Biology I
Biology 1406
Department of Life Sciences
Spring 2016

A. COURSE INFORMATION

Course number/section: BIOL 1406.003
Class meeting time: MWF 8:00-8:50 am (Lab: Various; must attend assigned labs)
Class location: Lecture: Engineering Building, EN-106
Labs meet in CI 207 or CI 208.
Course Website: (Island Online/Blackboard Portal): https://bb9.tamucc.edu/

B. INSTRUCTOR INFORMATION

Instructor: Dr. Fabio Moretzsohn
Office location: Engineering Building, EN-311
Office hours: Tuesday and Thursday 10:00 am-12:00 pm
Wednesday 3:00-4:00 pm
Telephone: (361) 825-3477
e-mail: fabio.moretzsohn@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. Students must place into Biology 1406 by achieving a sufficient score on either the SAT or ACT or completing a mathematics course. SAT scores required for placement in Biol 1406 are 500 on Critical Reading Section and 500 on the Mathematics section. An ACT score of 21 on each of the Math, English, and Reading sections can also be used. Students with test scores lower than this may take Biol 1406 if they completed a precalculus course in high school or have completed Math 1314 College Algebra or equivalent.

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(s):**

**Required Website:**
This is REQUIRED because points will be assigned to this. The University Bookstore sells a bundle with the book and access code. If you buy the book from other vendor, you may need to purchase the access code separately, and overall it may be more expensive than buying the bundle from the University Bookstore. Alternatively, access code with the e-book bundled are available at the website above.

**Laboratory Manual for Biology 1406, Spring 2016.** The lab manual will be available on Blackboard. You do NOT have to purchase the lab manual at the University Bookstore

**Supplies and Other Requirements:**
- Students must bring their school ID to exams.
- Access to BlackBoard will be required.
- See separate Lab Syllabus regarding laboratory.
- Access code for MasteringBiology (please see above).
- 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. 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. Homework assignments administered through the Pearson MasteringBiology website.
   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**

Your lecture average is worth 75% of the overall BIOL 1406 course grade; your average
from lab (based on reports, quizzes, practicals, etc. as stated in lab syllabus) will make up the
remaining 25% of the grade.

*Lecture average* will come from the following:

- 3 Regular Exams @ 100 percentage points each
- Final Exam: 100 percentage points
- Quizzes, Assignments, etc.: up to 100 percentage points
- MasteringBiology assignments: 100 percentage points
Total Lecture Average = % of total available points earned in the lecture.

TOTAL COURSE AVERAGE = LECTURE AVERAGE*75% + LAB AVERAGE*25%

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 ≥ 90% > B ≥ 80% > C ≥ 70% > D ≥ 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 (100 percentage points each), 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). 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…

or 2) the average of the three examinations…
or 3) the average of the two 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.

**Laboratory:** Laboratory activities will contribute 25% of the final course grade. Please see the separate Lab Syllabus for details of these activities.

**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).

**Mastering-Biology Assignments:** Students will be required to register an account on MasteringBiology (http://www.pearsonmylabandmastering.com/northamerica/) using the login information provided on BlackBoard by the instructor, and the code provided when they purchase the text. NOTE that this is the only website to use; web searches for “mastering biology” will turn up lots of other sites which are unrelated and will not work. Additional help may be obtained by contacting the Pearson representative: Olinda.Rubio@Pearson.com. There will be multiple assignments to complete online, and most students should also have access to the e-text version of their book. Assignments will count as points for lecture, provided they are completed on time. Do not wait until the deadline to turn in work. No late work will be accepted.

There will be no makeups. Other homeworks or assignments may be given in class. These may include data interpretation, experimental design, seminar attendance, etc. They may be due at the start of the next lecture class, but some assignments may be in-class only and makeups are not possible. You are encouraged to get together and work on them as a group. However, unless specified otherwise, the assignments must be turned in individually and be written in your own words, NOT COPIED. An assignment grade of ZERO will be given if the work is not in your own words.

