Biology I, Biol 1406.815/.816/.817  
Department of Life Sciences  
Fall 2019

A. COURSE INFORMATION
Course number/section: Biol 1406.815, 1406.816, 1406.817 (Lecture)  
Class meeting time: MWF 11:00 am-11:50 am  
(Lab meeting time varies; attend only assigned lab section)  
Class location: Lecture: EN-101  
Course Website: Island Online/Blackboard Portal: https://bb9.tamucc.edu/

B. INSTRUCTOR INFORMATION
Instructor: Dr. Fabio Moretzsohn  
Office location: TH-333  
Office hours: M 10-11 am; T 1-4 pm & W 10-11 am  
Telephone: (361) 825-3477  
e-mail: Fabio.moretzsohn [at] 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. I prefer communication via email; please add class section to email heading.

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:**

The TAMUCC bookstore sells a loose-leaf edition that comes bundled with access to McGraw-Hill Connect and the e-book. Important: If purchasing the text from another source, be sure that you purchase a valid (i.e., unused) access code for Connect. Note that many online sellers of used books falsely advertise that the used copy comes with a valid access code, but often the code has already been used, and you may end up having to buy the access code. If you are happy with just the e-book, the publisher (mheducation.com/highered) sells the access code that comes with the e-book (meaning, you do not need a paper book).

McGraw-Hill Connect is required to do homework. Make sure to access Connect from the link on Blackboard. You do not need a Course ID if you follow the link from Blackboard. You can sign up for a free trial period (14 days), but note that points earned during the trial can only be transferred once (i.e., you can’t sign up for multiple trial accounts and keep the points).

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

**Required App: Top Hat**

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 can visit the Top Hat Overview (https://success.tophat.com/s/article/Student-Top-Hat-Overview-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.

An email invitation will be sent to you by email, but if don’t receive this email, you can register by simply visiting our course website: https://app.tophat.com/e/848543. Note: our Course Join Code is 848543. Please use your TAMUCC email and the same name as registered in the class. Top Hat will require a paid subscription, and a full breakdown of all subscription options available can be found here: www.tophat.com/pricing. Points will only be accepted from a
single, paid Top Hat account per student (i.e., you can’t sign up for multiple free trials).

Should you require assistance with Top Hat at any time, due to the fact that they require specific user information to troubleshoot these issues, please contact their Support Team directly by way of email (support@tophat.com), the in-app support button, or by calling 1-888-663-5491.

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, 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 McGraw-Hill Connect website
- Additional activities which may include: quizzes, group in-class 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 Connect 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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</thead>
<tbody>
<tr>
<td>3 Exams</td>
<td>10 % (each)</td>
</tr>
<tr>
<td>Final Exam</td>
<td>10 %</td>
</tr>
<tr>
<td>Quizzes (Top Hat) and Case Studies</td>
<td>10 %</td>
</tr>
<tr>
<td>McGraw-Hill Connect Assignments</td>
<td>10 %</td>
</tr>
<tr>
<td>Joint Project</td>
<td>10 %</td>
</tr>
<tr>
<td>Lecture Attendance</td>
<td>5 %</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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</tbody>
</table>

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.

**Lecture Examinations:** There will be four examinations (three lecture exams plus the final exam, worth 100 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 Connect. 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), accounts for 10% of your overall grade and is redemptive (i.e., it can replace single examination; or it can be your entire Lecture examination grade). Thus, your examination grade can come from a percentage derived from:

1) the final examination alone…

or 2) the average of the four 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.

**I. COURSE CONTENT/SCHEDULE**

The complete course calendar is posted on Blackboard.
Course topics and schedule outline:

<table>
<thead>
<tr>
<th>WEEK</th>
<th>TOPIC</th>
<th>CHAPTER &amp; NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Course introduction; Syllabus, SI Presentation</td>
<td>Syllabus, Ch 1</td>
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<tr>
<td></td>
<td>The Science of Biology</td>
<td></td>
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<tr>
<td>2</td>
<td>The Nature of Molecules (water properties only)</td>
<td>2</td>
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<tr>
<td>2</td>
<td>The Chemical Building Blocks of Life</td>
<td>3</td>
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<tr>
<td>3</td>
<td>Cell Structure</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td><strong>EXAM I</strong></td>
<td>Ch. 1-4</td>
</tr>
<tr>
<td>4</td>
<td>Membranes</td>
<td>5</td>
</tr>
<tr>
<td>4, 5</td>
<td>Energy and Metabolism</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>How Cells Harvest Energy</td>
<td>7</td>
</tr>
<tr>
<td>6</td>
<td>Photosynthesis</td>
<td>8; Case Study</td>
</tr>
<tr>
<td>6</td>
<td>Cell Communication</td>
<td>9</td>
</tr>
<tr>
<td>7</td>
<td><strong>EXAM II</strong></td>
<td>Ch 5-9</td>
</tr>
<tr>
<td>7</td>
<td>How Cells Divide</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>Sexual Reproduction and Meiosis</td>
<td>11, Case Study</td>
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<tr>
<td>9</td>
<td>Patterns of Inheritance</td>
<td>12</td>
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<tr>
<td>9, 10</td>
<td>Chromosomes, Mapping, and Meiosis—Inheritance Connection</td>
<td>13</td>
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<tr>
<td>10, 11</td>
<td>DNA: The Genetic Material</td>
<td>14, Case Study</td>
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<tr>
<td>11</td>
<td><strong>EXAM III</strong></td>
<td>Ch 10-14</td>
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<tr>
<td>12</td>
<td>Genes and How They Work</td>
<td>15</td>
</tr>
<tr>
<td>13</td>
<td><strong>Thanksgiving Break</strong></td>
<td>DNA assignment</td>
</tr>
<tr>
<td>14</td>
<td>Control of Gene Expression; Review</td>
<td>16; review</td>
</tr>
<tr>
<td>15</td>
<td><strong>FINAL EXAM</strong></td>
<td>Ch 15-16 + comprehensive</td>
</tr>
</tbody>
</table>

Exam dates:
- Exam 1, Fri, Sep. 13
- Exam 2, Fri, Oct. 11
- Exam 3, Fri, Nov. 8
- Final Exam: Fri, Dec. 6, 11:00 am-1:30 pm
  [http://registrar.tamucc.edu/Register%20for%20Classes/Final_Exams.html](http://registrar.tamucc.edu/Register%20for%20Classes/Final_Exams.html)

The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.
Note: I have been recovering from lung cancer and although I am responding very well to treatment, I still need treatment at MD Anderson in Houston, at least every three weeks, plus occasional other appointments. Very likely, some adjustments will need to be done to the class schedule, and even exam schedule (but not the final exam, which is set by the university). I will post online or take home assignments when I won’t be in class. Any changes to the course schedule will be announced ahead of time and posted on Blackboard, hence it is important for you to visit Blackboard frequently.

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
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, etc.) 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 individual 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 for activities unrelated to the class 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. Cell phone or other internet-ready devices may be used for quizzes to access apps such as Socrative, Top Hat or other apps.

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. 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 be 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.