SCIENCE FOR LIFE
BIOLOGY 1308.W02 (Lab 1308.102)
Department of Life Sciences
Fall 2020

A. COURSE INFORMATION

Course number/section: BIOLOGY 1308.W02
Class meeting time: Lecture: (Asynchronously) M 12-12:50 [OR Synchronously F 12-12:50]
AND
Lecture: (Synchronously) W 12-12:50
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Lab: (Asynchronously) M 12-12:50 [OR Synchronously F 12-12:50]
AND
Lab: (Synchronously) W 12-12:50
This course will have two back to back Lecture (12-1) + Lab (1-2) classes each week. The Wed.
class will always be Synchronous (Live; You must attend like a regular class). The second class of
the week can be attended in two ways: Synchronously on Fri, OR Asynchronously on Mon. The
Lecture + Lab recorded on Fri will be available on Mon. I recommend you attend both
Synchronous sessions on W, F so you can ask questions in real time.

Class location: Lecture and Labs: Online

Course Website: See BlackBoard (https://bb9.tamucc.edu/)

B. INSTRUCTOR INFORMATION

Instructor: Kirk Cammarata
Office location: TH 338  (Research Lab: TH 314)
[Office Hours will be held virtually, via Webex; See BB for Links]
Office hours: T, R 8:00-10:00; R 2:00-3:30 [Email for other available times]
Telephone: 361-825-2468
e-mail: kirk.cammarata@tamucc.edu
Appointments: Email/call to check on availability at other times or to make an appt.
All communication with me via email must be through your school email address
(yourname@islander.tamucc.edu). It is your responsibility to check email frequently for important
course announcements and updates. Confidential information will not be shared to any non-TAMU-CC
email addresses.

C. COURSE DESCRIPTION

Catalog Course Description
This is a non-majors course in which students will learn basic biological principles and identify the
relevance of science in everyday life. This course is designed to increase scientific literacy by teaching
the student to understand the scientific method and the vital role it plays in society. Lab activities will
reinforce course concepts. This course does not substitute for biology (BIOL) 1406/1407 for science
majors.
General Description of the Lab:
Lecture and Lab combine to form your overall course grade (Lecture=75%; Lab=25%)

- Complementary to the lecture – meaning the material will relate to lecture but will not duplicate lecture material.
- Hands on training (via online delivery) – labs provide an opportunity for you to gain experience in the use of scientific methods and principles as applied to everyday life or contemporary societal topics.
- Topics may include cancer, viral disease, genomic medicine, nutrition, evolution, and climate change
- Concepts may include the Scientific Method, pseudoscience, validation of information, and visualizing, communicating and comprehending scientific information

D. PREREQUISITES AND COREQUISITES

Prerequisites - None
Corequisites - Each student must be registered for both lecture and laboratory sections and must attend the laboratory section for which he or she registered. Students must complete a no-cost, online course, Biological Laboratory Safety Seminar (SMTE 0091) as part of the safety instructions for laboratory activities. Students who do not complete this instruction will not be allowed to remain in the laboratory, and will irrecoverably lose all points associated with the laboratory until they complete the safety instruction.

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required Textbook(s)
  ISBN10: 1260497852
  ISBN13: 9781260497854

  Connect Master: Why Biology? is the first ever theme-based course that associates biological processes to topics relevant to students’ lives. This approach enables non-majors students to create connections, become more engaged with the content, and make informed decisions as scientifically-literate citizens.

  e-book & access purchase: $90.00

  This course requires the use of the internet, MS Word-Excel-PowerPoint, course Blackboard pages, and worldwide web to foster the technological abilities of the student. All students MUST utilize the course Blackboard and McGraw-Hill Connect account regularly. The latter requires purchase of the e-textbook+access package, and will be used for homeworks, quizzes and assignments.

Section web address: https://connect.mheducation.com/class/cammarata-biol-1308-w02

Supplies: A laboratory coat is required for laboratory. Students will need to keep notes for lecture and lab activities. A “Sharpie” marker, ruler and scissors will also be required for some lab activities.
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.

