Microbiology BIOL 2421.001
Department of Life Sciences
Fall 2018  v4

A. COURSE INFORMATION

Course number/section:  BIOL 2421.001
Class meeting time:  MWF 12:00-12:50
Class location:  Lec-EN 106; Labs CS 235
Course Website:  https://bb9.tamucc.edu/

B. CO-INSTRUCTOR INFORMATION

Co-Instructors:  Gregory W. Buck, Ph.D., Assoc. Professor
                Brandi Kiel Reese, Ph.D., Asst. Professor
Office location:  GWB--Center for the Sciences 251/Tidal Hall 236 (Nov.)
                 BKR--105 Science Lab I/ Tidal Hall 241 (Nov.)
Office hours:  GWB--MW 10:00-11:15 am; TR 1:00-2:15 pm
              BKR--TR 1:00-3:00 pm
Telephone:  GWB--(361) 825-3717; BKR--(361) 825-3022
e-mail:  Gregory.Buck@tamucc.edu; Brandi.Reese@tamucc.edu
Appointments:  Preferably by e-mail (both GWB & BKR)

C. COURSE DESCRIPTION

Catalog Course Description
“An introduction to microorganisms including the bacteria, fungi, and viruses. Laboratory involves microbiological techniques and development of basic laboratory skills, or permission of instructor…Safety training given during a laboratory meeting early in the semester is required for continued participation in this course.”

Extended Course Description
This course is designed for those students majoring and minoring in Biology, Biomedical Sciences, Environmental Sciences, Biochemistry, and Chemistry, and for post-baccalaureate students seeking to fulfill pre-professional requirements.

This course will cover a detailed history of microbiology and its contributors. The major focus will be the structure, function, growth and metabolism of prokaryotes in general. Also discussed will be the control of microbes by physical, chemical and antibiotic methods. We will delve into basic genetics and Central Dogma of microbes. The course will also describe taxonomy and characterization of eight phyla within Domain Bacteria; ecology of microbes, and biogeochemical cycling; basic information of viruses and fungi.

The laboratory involves hands-on manipulation of microbes; please see the separate lab syllabus and schedule. In the first four labs, most organisms are Biological Safety Level (BSL)-
1 (less likely to cause disease) until you perfect basic techniques (aseptic technique, isolation streak of bacteria on plates, transfer bacteria from plate to broth to slant, etc.). In the second part involving biochemical characterization and rapid multi-tests, you are working with BSL-2 that can cause disease, and you are isolating organisms from soil that may cause problems. If you are allergic to molds or fungi, you may be exempted from the soil lab. Please let me and your lab TA know if you are allergic to molds or specific antibiotics, have a history of seizures, have diabetes, are pregnant or immunocompromised in any way.

Microbiology is very relevant to the science curriculum, regardless of your major; not only for medical concerns, but also safety of drinking and recreational water, food, bioremediation, and daily occurrences. Knowledge of microbiology can get you employed, by federal and state agencies (TDSHS, FDA, CDC), local municipalities (health departments, sanitation inspections, water and waste-water treatment), clinical laboratory science in hospitals, and industry (agricultural, breweries, biotechnology).

D. PREREQUISITES AND COREQUISITES

Prerequisites: BIOL 1406 with a grade of ‘C’ or above, BIOL 1407, CHEM 1311 [1411], CHEM 1312 [1412]

Corequisites: SMTE 0092—will be taken on-line. See lab schedule for details.

You cannot do any other Lab Safety course as a substitute!!

While there are no other official co-requisites, most students are concurrently enrolled in Organic Chemistry. Students should also be able to perform basic calculations (add, subtract, multiply and divide using exponents and scientific notation), understand logarithms, and basic mathematical concepts. Casual observations reveal that students with weak mathematical skills (mediocrity in College Algebra or Pre-Calculus) struggle in the course, but there is no mathematical co-requisite.

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required Textbook(s)

A textbook is required! You may choose among these recommended options below.

You are not obligated to purchase the on-line access code.

While you are free to purchase the 9th edition (Anderson, Salm, Allen), this edition is a bit simplified.


https://openstax.org/details/books/microbiology
This digital text is more for non-majors, but if you lack funds, it may help you understand the subject. American Society for Microbiology has suggested it, but not endorsed it.

