I. COURSE: BIOL. 4409 Field and Sampling Techniques
Lecture M-R 8-9:55 TBA
Laboratory: M-R 10-11:55 TBA

II. FACULTY: Dr. Roy L. Lehman CS 247
Phone: 825-5819 roy.lehman@tamucc.edu

III. COURSE DESCRIPTION:

The study and practice of techniques for safe and sound field work in the sciences.
The course of study includes safety, logistics, equipment operation and maintenance. The operation of small boats, navigation and seamanship is a primary component of the class. The scientific focus will be on methods of ecological and environmental sampling.

IV. TEXTBOOK:
Required:

V. COURSE OBJECTIVES AND COMPETENCIES:

The student will:
• successfully complete a course of safety instruction including first aid, CPR, boating and travel safety.
• utilize proper operational and maintenance procedures in the handling of small equipment, vehicles and boats.
• describe the techniques and methods used to set-up, maintain, care, and take-down field camps.
• describe the methods of map interpretation and the use of the compass and GPS.
• describe techniques of field sampling, use of photography and proper field note taking skills.
• plan and undertake a field trip including logistics and budget planning.
VI. COURSE REQUIREMENTS AND GRADING CRITERIA:

Evaluation is ongoing to enhance experimental learning, providing the student with feedback about performance in meeting the course objectives. Conferences with the faculty provide opportunities to discuss progress toward the course objectives. Grading is a process of measuring the outcome of learning against standards and assigning a symbol to the level of performance achieved.

All students are expected to conform to college-level standards of ethics, academic integrity, grammar and spelling. In particular, you should review pages 24-67 of the 2008-2009 A&M-CC catalog. Except in cases where prior arrangements have been made with the instructor, there is no provision for making up late work and/or missed quizzes or exams. All excuses MUST be recorded with the professor by e-mailing information including the student’s name, class, date, time and reason for the absence. Two or more absences from class/field activities may result in an unsatisfactory grade for the class.

Disability and Veterans’ Services: Texas A&M University-Corpus Christi is committed to providing persons with disabilities an equal opportunity to access campus facilities, resources and programs. 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. Support and accommodations are also available for returning veterans who experience cognitive and/or physical access issues in the classroom or on campus. Our Office of Disability Services arranges such support and academic accommodations. To make a request, or for more information, call (361) 825-5816 or visit Driftwood 101. It is important to contact the Office of Disability Services in a timely fashion as it will take time for them to review requests and prepare accommodations and accommodation letters.

Grade Appeals: As stated in the Texas A&M University-Corpus Christi University Rules and Procedures (Section B [Academic Program], Part 13 [Students]: 13.02.99.C2 [Student Grade Appeals] and 13.02.99C2.01 [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 on 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, consult the University Rules and Procedures specified above (accessible through the University Rules and Procedures website at http://www.tamucc.edu/provost/university_rules/index.html). For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.

This is a field course and all field trips are mandatory!!

<table>
<thead>
<tr>
<th>Required Equipment/Materials for the class/field trips</th>
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<tbody>
<tr>
<td>Sunglasses</td>
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<tr>
<td>Hat</td>
</tr>
<tr>
<td>Pocket Knife</td>
</tr>
<tr>
<td>Sunscreen</td>
</tr>
<tr>
<td>Field Notebook</td>
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<tr>
<td>Closed-Toed Field Shoes</td>
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VII. COMPONENTS OF COURSE GRADE:

<table>
<thead>
<tr>
<th></th>
<th>VALUE</th>
<th>TOTAL</th>
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</thead>
<tbody>
<tr>
<td>1. Lecture Examination (3)</td>
<td>100</td>
<td>300</td>
</tr>
<tr>
<td>2. Laboratory/Field Evaluation</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td><strong>800</strong></td>
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**FINAL GRADE:** Number of points earned ÷ 800 = FG (%)

VIII. LECTURE TOPIC OUTLINE “TENTATIVE”

A. Introduction 7/9
B. Boat Operation and Requirements 7/9 – 7/12
   1. Equipment Requirements and Recommendations
   2. Boating Terminology
   3. PFD Requirements
   4. Required Safety Equipment
   5. Safety Equipment Checklist

Techniques of Safe Boating 7/11 – 7/12
   1. The Float Plan
   2. Piloting and Navigation
      a. Rules of the Road
      b. Buoys & Markers
      c. Lights

D. Boating Emergencies 7/12
   1. Fire Safety
   2. Man Overboard Procedures
   3. Fueling Precautions
   4. Foul Weather Handling
   5. Distress Signals
   6. Disabled Boat

E. Knots & First Examination 7/16
   Engine Starting & Techniques Exam #1 7/16
F. Weather & Boating 7/16
   a. Cloud Types
   b. Weather Fronts
   c. Wind
   d. Air Masses & Pressure
   e. Fog
   f. Thunder & Lightning
   g. Weather Maps

G. Seamanship Skills 7/18
H. Boat Trailers & Launching 7/23
   Trailer Techniques-Parking Lot
I. Vehicle Operation and Maintenance 7/23
   Trailer Bearing Maintenance
   1. Motor Maintenance
   2. Power Train Maintenance
   3. Electrical System Maintenance
4. Chassis Maintenance
L. The Nautical Chart & Topographic Maps 7/30 - Exam #2
K. General Equipment Operation and Maintenance 7/30
   a. Camping Equipment
   b. Gas Stoves and Lights
   c. Tent Maintenance
   d. Drinking Water Purification
   e. Waste Management
M. Wilderness First Aid 8/1
N. Field Camp Safety, Procedures and Activities 8/2-3
O. Ecological and Environmental Equipment Usage 8/2-3
   1. Sampling Methods & Ecological Measurements
   2. Plant Sampling Methods
   3. Terrestrial Organisms
   4. Aquatic Sampling
      a. Benthos
      b. Plankton
      c. Nekton
      d. Chemical Measurements
P. Field Notes Taking Skills 8/6
Q. Field Experience 8/2-3

EXAMS: “TENTATIVE”
7/16, 7/30 & 8/9

FIELD DAYS: “TENTATIVE”
7/17
7/19
7/24
7/26
7/31
8/2-3 – Field Experience & Begin Final Evaluation
8/7 – Final docking exam