This course seeks to give students an understanding of the subject of biology by examining the subject as a component of our daily lives. The lectures will cover topics that range from the use of the scientific method, cells, DNA, reproduction, nutrition, evolution, ecology, etc. to assist in building the scientific literacy, communication, and critical thinking skills of the student. **To do well in the course, students must attend and participate in lectures and laboratory activities, read the assigned material and mentally organize information from their instructors, their readings and their laboratory work.** Students in this course will learn to:

1. Understand and correctly use the scientific method. [and to recognize correct application of it !]
2. Be able to define the word “theory” as it applies to biological science.
3. Name at least three factors that influence the statistical significance of research results.
4. Be able to correctly identify and distinguish peer reviewed research from journal articles.
5. Be able to effectively communicate scientific findings to other non-science majors.
6. Learn to effectively and respectfully communicate fact-based opinions through open discussion with peers.

G. **INSTRUCTIONAL METHODS AND ACTIVITIES**

Learning is more than just reading, taking notes, and memorizing. Reading and taking notes puts information in short-term memory where it is forgotten quickly unless you do something with it. Memorizing is important. However, memorization is only one step (often the first step) in the learning process. As university students, you should be able to link, combine, and synthesize the bits of data that you memorize into useful concepts. The instructor of this course will provide the students with: (1) information in the form of PowerPoint lecture notes posted on Blackboard, in-class lectures, videos, handouts, in-class exercises, assigned readings, hands-on exercises, quizzes and supplemental readings; (2) group activities, student projects, research, presentations; and (3) advice, supervision and guidance. The laboratories are designed to augment and promote the overall learning process. However, topics currently being covered in lecture may not always coincide with the topics currently being covered in laboratory.
H. MAJOR COURSE REQUIREMENTS AND GRADING

Your final letter grade is based on the following grade distribution.

* Lecture grade is worth 80% of your final BIOL 1308 grade; Lab grade is worth 20% of your final BIOL 1308 grade; Lecture grade will consist of 3 exams (50%) plus homeworks, quizzes and assignments (30%).

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% OF FINAL GRADE</th>
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<tbody>
<tr>
<td>3 Lecture Examinations</td>
<td>50%</td>
</tr>
<tr>
<td>Quizzes and Assignments (MHConnect, BB)</td>
<td>30%</td>
</tr>
<tr>
<td>Lab Activities</td>
<td>20%</td>
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<tr>
<td>TOTAL</td>
<td>100%</td>
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Lecture Examinations: There will be 3 exams, comprising questions primarily from the powerpoints, but also including material from lab activities. Exams will be primarily multiple choice, but may also consist of matching, short-answer, fill-in-the-blank, and making or labeling drawings. There will be Lab assignments, homework, and quizzes given in this online class. They will be due at the specified date and time. They will be assigned primarily through MHConnect, but may also be given on BB. Failure to submit your assignment using specified file types will result in a zero for that assignment. Multiple attempts are granted for submitting files for assignments in blackboard. Once those attempts are exhausted, no other attempts will be opened, and assignments will NOT be accepted by email under any circumstances. Make sure that you save your completed files in such a way that you do not upload the incorrect file to the assignment link. I recommend that you double check that you have uploaded the correct file before signing out of the program.

Quizzes:
Quizzes may be given at any time, announced or unannounced, at the beginning of class, middle of class, end of class, online, or take-home. These may be fill in the blank, multiple choice, short answer or essay questions. If you miss a quiz, it will count as a 0 and cannot be made up. Quizzes, homework, projects, and class assignment grades are combined together for the “assignment” portion grade.

There will be assignments, homework, and quizzes given in class. These may include pop quizzes, 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, all quiz, and all examination answers must be legible to the Instructor. If I cannot read it, I cannot grade it. so illegible answers and illegible papers will receive a zero (0) grade.

Letter Grades: Your final letter grade will be based on your average in lecture and laboratory. 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. Take advantage of the resources offered. 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 non-University e-mail). I will not under any circumstances discuss individual grades or grading issues during class time. If you have an issue with the way something was graded or want to know why a question was not correct, you will need to contact me during office hrs or make an appointment.