Figures may be taken from Nester et al. 3rd through the 8th editions, or I may take them from *Brock Biology of Microorganisms*, 13th or 14th eds. (Madigan et al.); *Microbiology: an evolving science*, 2nd or 3rd ed., (Sloneczewski and Foster); or *Prescott Microbiology*, 7th -10th eds. (Willey et al).

Please note that instructors will obtain photographs, graphs, tables and other figures from primary journal articles and place in handouts and Power Points in order to remain current—Microbiology changes very rapidly!!

**Required Laboratory Manual (in proper CSE citation format)**


**Optional Textbook(s) or Other References (Web sites)**

Text websites: http://highered.mcgraw-hill.com/sites/0073375314/information_center_view0/ (accessed 07/13/18). The Online Learning Center for Nester is very good; it is not mandatory, and we do NOT use ARIST™ as an assessment system.


CDC: [www.cdc.gov](http://www.cdc.gov) (accessed 07/13/18)

**Supplies**

Lab coats, lab notebooks, and safety goggles.

**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.

**STUDENT LEARNING OUTCOMES AND ASSESSMENT**

By the end of this course, students should be able to achieve all outcomes at a level of ≥70%:
SLO 1: List or identify persons involved in the history of microbiology from antiquity to the present;
SLO 2: Discuss the roles and significance of microorganisms within biology, including bacteria, viruses, fungi, algae and protozoa;
SLO 3: Describe the basic elements of microbiology, including structure, metabolism, and genetics of microorganisms;
SLO 4: Perform (in the laboratory component of the course) basic laboratory skills and basic microbiological techniques, including the isolation, culture, and biochemical identification of microorganisms;
SLO 5: Sort the major categories of physical methods and of antimicrobials used in
SLO 6: Calculate (laboratory and lecture) serial dilutions, and volumes of media
SLO 7: Categorize levels of diversity within the microbial world including bacteria,
SLO 8: Examine the role of the scientific method in obtaining, critiquing, and confirming microbiological data.

G. INSTRUCTIONAL METHODS AND ACTIVITIES
The instrumental methods include lecturing but also active learning strategies (Socratic Method, “flipping,” problem-based learning, peer instruction, cooperative learning), and to question you, including sending you to the board, but you have plenty of “lifelines”!

H. MAJOR COURSE REQUIREMENTS AND GRADING
Assessments include lecture exams, questioning strategies, pop quizzes.
Three class exams of 50 questions each (100 pts each exam)=300 pts; 40% of total grade
Lab makes up 33.3% of total grade
Lab reports (8 total)—20% total grade
Lab Quizzes (minimum of 5)—3% of total grade
Laboratory TA evaluation and extra credit--5.3% of total grade

Please note that Instructor may modify assignments, number of assignments and point values depending on number of students in class. Also note that “any mid-term grades posted on S.A.I.L. and Blackboard are not official University grades, not a guarantee of final grades and are never updated; once they are posted they cannot be changed even if your grade in the class does change.”

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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<tbody>
<tr>
<td>Exams</td>
<td>66.7%</td>
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<tr>
<td>Quizzes</td>
<td>Extra credit</td>
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<tr>
<td>Homework</td>
<td>Extra credit</td>
</tr>
<tr>
<td>Presentations</td>
<td>Not done</td>
</tr>
</tbody>
</table>
I. COURSE CONTENT/SCHEDULE

Page/Chapter assignments from Nester et al. 7th or 8th ed. You can find the relevant pages for Slonczewski & Foster, *they are in italics*. I am placing the handout (HO) and Power Point (PP) on History of Microbiology (Chapt. 1) and on Fungi (Chapt. 12) directly on Blackboard. You are still responsible for History for the first and second tests, and for fungi, on the third test. Both sections will be on the final!

