I. COURSE: Marine Botany 4 semester hours (3:3)
T-R 9:30-10:45 Room CS 115
Laboratory: M 1-3:50 Room CS 240
Laboratory: R 1-3:50 Room CS 240

II. FACULTY: Dr. Roy L. Lehman CS 247
Phone: 825-5819 roy.lehman@tamucc.edu
Office Hours: TWR 8-9; TWR 11-12
Additional Hours Are Available by Appointment

III. COURSE DESCRIPTION:

The course includes studies into the ecology, community structure and environmental characteristics of marine plants. The coastal waters of the Gulf of Mexico are a valuable national and regional resource. In order to safeguard that resource, we need to know and study the biological components of the marine and estuarine waters of that region. Marine plants form the base of the food chain within the environment and may be the first indicator of possible ecological problems. The emphasis in the class will be directed towards the identification of common marine plants, their habitat structure, the study of life histories and the environmental factors affecting the ecology of the marine plants.

IV. TEXTBOOK:

Required:

V. STUDENT LEARNING OUTCOMES:

The student will:

* describe the ecological and environmental properties which effect the growth, physiology and distribution of marine plants.

* list the characteristics, environmental factors and composition of each of the major marine plant communities.
*differentiate between the divisions of marine plants.

*evaluate and describe human influences on marine plant environments.

*discuss and explain methods of management of marine plant systems.

VI. COURSE REQUIREMENTS AND GRADING CRITERIA:

**Academic Integrity/Plagiarism**
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.

**Dropping a Class**
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 me before you decide to drop to be sure it is the best thing to do. 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. November 7, 2014 is the last day to drop a class with an automatic grade of “W” this term.

**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 (can be in place of classroom/professional behavior)**
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.
**Grade Appeals (College of Science and Engineering Version)**

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 [http://www.tamu.cc/provost/university_rules/index.html](http://www.tamu.cc/provost/university_rules/index.html) and the College of Science and Engineering Grade Appeals webpage ([http://sci.tamu.cc/students/GradeAppeal.html](http://sci.tamu.cc/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.

**Disabilities Accommodations**

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 or visit Disability Services at (361) 825-5816 in Corpus Christi Hall 116.

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

**Statement of Academic Continuity**

In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

**Required Equipment/Materials for the class/laboratory/field trips:**

<table>
<thead>
<tr>
<th>Plant Press</th>
<th>Dissecting Kit</th>
<th>Pocket Knife</th>
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</thead>
<tbody>
<tr>
<td>Nylon/Rayon Material</td>
<td>Field Notebook</td>
<td>Zip Loc Bags</td>
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</tbody>
</table>
LABORATORY REQUIREMENTS

**REQUIREMENT**  
**VALUE**

1. Students will collect and curate samples of algae/marine plants from various habitats each week. One-half of the project (slides and/or herbarium mounts) is due by the end of laboratory session on either October 20 or 23, 2014 depending upon your laboratory schedule. (All of A & B are due on December 1, 2013 by 5 pm)

   A. Students will prepare 20 microscope slides (mounts) showing different marine algal structures .............................................................. 200
   
   B. Students will prepare 25 herbarium mounts of marine plants ...................................... 200
       Rhodophyta = 7; Phaeophyta = 4; Chlorophyta = 4;
       Halophytes (flowering = + points) = 6; Seagrasses = 4

2. Student quizzes ........................................................................................................... 30

3. Students will complete two laboratory exams
   (100 points each)...................................................................................................... 200
   **TOTAL:** .................................................................................................................. 630

VII. COMPONENTS OF COURSE GRADE:

<table>
<thead>
<tr>
<th>REQUIREMENT</th>
<th>VALUE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lecture Examinations (3) (includes the final)</td>
<td>200</td>
<td>600</td>
</tr>
<tr>
<td>(10/9; 11/13; 12/7)</td>
<td></td>
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<tr>
<td>2. Laboratory Exams (2)</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>3. Laboratory Quizes</td>
<td>30</td>
<td>30</td>
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<tr>
<td>4. Laboratory Projects (2)</td>
<td>200</td>
<td>400</td>
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<tr>
<td><strong>TOTAL:</strong> ......................................................</td>
<td></td>
<td><strong>1,230</strong></td>
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</table>