I. COURSE CONTENT/SCHEDULE

Important Dates:

August 19    Classes begin Regular Fall
August 26    Last day to late register or add a class
September 3  12th Class Day Census
September 7  Labor Day Holiday- Campus Closed
October 14-28 Mid-Term Grading
November 5   Last day to drop a class in the full term
November 12  Last day to apply for December graduation
November 24  Last day of classes
November 25  Reading Day- No Class
November 26-27 Thanksgiving Holiday- Campus Closed
November 30  Reading Day- No Class
December 2   Final Exam 8:00 AM
December 8-11 Grading days
December 12  Fall Commencement
December 14  Fall grades due at noon

FINAL EXAM    Mon December 7 (11:00 – 1:30)
<table>
<thead>
<tr>
<th>WEEK &amp; DATE (For Wed &amp; Fri Classes)</th>
<th>LECTURE TOPICS</th>
<th>ACTIVITIES (Tentative)</th>
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</thead>
<tbody>
<tr>
<td>Wk 2: Aug 26, 28</td>
<td>Scientific Method/Characteristics of Life (Cont’d) Cancer Unit: Cells and Cell division</td>
<td>Lab: Metric measurements: Connect Field Observations</td>
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<tr>
<td>Wk 3: Sept 2, 4</td>
<td>Cancer Unit: Cells and Cell division</td>
<td>Lab: Compound Microscope Connect</td>
</tr>
<tr>
<td>Wk 4: Sep 9, 11</td>
<td>Sept 7 Labor Day Holiday Cancer Unit: Cells and Cell division</td>
<td>Lab: Macromolecules Connect Discussion &amp; Review</td>
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<tr>
<td>Wk 5: Sep 16, 18</td>
<td>EXAM I (Wed Sep 16) Sickle Cell Disease Unit: Genetics &amp; DNA</td>
<td>EXAM I Library research class</td>
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<tr>
<td>Wk 6: Sep 23, 25</td>
<td>Sickle Cell Disease Unit: Genetics &amp; DNA</td>
<td>Lab: How Enzymes Work Connect</td>
</tr>
<tr>
<td>Wk 7: Sep 30; Oct 2</td>
<td>Sickle Cell Disease Unit: Genetics &amp; DNA</td>
<td>Lab 4 Lab 7 Patterns of Inheritance - Mendelian Genetics Connect</td>
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<td>Wk 8: Oct 7, 9</td>
<td>Energy drink Unit: Energy &amp; Diet</td>
<td>Lab 6 – Osmosis : Connect</td>
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<tr>
<td>Wk 9: Oct 14, 16</td>
<td>Energy drink Unit: Energy &amp; Diet</td>
<td>Food Labels &amp; Nutrition Discussion &amp; Review</td>
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<tr>
<td>Wk 11: Oct 28, 30</td>
<td>Climate Change Unit: Ecology &amp; Evolution</td>
<td>Lab 7 Photosynthesis Connect</td>
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<tr>
<td>Wk 12: Nov 4, 6</td>
<td>Climate Change Unit: Ecology &amp; Evolution Influenza A Unit: Evolution &amp; Viruses</td>
<td>Diversity</td>
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<tr>
<td>Wk 13: Nov 11, 13</td>
<td>Influenza A Unit: Evolution &amp; Viruses</td>
<td>TBA</td>
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<tr>
<td>Wk 14: Nov 18, 20</td>
<td>Influenza A Unit: Evolution &amp; Viruses Covid-19</td>
<td>Discussion &amp; Review</td>
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<tr>
<td>Wk 15: Nov 25, 27</td>
<td>No Class; Thanksgiving Holiday Nov 26 Reading Days Nov 25, 27</td>
<td></td>
</tr>
<tr>
<td>Wk 16: Mon. Dec 7</td>
<td>EXAM III (Mon Dec 7) 11:00 – 1:30</td>
<td>EXAM III</td>
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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, read email messages from BB, and regularly visit BlackBoard and MHConnect to be aware of all assignments, deadlines, and changes to such.**
The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.

**EXAM RULES:** No calculators, phones, iwatches, cameras, music or bluetooth or other digital devices are allowed anywhere in sight, including desktop, chair or floor! Put them away before entering the classroom! All Exams are the property of the Instructor as they will be saved for course records. Taking, copying, photographing or scanning of exams is forbidden and violation of this policy will result in a failing grade for the course. No one may enter an exam room once the first person has finished. Please tend to bathroom matters before exam – you will not be able to return if you leave.

For ONLINE EXAMS: Unless specified otherwise, the general policy will be that no external resources are to be accessed during exams. Exams will be offered synchronously only (during regularly scheduled Wed. class periods), and available for that specific time period only. A webcam or phone cam will be required to monitor your work. Preparation will be the key to good exam performance as there will not be time to complete the exam if you try to look up information from your notes.

**Other Course Requirements:**

1. All Exams are the property of the Instructor as they will be saved for course records. Taking, copying, photographing or scanning of exams is forbidden and violation of this policy will result in a failing grade for the course.
2. All students must access BlackBoard on a regular basis to watch for class announcements, changes, and for laboratory materials, readings, etc.