<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
<th>CHAPTER(S)</th>
<th>ASSIGNMENTS</th>
<th>LECTURER</th>
</tr>
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<tbody>
<tr>
<td>M Aug 27</td>
<td>Introduction, History of Microbiology</td>
<td>See Power Point</td>
<td>HO A (History); B (Koch Postul)</td>
<td>GWB</td>
</tr>
<tr>
<td>W Aug 29</td>
<td>Microbial Structure I</td>
<td>3, 16.4 (Nester) 3 (S&amp;F)</td>
<td></td>
<td>BKR GWB</td>
</tr>
<tr>
<td>F Aug 31</td>
<td>Microbial Structure II</td>
<td>3; 3</td>
<td></td>
<td>BKR GWB</td>
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<tr>
<td>M Sep 3</td>
<td>Labor Day Holiday—no class</td>
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<td></td>
<td></td>
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<tr>
<td>W Sep 5</td>
<td>Microbial Structure IV</td>
<td>3; 3</td>
<td></td>
<td>BKR GWB</td>
</tr>
<tr>
<td>F Sep 7</td>
<td>Microbial Structure V</td>
<td>3; 3</td>
<td></td>
<td>BKR GWB</td>
</tr>
<tr>
<td>M Sep 10</td>
<td>Microbial Struct. VI; Intro to Metabolism I</td>
<td>3; 3 and 2, 6 (Nester); 13, 14 (S&amp;F)</td>
<td></td>
<td>BKR GWB</td>
</tr>
<tr>
<td>W Sep 12</td>
<td>Metabolism II</td>
<td>2, 6 (Nester) 13, 14 (S&amp;F)</td>
<td>HO C (Metabolism)</td>
<td>GWB</td>
</tr>
<tr>
<td>F Sep 14</td>
<td>Metabolism III</td>
<td>2, 6 (Nester) 13, 14 (S&amp;F)</td>
<td></td>
<td>GWB</td>
</tr>
<tr>
<td>M Sep 17</td>
<td>Metabolism IV</td>
<td>2, 6 (Nester) 13, 14 (S&amp;F)</td>
<td></td>
<td>GWB</td>
</tr>
<tr>
<td>W Sep 19</td>
<td>Review</td>
<td></td>
<td></td>
<td>GWB BKR</td>
</tr>
<tr>
<td>F Sep 21</td>
<td>Exam I</td>
<td>History of Micro, Cell Structure, Metabolism</td>
<td></td>
<td>GWB BKR</td>
</tr>
<tr>
<td>M Sep 24</td>
<td>Growth of Microbes I</td>
<td>4 (Nester and S&amp;F)</td>
<td>HO D (Counts/dilutions)</td>
<td>GWB BKR</td>
</tr>
<tr>
<td>W Sep 26</td>
<td>Growth of Microbes II</td>
<td>4 (Nester and S&amp;F)</td>
<td>HO G (Media)</td>
<td>GWB BKR</td>
</tr>
<tr>
<td>F Sep 28</td>
<td>Growth of Microbes III</td>
<td>4 (Nester and S&amp;F)</td>
<td></td>
<td>GWB BKR</td>
</tr>
<tr>
<td>M Oct 1</td>
<td>Growth of Microbes IV</td>
<td>4 (Nester and S&amp;F)</td>
<td></td>
<td>GWB BKR</td>
</tr>
<tr>
<td>Date</td>
<td>Course</td>
<td>Instructor(s)</td>
<td>Location</td>
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<tr>
<td>W Oct 3</td>
<td>Control of Microbes I</td>
<td>5 (Nester and S&amp;F)</td>
<td>HO E (Chem)</td>
<td>GWB</td>
</tr>
<tr>
<td>F Oct 5</td>
<td>Control of Microbes II</td>
<td>5 (Nester and S&amp;F)</td>
<td>HO RR Rad-res bact.</td>
<td>GWB</td>
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<tr>
<td>M Oct 8</td>
<td>Control of Microbes III</td>
<td>5 (Nester and S&amp;F)</td>
<td>HO N Hist Mol Biol</td>
<td>GWB</td>
</tr>
<tr>
<td>W Oct 10</td>
<td>Genetics I: Central Dogma</td>