**FINAL GRADE:** Total Number of points \( = 1,230 \) = FG (%)

**FINAL EXAMINATION DATE:** December 9, 2014 (8-10:30)
VIII. LECTURE TOPIC OUTLINE

A. INTRODUCTION
   1. Marine Plants and their Environment
   2. History of Phycology in the Gulf of Mexico (Overview)

B. ECOLOGICAL AND ENVIRONMENTAL PROPERTIES
   1. Geological Factors and Descriptions
   2. Hydrological (Physical) Factors
   3. Chemical Factors
   4. Ecology and Geographic Distribution
   5. Marine Plant Physiology

C. THE ALGAE
   1. Cyanophyta
   2. Chlorophyta
   3. Phaeophyta
   4. Rhodophyta
   5. Chrysophyta
   6. Pyrrophyta
   7. Cryptophyta/Euglenophyta

D. MARINE PLANT COMMUNITIES
   1. Salt Marsh Communities
   2. Seagrass Communities
   3. Lithophytic Communities
   4. Mangrove Communities
   5. Coral (Biotic) Reefs
   6. Phytoplankton Communities
   7. Marine Fungi and Bacteria

E. HUMAN INFLUENCES ON MARINE PLANT ENVIRONMENTS
   1. Marine Pollution
   2. Effects of Dredging
   3. Biocides and Heavy Metals
   4. Utilization of Marine Plants

F. MANAGEMENT SUGGESTIONS AND DISCUSSIONS
IX. LABORATORY/FIELD TRIP TOPIC OUTLINE: “TENTATIVE”

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Lab #</th>
<th>Topic Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/4 &amp; 9/8</td>
<td>Lab # 1</td>
<td>Introduction/Laboratory Techniques</td>
</tr>
<tr>
<td>9/11 &amp; 9/15</td>
<td>Lab # 2</td>
<td>Salt Marsh/Blind Oso Bay</td>
</tr>
<tr>
<td>9/18 &amp; 9/22</td>
<td>Lab # 3</td>
<td>Sea Grasses/Upper Laguna Madre Plants/Seaweeds</td>
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<tr>
<td>9/19-9/20</td>
<td>Lab # 4</td>
<td>Field Trip to Laguna Madre Field Station; Fri-Sat</td>
</tr>
<tr>
<td>9/25 &amp; 9/29</td>
<td>Lab # 5</td>
<td>Sea Grasses/Upper Laguna Madre Plants/Seaweeds</td>
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<tr>
<td>10/2 &amp; 10/6</td>
<td>Lab # 6</td>
<td>Lithophytic Communities</td>
</tr>
<tr>
<td>10/3-10/4</td>
<td>Lab # 7</td>
<td>First Laboratory Examination</td>
</tr>
<tr>
<td>10/9</td>
<td>Lab # 8</td>
<td>Field Trip to Laguna Madre Field Station; Fri-Sat</td>
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<tr>
<td>10/13 &amp; 10/16</td>
<td>Lab # 9</td>
<td>Lithophytic Communities</td>
</tr>
<tr>
<td>10/17 &amp; 10/18</td>
<td>Lab # 10</td>
<td>Laboratory Project first half due.</td>
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<tr>
<td>10/20 &amp; 10/23</td>
<td>Lab # 11</td>
<td>Laboratory Project Work Day</td>
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<tr>
<td>10/27 &amp; 10/30</td>
<td>Lab # 12</td>
<td>Laboratory Project Work Day</td>
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<tr>
<td>11/3 &amp; 11/6</td>
<td>Lab # 13</td>
<td>Final Laboratory Examination</td>
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<tr>
<td>11/10 &amp; 11/13</td>
<td>Lab # 14</td>
<td>Final Project Due</td>
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<td>11/17</td>
<td>Lab # 15</td>
<td>Final Project Due</td>
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<tr>
<td>1/20 &amp; 11/24</td>
<td>Lab # 16</td>
<td>Final Project Due</td>
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<tr>
<td>12/1</td>
<td>Lab # 17</td>
<td>Final Project Due</td>
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</table>