Texas A&M University – Corpus Christi
May 2014
COURSE: Biology 5590 Field Biology (4 SCH)
Location and Time: TBA

Instructor: Dr. Lee Smee and Dr. Kirk Cammarata
Email: lee.smee@tamucc.edu; kirk.cammarata@tamucc.edu
Phone: x3637 or 825-3637; x2468 or 825-2468
Office: Eng 314F; Eng 319B
Office Hours: TBA

Please note that you are welcome to come by at any time, but scheduling an appointment (or calling or emailing ahead of time) will ensure that I will be available when you come by! Be sure to contact us with your school email address (yourname@islander.tamucc.edu). We will communicate with you via this email address so you must setup this account and check it regularly.

COURSE DESCRIPTION:
Field Biology is a hands-on course designed to teach students key concepts by immersing them in nature. Topics include adaptations of plants and animals in different habitats, food web interactions, and how biotic and abiotic forces interact to structure natural communities including spatial and temporal variation in communities.

TEXTS/SUPPLIES:
Assigned readings will be from peer-reviewed literature and provided electronically by Dr. Smee. No textbooks are required.

STUDENT LEARNING OUTCOMES:
- Students will learn how species adapt to different habitats and the biotic and abiotic conditions present in them through observation and reading
- Students will develop an understanding of the current status of ecological knowledge about the food webs in different habitats and design hypothetical experiments to further this knowledge
- Students will demonstrate basic knowledge of the species present in terrestrial and aquatic habitats common to the US and be able to identify them using common names
- Students will demonstrate how to use common methods and tools for studying field biology in terrestrial and aquatic systems
- Students will measure biodiversity in multiple habitats using common methodology, analyze these findings, and create a report evaluating how biodiversity changes with abiotic conditions (e.g. moisture), climate, and human activity
- Students will create a lecture on convergent evolution that discusses how a community observed on the field trip is similar and different to a similar community in a different location
- Students will demonstrate proficiency in statistically analyzing biodiversity data collected by including a special section in their lab report
ATTENDANCE
Attendance is mandatory. All students are expected to attend all classes and field trips. Participation is part of the grade, and, due to the nature of the course, absences are not permitted and make-up work not allowed. Extraordinary circumstances will of course be considered.

GRADE COMPUTATION:
- Final Comprehensive Exam: 200
- Field Journal: 100
- Summary Paper: 100
- Class Seminar: 100
- Evolution Lecture: 100
- Lab Report: 200
- Participation: 200
- Total: 1000

GRADING SCALE: 90 % ≥ A  80 % ≥ B  70 % ≥ C  60 % ≥ D  59.9 % ≤ F

ACADEMIC INTEGRITY
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 either an assignment grade of zero, or an outright failure of the course, as determined by the sole discretion of the Instructor.

ACADEMIC DISHONESTY (CHEATING)
Cheating in any form will absolutely not be tolerated. This includes asking for or providing help on an exam or paper, plagiarism, or basically doing anything that substitutes one person’s work for another’s. Cases of academic dishonesty will be dealt with severely. Students caught cheating will receive a grade of ‘F’ for the course and the offense will be reported to the student affairs office. All parties involved will receive a failing grade for the course.

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.

**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. May 23 is the last day to drop a class with an automatic grade of “W” this term.

**TUTORING AND TEST-TAKING STRATEGIES:**
To be successful in this course, and most others, you must develop good note-taking skills, organization skills, study habits, and test-taking strategies from the very beginning. Your lecture and lab instructors are always available for help, but don’t wait until it’s too late! It is important that you are aware that the Tutoring and Learning Center in Room 216 of the library (825-5933) provides free tutoring, test-taking strategies, and extra help. **Take advantage of this service!** The center has copies of the text and CD-ROM and is an invaluable source for help. In addition, tutors may be set up for this class specifically and a schedule with times and location will be placed on the website at the beginning of the semester. If you have test anxiety, stress problems, or need help with study skills, the University Counseling Center (University Center, 825-2703) also provides a free service.

**ACADEMIC ADVISING:**
As soon as students are ready to declare a major, they should meet with an Academic Advisor. The Academic Advisor will guide the student through the requirements of the major, including developing and maintaining the student’s degree plan and directing the student to an appropriate Faculty Mentor. Academic Advisors for the College of Science & Technology are located in the Faculty Center, room 178, (361) 825-6094.

**GRADE APPEALS**
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 (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.

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.

COURSE OUTLINE AND IMPORTANT DATES

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>14-May</td>
<td>Course overview, hand out syllabus, go over expectations</td>
</tr>
<tr>
<td>15-May</td>
<td>Travel to Fort Davis, TX</td>
</tr>
<tr>
<td>16-May</td>
<td>Tour Davis Preserve/Nature Conservancy; learn biodiversity assessment techniques</td>
</tr>
<tr>
<td>17-May</td>
<td>Tour Davis Mtns. State Park, elevation lecture, hike, tour UT Observatory</td>
</tr>
<tr>
<td>18-May</td>
<td>Travel to Carlsbad, tour Carlsbad Caverns, lecture on cave ecology and local adaptation</td>
</tr>
<tr>
<td>19-May</td>
<td>Tour Carlsbad State Park, lecture on high desert ecosystem, cave tour at night</td>
</tr>
<tr>
<td>20-May</td>
<td>Guadalupe Mtns. National Park, Hike McKittrick Canyon – oasis tour, speciation lecture</td>
</tr>
<tr>
<td></td>
<td>Guadalupe Mtns. National Park, Hike Guadalupe Peak, discussion of elevation effects on</td>
</tr>
<tr>
<td>21-May</td>
<td>vegetation, measure biodiversity at different elevations</td>
</tr>
<tr>
<td>22-May</td>
<td>Free Day – TBD with student interest</td>
</tr>
<tr>
<td>23-May</td>
<td>Return to TAMU-CC</td>
</tr>
<tr>
<td>24-May</td>
<td>Memorial Day Holiday</td>
</tr>
<tr>
<td>25-May</td>
<td>Memorial Day Holiday</td>
</tr>
<tr>
<td>26-May</td>
<td>Memorial Day Holiday</td>
</tr>
<tr>
<td>27-May</td>
<td>Class Meeting/Discuss Assignments/Group Work – Grad students do evolution lecture today</td>
</tr>
<tr>
<td>28-May</td>
<td>Lab Report Due</td>
</tr>
<tr>
<td>29-May</td>
<td>In class seminars /Final Exam Review</td>
</tr>
<tr>
<td>30-May</td>
<td>Final Examination</td>
</tr>
</tbody>
</table>

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.
Lab and Hands-On Field Activities:

Students will use point-center-quarter, transect, and plot measurements to estimate plant diversity in desert environments. Each day, students will spend ~2 hr making these measurements, and then comparing biodiversity as a function of abiotic conditions. Specific focus will be comparing different sampling methods, understanding appropriate experimental designs, understanding sampling limitations, understanding importance of scale (alpha, beta, gamma diversity), and differences between various calculations of diversity (e.g., Shannon vs. Simpson indices). Students will report their methodology, analysis and interpretations of the data on their final laboratory report due at the end of the course. In addition, graduate students will have to demonstrate proficiency in statistical analysis for these data using multivariate and univariate analyses and discuss differences in interpretations.