<td>7 (Nester and S&amp;F)</td>
<td>HO M Cent. Dogma</td>
<td>BKR</td>
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<tr>
<td>F Oct 12</td>
<td>Genetics II: Central Dogma</td>
<td>7 (Nester and S&amp;F)</td>
<td>HO Cent. Dogma</td>
<td>BKR</td>
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<tr>
<td>M Oct 15</td>
<td>Genetics III: Central Dogma</td>
<td>7 (Nester and S&amp;F)</td>
<td>HO N Hist Mol Biol</td>
<td>BKR</td>
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<tr>
<td>W Oct 17</td>
<td>Genetics IV: Gene Transfer</td>
<td>8, 9 (Nester and S&amp;F)</td>
<td>HO J Mol Tech.</td>
<td>BKR</td>
</tr>
<tr>
<td>F Oct 19</td>
<td>Genetics V: Biotech &amp;Methods</td>
<td>8, 9-Nester; 12-S&amp;F</td>
<td>HO J Mol Tech.</td>
<td>BKR</td>
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<tr>
<td>M Oct 22</td>
<td>Genetics VI: Methods</td>
<td>8, 9-Nester; 12-S&amp;F</td>
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<td>BKR</td>
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<tr>
<td>W Oct 24</td>
<td>Exam II</td>
<td>Growth, Control Central Dogma, Biotech</td>
<td>GWB/BKR</td>
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<tr>
<td>F Oct 26</td>
<td>Antibiotics I</td>
<td>21-Nester; 27-S&amp;F</td>
<td>HO 2F antibiotics</td>
<td>GWB</td>
</tr>
<tr>
<td>M Oct 29</td>
<td>Antibiotics II</td>
<td>21-Nester; 27-S&amp;F</td>
<td>HO 2F</td>
<td>GWB</td>
</tr>
<tr>
<td>W Oct 31</td>
<td>Antibiotics III</td>
<td>21-Nester; 27-S&amp;F</td>
<td></td>
<td>GWB</td>
</tr>
<tr>
<td>F Nov 2</td>
<td>Prokaryotic Taxonomy &amp; Classification I</td>
<td>10, 11-Nester; 17-S&amp;F</td>
<td></td>
<td>GWB</td>
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<tr>
<td>M Nov 5</td>
<td>Prokaryotic Taxonomy &amp; Classification II</td>
<td>10, 11-Nester; 17-S&amp;F</td>
<td></td>
<td>BKR</td>
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<td>W Nov 7</td>
<td>Prokaryotic Taxonomy &amp; Classification I</td>
<td>10, 11-Nester; 17-S&amp;F</td>
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<td>F Nov 9</td>
<td>Prokaryotic Taxonomy &amp; Classification I</td>
<td>10, 11-Nester; 17-S&amp;F</td>
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<td>BKR</td>
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<tr>
<td>M Nov 12</td>
<td>Microbial Ecology I</td>
<td>22-Nester; 21-S&amp;F</td>
<td></td>
<td>BKR?</td>
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<tr>
<td>W Nov 14</td>
<td>Microbial Ecology II</td>
<td>22-Nester; 21-S&amp;F</td>
<td></td>
<td>BKR?</td>
</tr>
<tr>
<td>M Nov 26</td>
<td>Fungi I</td>
<td>13-Nester; 20-S&amp;F</td>
<td>HO T Fungi</td>
<td>GWB</td>
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<tr>
<td>MW Nov 28</td>
<td>Fungi II</td>
<td>13-Nester; 20-S&amp;F</td>
<td></td>
<td>GWB</td>
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</tbody>
</table>

