
<th>WEEK</th>
<th>TOPIC</th>
<th>CHAPTER</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction</td>
<td>1</td>
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<td>2</td>
<td>Carbon and the Molecular Diversity of Life</td>
<td>3 (some 2)</td>
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<td>3</td>
<td>A Tour of the Cell</td>
<td>4</td>
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<td>4</td>
<td>Membrane Transport</td>
<td>5</td>
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<tr>
<td>4</td>
<td>EXAM I (Ch. 1, 3, 4)</td>
<td>1, 3, 4</td>
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<tr>
<td>5</td>
<td>Introduction to Metabolism</td>
<td>6</td>
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<td>6</td>
<td>Cellular Respiration and Fermentation</td>
<td>7</td>
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<td>7</td>
<td>Photosynthesis</td>
<td>8</td>
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<td>8</td>
<td>EXAM II (Ch. 5 to 8)</td>
<td>5, 6, 7, 8</td>
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<td>8</td>
<td>The Cell Cycle (Mitosis)</td>
<td>9</td>
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<td>9</td>
<td>Meiosis</td>
<td>10</td>
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<td>10</td>
<td>Mendel and the Gene Idea</td>
<td>11</td>
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<td>11</td>
<td>Chromosome Basis of Inheritance</td>
<td>12</td>
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<tr>
<td>12</td>
<td>Molecular Basis of Inheritance</td>
<td>13</td>
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<tr>
<td>12</td>
<td>EXAM III (Ch. 9 to 12)</td>
<td>9, 10, 11, 12</td>
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<tr>
<td>14</td>
<td>Gene Expression: From Gene to Protein</td>
<td>14</td>
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<td>14</td>
<td>Regulation of Gene Expression</td>
<td>15</td>
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<td></td>
<td>Lab practical exam</td>
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<td>15</td>
<td>Review</td>
<td></td>
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<tr>
<td>16</td>
<td>FINAL EXAM (comprehensive)</td>
<td>1-15</td>
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</tbody>
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J. COURSE POLICIES

Attendance/Tardiness
Attendance will be taken in every lab and students are expected to attend every class and laboratory. Tardiness and leaving early (more than 10 minutes) will constitute an absence and points will be deducted for that day.

You are responsible for the material covered and assignments made in every lecture 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 during your absence. If you are absent, tardy, or leave early, I will provide you with copies of assignments (including “bonus point” assignments) and handouts if—and only if—you ask
for them. (In other words, I will not, “track down” absentees to make sure that they know about assignments.) You must obtain class notes from other students.

Points missed because of an unexcused absence (including tardiness and leaving early) cannot be recovered. An excused absence allows us to make alternative arrangements for completing assignments; an excused absence is not waiver of assignments, knowledge, skills or experiences necessary to complete a course. The documentation required for an absence to be excused must be:

- from an appropriate source (doctor, dentist, funeral director) who states the nature and dates of the event
- in writing, on official letterhead, and signed (it will not be returned)
- presented prior to the absence for a scheduled event (e.g., university-sponsored activity, recognized religious holiday, military service); and
- presented no more than one week after the date of an unexpected absence.

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.

For some scheduled events (athletics, military duty, etc.), you may arrange to take a lecture examination before (but not after) its scheduled date. (You should take a test as close to its originally scheduled time as possible, but you may not take a test more than one week before its originally scheduled time. You must obtain your instructor’s approval at least one week before you wish to take the pre-test). 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. Students who do not arrange to take examinations in advance will not be eligible for this special consideration. A written excuse from the university department involved or from the Office of Student Engagement and Success is required.

In general, there are NO individual make-up examinations. The grading formulas above give you three chances to earn points from lecture examinations: method 1 or 3 if you miss one lecture examination; method 1 if you miss more than one lecture examination; method 2 if you miss the final examination. The instructor—in consultation with Dr. Don Albrecht, Vice President for Student Engagement and Success—will determine if circumstances warrant giving an individual a make-up test after the original test. A make-up test given after the original test will be all written (i.e., no multiple choice or matching), and it will be administered on the “Reading Day” for the semester.

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**
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. Cellular phones, pagers, and other “beepers” must be silenced BEFORE you enter the classroom.

**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. I reserve the right to restrict food in the classroom if items are left behind or the room is left unclean.

**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**
All students are expected to attend the full class and lab periods, complete all learning assignments, complete reading assignments fully and carefully, and to participate in class discussions. A portion of your grade is earned by participation.

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/](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.

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.