All assignments and examination answers must be legible to the Instructor. Illegible answers will receive a 0.
I. COURSE CONTENT/SCHEDULE

The complete course calendar is posted on Blackboard.

**Exam dates:** 5 February, 4 March and 22 April

**Final exam is Friday, May 6, from 8:00 to 10:30 am**

http://registrar.tamucc.edu/final_exams/

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 homeworks, 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.**

<table>
<thead>
<tr>
<th>DATE (BY DAY OR WEEK)</th>
<th>TOPIC</th>
<th>CHAPTER &amp; NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wk1: Jan. 20-22</td>
<td>Course Intro; Syllabus; SI Presentation; Evolution and Foundations of Biology</td>
<td>1; No Lab; Read Syllabus</td>
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<tr>
<td>Wk 2: Jan. 25-29</td>
<td>Carbon and the Molecular Diversity of Life</td>
<td>3; Case Study</td>
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<tr>
<td>Wk 3: Feb. 1-5</td>
<td>A Tour of the Cell; <strong>EXAM I</strong></td>
<td>4; <strong>EXAM I</strong></td>
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<tr>
<td>Wk 4: Feb. 8-12</td>
<td>Membrane Transport; Introduction to Metabolism</td>
<td>5; 6; TLA</td>
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<tr>
<td>Wk 5: Feb. 15-19</td>
<td>Cellular Respiration</td>
<td>7; Case Study</td>
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<tr>
<td>Wk 6: Feb. 22-26</td>
<td>Photosynthesis</td>
<td>8</td>
</tr>
<tr>
<td>Wk 7: Feb. 29-Mar. 4</td>
<td>The Cell Cycle (Mitosis); <strong>EXAM II</strong></td>
<td>9; <strong>EXAM II</strong></td>
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<tr>
<td>Wk 8: Mar. 7-11</td>
<td>Meiosis</td>
<td>10; Case Study</td>
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<tr>
<td>Wk 9: Mar. 14-18</td>
<td><strong>Spring Break!</strong></td>
<td>No class</td>
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<td>Wk. 10: Mar. 21-25</td>
<td>Mendel and the Gene Idea</td>
<td>11</td>
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<td>Wk 11: Mar. 28-Apr. 1</td>
<td>Chromosome Basis of Inheritance</td>
<td>12</td>
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<tr>
<td>Wk 12: Apr. 4-8</td>
<td>Molecular Basis of Inheritance</td>
<td>13</td>
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<tr>
<td>Wk 13: Apr. 11-15</td>
<td>Gene Expression: From Gene to Protein</td>
<td>14; Case Study</td>
</tr>
<tr>
<td>Wk 14: Apr. 18-22</td>
<td>Review; <strong>EXAM III</strong></td>
<td><strong>EXAM III</strong></td>
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<tr>
<td>Wk 15: Apr. 25-29</td>
<td>Regulation of Gene Expression</td>
<td>15</td>
</tr>
<tr>
<td>Wk 16: May 2-6</td>
<td>Review; <strong>FINAL EXAM: 8:00 am–10:30 pm</strong></td>
<td><strong>FINAL EXAM</strong></td>
</tr>
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A complete list of due dates for assignments is on the Blackboard calendar and will not be repeated here.

**J. COURSE POLICIES**

**Attendance/Tardiness**
My attendance policy is the same as that stated in the University Catalog. Attendance is the student’s responsibility, and students are expected to attend, be on time for and remain the entire period in every class. Attendance is not used to determine grades. In lecture, even if I take roll, I do not give—per se—a bonus for attendance, or a penalty for absence (except for missing an examination, bonus points, or an assignment). (Note that I may choose to have “pop” quizzes, and/or “attendance” quizzes as part of the bonus 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.

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
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. 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.

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. There are consequences for dropping a class, so read the drop policy in the University Catalog (better still, consult with the instructor or your academic advisor and someone in the financial aid office) 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 for the last day to drop a course (http://www.tamucc.edu/academics/calendar/).
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  http://disabilityservices.tamucc.edu/
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.