Commented [BKR1]: This is the only meeting that I could not cancel and it is for the NSF Science Technology Center that I am a part of. (My husband and MaryAlice will be coming with me). I would love to teach this topic, if I may. Would it be possible to move this the week before, or after?

Commented [BKR2]: Same
<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
<th>CHAPTER(S)</th>
<th>ASSIGNMENTS</th>
<th>DATE</th>
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</thead>
<tbody>
<tr>
<td>F Nov 16</td>
<td>Exam III</td>
<td>Antibiotics, Taxonomy, Fungi</td>
<td>GWB/BKR</td>
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<tr>
<td>M Nov 19</td>
<td>No class</td>
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<tr>
<td>W-F Nov 21-23</td>
<td>Reading Day &amp; Thanksgiving</td>
<td>No class</td>
<td></td>
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<tr>
<td>M-Dec 26</td>
<td>Viruses I</td>
<td>17.3, 21.6, 27.6 Nester; 6-S&amp;F</td>
<td>GWB</td>
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<td>M-Dec 28</td>
<td>Viruses II</td>
<td>17.3, 21.6, 27.6-nester; 6-S&amp;F</td>
<td>GWB</td>
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<tr>
<td>M-W Dec 30</td>
<td>HIV/AIDS I</td>
<td>17.3, 21.6, 27.6-nester; 6-S&amp;F</td>
<td>GWB</td>
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<td>M Dec 3</td>
<td>Microbial Ecology I</td>
<td>28-Nester; 27-S&amp;F</td>
<td>BKR</td>
<td></td>
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<tr>
<td>W Dec 5</td>
<td>Microbial Ecology</td>
<td>28-Nester; 27-S&amp;F</td>
<td>All</td>
<td>NOTE DIFFERENT TIME</td>
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<tr>
<td>M Dec 10</td>
<td>Final Exam</td>
<td>All</td>
<td>Note time 11:00 am-1:30 pm</td>
<td>GWB/BKR</td>
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</tbody>
</table>

Class Handouts:

1. HO A v6 History of Microbiology
2. HO B v2 Koch Postulates
3. HO C v18 Metabolism
4. HO D7 Dilutions and Cell Counts
5. HO E v6 Antimicrobial Chemicals
6. HO F17 Antibacterial Drugs
7. HO G v8 Bacteriological Media
8. HO J v10 Molecular Techniques
9. HO M5 Central Dogma
10. HO N v6 History of Molecular Biology
11. HO RR v3 Radiation Tolerant Bacteria
12. HO T v3 Fungi_Algae

Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor and placed on Blackboard. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.

Important Dates: F Sep 21—Exam I; W Oct 24—Exam II; F Nov 16—Exam III; F Nov 9—Last day to drop course; T Dec 4—Last day to withdraw from University
Final Exam—M Dec 10 11:00 am-1:30 pm (NOTE DIFFERENT TIME!!)
J. COURSE POLICIES

Attendance/Tardiness
Students are expected to attend every scheduled class and laboratory meeting. It is the responsibility of the student to obtain any material missed during an absence from his/her classmates. Power Points are not placed in the library, and only Power Points from certain sections (e.g., Intro to Microbiology) will be placed on Blackboard™ 9, or on a website. The US Department of Education requires that faculty take roll, but even if taking attendance is not required, with Socratic Method, Dr. Buck will know if you are in class or not. For labs, the instructor (TA) should be notified PRIOR to lab if the student will be absent (except in emergency situations). Students must attend the laboratory section for which they originally registered. “Make-up” by attending other lab sections is NOT permitted except in emergencies, only with a signed green permission slip from either Dr. Buck, Dr. Reese, Dr. Turner, or Dr. Doyungan & depending upon space in the laboratory section. Tardiness for lab is not allowed due to safety reasons. Quiz make-up in lab is not allowed.

Late Work and Make-up or Missed Exams
Late work is not accepted for either lecture work or lab reports. Missed exams are excused only per TAMU-CC guidelines; such exams are given only under EXTREME circumstances, and will be total essay.

Returning Old Exams
Students will have the opportunity to look at their graded Scantron exams usually 1-2 weeks after the exams are graded by meeting with their lab TA during their lab office hours. Students are free to write down any questions missed, but not to photograph exam questions using their smart phones or to Xerox the questions. If the TAs cannot resolve concerns regarding a particular answer, only then should a student meet with either Dr. Buck or Dr. Reese during their office hours. There is no provision for reviewing all of the old exams before the final. This course has a strict policy of not returning or providing exams to students. The rationale is that students would be at a disadvantage if old exams were given back due to student social networks, and focus on memorizing old questions rather than learning the material.