For help with access to BlackBoard, email or internet, please contact the IT Helpdesk by phone (825-2692) or electronically (computer.helpline@tamucc.edu; http://it.tamucc.edu/selfservice/index.html)

3. Attendance at lecture and lab, preparedness and participation in all learning activities is required and counts towards your participation points. Assignments cannot be made up later if absent without a recognized excuse (see below).

**J. COURSE POLICIES**

**COVID-19**

Face Coverings—Face coverings (cloth face covering, surgical mask, etc.) must be properly worn in all non-private spaces including classrooms, teaching laboratories, common spaces such as lobbies and hallways, public study spaces, libraries, academic resource and support offices, and outdoor spaces where 6 feet of physical distancing is difficult to reliably maintain. Extra masks will be made available if needed.

**Attendance/Tardiness**

Attendance is the student’s responsibility. You are responsible for the material covered in every lecture or online activity, regardless of your (lack of) attendance or participation. **Nothing** missed during an **un**excused absence can be made up. An excused absence allows us to make alternative arrangements to complete an assignment. **Only unavoidable** absences are excused. Routine events (non-emergency
medical visits, parent-teacher conferences, household or auto repairs) should be scheduled to avoid conflicts with class. Plane tickets booked to conflict with class do NOT constitute an excusable absence.  

**An acceptable excuse 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, or within 3 days of, the absence  

**Late Work and Make-up Exams**  
**Nothing** missed during an unexcused absence can be made up. An excused absence allows us to make alternative arrangements to complete an assignment. Only **unavoidable** absences are excused. Routine events (non-emergency medical visits, parent-teacher conferences, household or auto repairs) should be scheduled to avoid conflicts with class. Plane tickets booked to conflict with class do NOT constitute an excusable absence.  

**An acceptable excuse 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, or within 3 days of, the absence  

**There are No make-up examinations:** For some scheduled events, you may arrange to take a lecture exam before, but not after, its scheduled time.  

**Cell Phone Use**  
As adult university students, you are expected to act with courtesy and common sense. Disruptive, disrespectful, or abusive language/behavior towards anyone in class (student, staff, faculty) will not be tolerated and could result in permanent removal from class. This includes tardiness to class, talking in class, insubordination, and electronic disturbances (cell phones, ipods, etc). **Turn it off unless specifically being used for class.**  

**Missed Exam**  
See Above.  

**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.  

**Expectations:**  
You are responsible for your own education. Take notes in class, during lab discussions, and when completing assignments. Ask questions when you have them and seek help when you need it. The instructor is here to help you. Be aware of university-imposed deadlines (ie drop dates).  

**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.C0.03, 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 required 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.C0.03, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at [http://academicaffairs.tamucc.edu/rules_procedures/assets/13.02.99.c0.03_student_grade_appeals.pdf](http://academicaffairs.tamucc.edu/rules_procedures/assets/13.02.99.c0.03_student_grade_appeals.pdf). 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/

• Civil Rights Complaints
  Texas A&M University-Corpus Christi is committed to fostering a culture of caring and respect that is free from discrimination, relationship violence and sexual misconduct, and ensuring that all affected students have access to services. For information on reporting Civil Rights complaints, options and support resources (including pregnancy support accommodations) or university policies and procedures, please contact the University Title IX Coordinator, Sam Ramirez (Samuel.ramirez@tamucc.edu) or Deputy Title IX Coordinator, Rosie Ruiz (Rosie.Ruiz@tamucc.edu) x5826, or visit website at Title IX/Sexual Assault/Pregnancy.

  Limits to Confidentiality. Essays, journals, and other materials submitted for this class are generally considered confidential pursuant to the University's student record policies. However, students should be aware that University employees, including instructors, are not able to maintain confidentiality when it conflicts with their responsibility to report alleged or suspected civil rights discrimination that is observed by or made known to an employee in the course and scope of their employment. As the instructor, I must report allegations of civil rights discrimination, including sexual assault, relationship violence, stalking, or sexual harassment to the Title IX Coordinator if you share it with me.

  These reports will trigger contact with you from the Civil Rights/Title IX Compliance office who will inform you of your options and resources regarding the incident that you have shared. If you would like to talk about these incidents in a confidential setting, you are encouraged to make an appointment with counselors in the University Counseling Center.

• 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.