RESEARCH & DESIGN: BIOL 4350  
Department of Life Sciences  
SUMMER II 2017

A. COURSE INFORMATION

Course number/section: BIOL 4350  
Instructional method: Face-to-Face/ Web enhanced 1-24% Online  
Class meeting time: Meeting times: T,W,R 3:00 pm -5:25pm  
Class location: Lecture: OCNR 255  
Course Website: bb9.tamucc.edu

B. INSTRUCTOR INFORMATION

Instructor: Xavier F. Gonzales, PhD, MSPH  
Office location: Engineering 310C  
Office hours: M: 11am-12:45pm; 3pm-4:45pm T,W,R: 10am-10:30am  
Telephone: 361-825-3824  
e-mail: Xavier.Gonzales@tamucc.edu  
Appointments: email me to set up appointments  
Email Responses: Only expect responses M-F from 10am-5pm.

C. COURSE DESCRIPTION

Catalog Course Description  
Course will include experimental design, literature review of a research topic and laboratory work on the research topic.

Extended Course Description  
This course provides students with a range of experiences in conducting and communicating research. Students will learn major research methods and techniques. Experiences will be gained in all stages of research: reviewing literature, writing a proposal, designing an approach, and reporting results. Critical reading/writing assignments and weekly class discussions on state-of-the-art research in Biology will provide students with major research aspects.

D. PREREQUISITES AND COREQUISITES

Prerequisites
Consent of Instructor

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required Items  
Students must purchase a lab notebook: http://www.staples.com/National-Brand-Quad-Ruled-Computation-Lab-Notebooks/product_SS1027512
Recommended Textbook(s)


F. STUDENT LEARNING OUTCOMES AND ASSESSMENT
By the end of this course, students should be able to:
1. Create their own experiments to answer scientific questions
2. Design experiments to reduce systematic and random errors and use statistics to interpret results.
3. Utilize probes and computers to gather and analyze data.
4. Utilize statistics to interpret experimental results and deal with sampling errors.
5. Treat living research subjects in an ethical fashion
6. Identify safe laboratory procedures
7. Identify and assesses relevant primary scientific literature
8. Perform scientific review of papers and presentations
9. Present scientific work in oral and written fashion
10. Apply scientific arguments in matters of social importance

G. INSTRUCTIONAL METHODS AND ACTIVITIES
Learner-Centered Teaching: Collaborative work, control of content selection, personal reflection, learning skill demonstration

Discovery based teaching

H. MAJOR COURSE REQUIREMENTS AND GRADING

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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<tbody>
<tr>
<td>In Class &amp; Online Discussion</td>
<td>15</td>
</tr>
<tr>
<td>Oral Presentation</td>
<td>25</td>
</tr>
<tr>
<td>Research Proposal</td>
<td>50</td>
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<tr>
<td>Lab Notebooks</td>
<td>10</td>
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Grading scale: A>90%  B=80-89.9%  C=70-79.9%  D=60-69%  F<60%

I. COURSE CONTENT/SCHEDULE
Please refer to the course website for an up-to-date schedule.

This course is dynamic in that we will be going through the steps of developing a research topic followed by experimental trials. As with any research, the best laid planes do not work exactly as
expected. That is the nature of research and we will have the opportunity to discuss why things did not work as planned. Our research model for this course will be the Marine Tardigrade “waterbear”. We will be coming up with various research ideas utilizing this model and following through with some of the research ideas. The primary sections that you will be assessed is participation through discussion, development of a research proposal and oral presentation. The key to having a good research idea is being able to effectively and clearly communicate to an audience in written and oral formats. The assignments listed in the course schedule are designed to help you develop your research proposal and will count towards your proposal grade.