Extra Credit
A minimum of 30 pt extra credit is assured as pre- and post-test assessments. No make-ups are given for pre- and post-tests, whether absences are excused or not. Other extra credit assignments may be given at instructor or lab TA’s prerogative. Instructor or TA is not obligated to give make-up assignments for extra credit opportunities, whether excused or unexcused. The ONLY possible exception is for students with a university-approved scheduled absence. The make-up (if given) may not be the exact same assignment given to the class. We do not have to give the same number of extra credit opportunities each semester.
Cell Phone Use
DO NOT USE CAMERA PHONES IN LECTURE OR LAB. DO NOT SEND TEXT MESSAGES DURING CLASS. Please turn off all cell phones, beepers, Bluetooth devices, Palm Pilots, Black Berrys, etc., before entering the classroom, or at least place them on silent mode. Cell phones may not be used in the laboratory; we prefer that you not bring them into CS 235. Please place these in the lockers outside CS 235 (locks not provided by university). We would prefer that earpieces not be worn in lecture or laboratory. DO NOT TAKE PHOTOS of Power Point slides or videos with your cell phone camera unless otherwise instructed. Recording of lectures with recorders can only be done with permission of instructor—please see us privately.

Laptop Use
We have no problems with any student using a laptop or iPad, Surface Pro, etc., in class, as long as they are not looking at pornography, anime, videos, etc.

Food in Class
We prefer that you not eat or drink in class, but we will not throw you out or ask you to leave. NO EATING, DRINKING, application of make-up or lip balm or gum chewing is allowed in lab, however.

Participation
We expect that all members in the class will participate in the questioning, discussions, and interactions within the lecture and lab. While we do not tabulate every time you answer in class, we will have a good idea.

Others
Please see Section L—Other Information on page 11 of this document.

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)**
  We 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 the instructors, 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/) 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 instructors. 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 (please see ADA of 1990, plus amendments from 2008 [PL110-325]). Among other things, this legislation requires that all students with disabilities are 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/

If you need disability accommodations in this class, please contact the instructor as soon as possible. Disabilities Service Office will provide me an electronic letter stating that you are eligible for such accommodations. For either lecture or lab, if you have mobility problems, are pregnant, or you may have a history of seizures, please notify the instructors Privately so that assistance can be given in case of fire drills or emergencies.

- 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.

- Interrupted Exams
  If an exam is disrupted by situations such as weather, power outages, fire drills, or any event requiring evacuation in the middle of an exam, those persons who have finished their exam before the disruption will not be allowed to do a make-up exam. Those persons who did not finish their exam will have to take an exam the first day of class that faculty, staff and students are allowed to return to the building. The format of this exam may use Type K, short answer, essay, fill-in-the-blank, multiple matching, or all of the above. Students taking their exam with Disability Services do not have this option unless their exam is interrupted in the building where they took their exam.

Enrollment onto Opportunities List-Serve

All students are on the Blackboard list serve for the course, and to a second opportunities-list serve. To subscribe, send a separate e-mail to: opportunities-list-request@listserv.tamucc.edu.
Make sure that your e-mail appears in the “From” heading. In the subject heading, type “subscribe,” then send the e-mail. Next, you will receive a second message with a long set of letters and numbers in the subject line. You must also reply to that message in order to be subscribed to the list-serve. After the initial message to subscribe, to send items on the list-serve, just type opportunities-list@listserv.tamucc.edu (do NOT add – request after list). You may not receive the messages from the list-serve if your Internet service provider (Yahoo, Hotmail, Excite, Roadrunner, Grande, etc.) keep these messages from being placed in junk-mail. The University administration prefers that you use the islander.tamucc.edu accounts. At the end of the course, send an e-mail that contains your e-mail address in the “From” heading to opportunities-list@listserve.tamucc.edu. In the subject heading, type the word “unsubscribe,” then send the e-mail. We hope that students will continue to subscribe to opportunities-list@listserve.tamucc.edu!

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.

- Citation format
  Please use Council of Science Editors (CSE) format—do not use APA format! A useful link on CSE format is available at this URL: http://writing.wisc.edu/Handbook/DocCSE.html

- How to learn and succeed in BIOL 2421:
  1. Read the book before class
  2. In class, listen and take notes not on every word on every slide, but what are the main points being discussed
  3. Go back after lecture and fill in gaps of what was not understood with your text
  4. Don’t just highlight your text! Make an outline of the lecture and see if you can describe, define, compare/contrast, analyze, evaluate or justify. Do not just memorize—make connections!

GENERAL DISCLAIMER

We reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. We will announce such changes in a timely manner during regularly scheduled lecture periods.