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Items Due</th>
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<tbody>
<tr>
<td>07/05</td>
<td>Course Introduction</td>
<td></td>
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<tr>
<td>07/06</td>
<td>Asking Questions in Research</td>
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<tr>
<td>07/11-13</td>
<td>Topic Development &amp; Design</td>
<td>University Island Assignment</td>
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<tr>
<td>07/18-20</td>
<td>Implementation of Design</td>
<td>Writing Marathon Assignment</td>
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<tr>
<td>07/25-27</td>
<td>Outcome Assessment/Proposals</td>
<td>Proposal</td>
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<tr>
<td>08/01-04</td>
<td>Research Communication</td>
<td>Oral Presentations</td>
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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.

J. COURSE POLICIES

Emails
I am happy to communicate with you through emails but I do expect you to do so in a professional manner. Emails are not text messages, therefore, do not right them in that style. I expect an appropriate salutation followed by a brief explanation of the purpose of your email. I would prefer that you ask everything at once and it would be best to put all your questions in bullets to allow me to answer behind the question. Further, I do not answer emails on the weekend. Please do not send an email on Friday evening and expect a response the next day. If you sent your email during professional working hours (M-F: 9am-5pm) and it did not get answered after 24hrs it was more than likely lost in all my emails. Please resend the email.

Attendance/Tardiness
Attendance: Students are expected to attend every scheduled class. It is the
responsibility of the student to obtain any material missed during an absence from his/her classmates. Tardiness: Students may enter when late but be respectful of your peers and do not disrupt the class as you enter.

**Late Work**
No late work will be accepted. It is your responsibility to review the syllabus for when items are due. It is also your responsibility to get it turned in through the appropriate outlet on the designated day.

**Cell Phone Use**
Lecture: Students are not allowed to use cell phones in class. Students will be asked to leave the room if found using cell phones in class. If it is urgent for you to use your phone feel free to exit the room to utilize your phone.

**Laptop Use**
Lecture: Students may utilize their laptops if it does not disrupt others in class.

**Food in Class**
Lecture: Students may eat food if it does not disrupt others in class. It is the student’s responsibility to clean up after themselves. If you fail to do so, you will no longer be allowed to have food in class.

**Participation**
Lecture: Students are required to participate in all group activities. Peer evaluations will be given with each activity to determine your final assessment.

**BlackBoard and Other Electronic Resources:**
Students are responsible for visiting the course BlackBoard site regularly.

If you have never used BlackBoard before, click on Island Online on the homepage, choose BlackBoard under “Island Online Login” and then on “I am a new user” and follow the instructions. If you have any problems logging into BlackBoard, please call the Online Help Desk at x2825 (or 825-2825 from off-campus or 1-866-353-2491 for long distance).

**K. COLLEGE AND UNIVERSITIY POLICIES**
- **Academic Integrity (University)**
  It is expected that university students will demonstrate a high level of maturity, self-direction, and ability to manage their own affairs. Students are viewed as individuals who possess the qualities of worth, dignity, and the capacity for self-direction in personal behavior.
  See Full University Policy at http://catalog.tamucc.edu/content.php?catoid=10&navoid=313#Academic_Integrity
• **Classroom/Professional Behavior**
  Texas A&M University-Corpus Christi, as an academic community, requires that everyone 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.

• **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 by July 24, 2017. No student is eligible to receive a W without completing the official drop process by this deadline. Visit the Office of the University Registrar for the Course Drop Form that must submitted. After July 24, 2017, a student will not be allowed to drop a course.

• **Grade Appeals (College of Science and Engineering)**
  As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at [http://www.tamucc.edu/provost/university_rules/index.html](http://www.tamucc.edu/provost/university_rules/index.html), and the College of Science and Engineering Grade Appeals webpage at [http://sci.tamucc.edu/students/GradeAppeal.html](http://sci.tamucc.edu/students/GradeAppeal.html). For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

• **Disability Services**
  The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office
for assistance at (361) 825-5816.

http://disabilityservices.tamucc.edu/

- **Statement of Academic Continuity**
  In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue using 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**

Have a great semester and enjoy your journey to discover new knowledge

**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 and within Blackboard.