Down the River: Biology of Gulf Coast Fishes- BIOL4590/MARB 6590
Department of Life Sciences
Maymester 2018

A. COURSE INFORMATION

Course number/section:  BIOL4590/MARB6590
Class meeting time:  9:00 am – 5:00 pm
Class location:  Biodiversity Research and Teaching Collection
         Texas A&M University, College Station
Course Website:  https://bb69.tamucc.edu

B. INSTRUCTOR INFORMATION

Instructor:  David Portnoy
Office location:  HRI 213D
Office hours:  NA
Telephone:  825-2859
e-mail:  david.portnoy@tamucc.edu
Appointments:  NA

C. COURSE DESCRIPTION

Catalog Course Description

This two week course covers aspects of ecology and biogeography of riverine and estuarine
fishes while exposing students to field sampling techniques and museum preparation of
specimens. Seven days will be spent sampling the Guadalupe and San Antonio river
drainages from their headwaters to San Antonio Bay. A second week will be spent at the
Biodiversity Research and Teaching Collection (BRTC) at Texas A&M University, College
Station where students will participate in lectures and discussion, as well as museum
preparation and archiving of specimens. This will be a unique opportunity for students to
gain an in-depth understanding of the biological complexity of Texas Gulf Coast river
systems while gaining hands-on experience in field and museum ichthyological techniques
that are employed by state, federal and academic researchers alike. In addition, this service
learning experience will contribute directly to the Collection of Fishes at the BRTC, the
largest collection of vertebrates in Texas. This is an intensive course and students should
expect 8 hours per day in the field and museum. There will be a course fee of $570 ($210 per
student to stay in CS, $150 for transport, $105 for camping fees and $105 for food which
will be provided throughout the field component of the course. Students need to be prepared
to camp during the first week of the course (which will take place in the field) and stay in
dormitory style accommodations (at Texas A&M University in College Station) during the
second week of the course. 3 semester hours.

D. PREREQUISITESTES AND COREQUISITES

Prerequisites
A strong background in zoology will be needed for this course, therefore BIOL 3414 or a similar course is a prerequisite. This course requires instructor permission.

Corequisites
There are no corequisites

E. **REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES**

**Required Textbook(s)**
There are no required texts

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

**Supplies**

Students are required to supply their own tents, sleeping bags, comfortable shoes for hiking, waders and linens for dormitory style housing. Students will also need to provide their own transportation to and from college station. The class will leave for Edwards Plateau on the morning of May 13 from the BRTC in College Station. An organizational meeting will be held with enrolled students and the instructor, prior to class, to coordinate car-pooling and arrangements for camping

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.

By the end of this course, students should be able to:

1. Successfully operate common items of ichthyological sampling equipment (e.g., seines, dip nets and backpack electroshocker) to collect fishes as evidenced through fieldwork
2. Name and identify the major external anatomical features of fishes
3. List the major characteristics of different groups (genera, families and orders) of fishes found in Texas
4. Use external anatomical features to identify different species of fishes inhabiting Texas to the level of genus in the field (without the aid of a microscope).
5. Use a key successfully to identify the different species of fishes inhabiting Texas to the level of species in the laboratory (with the aid of a microscope).
6. Explain the terms endemism, vagility, diadromy, euryhaline and stenohaline using examples from the Texas ichthyofauna.
7. Explain current anthropogenic threats to both marine and freshwater fishes using examples from the Texas ichthyofauna.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

This course will be composed of two main parts. The first part involves extensive field work on the Guadalupe and San Antonio river drainages. During this time students will learn concepts primarily through experiential learning in the field. The second part involves experiential learning at the BRTC but will also include a combination of lecture, student-led discussion, and paper reading.

H. MAJOR COURSE REQUIREMENTS AND GRADING

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
<th>% of FINAL GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Undergrad</td>
<td>Grad</td>
</tr>
<tr>
<td>Field Participation</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Museum Participation</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Practical Exam</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Group Written Report</td>
<td>25</td>
<td>15</td>
</tr>
<tr>
<td>Graduate Student Presentation</td>
<td>NA</td>
<td>10</td>
</tr>
</tbody>
</table>

I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>13th May</td>
<td>Meet at BRTC (1pm). Pack equipment. Travel to Mo Ranch, near Hunt. Set up camp.</td>
<td>n/a</td>
</tr>
<tr>
<td>14th May</td>
<td>Sample Edwards Plateau streams and rivers in vicinity of Hunt (~4 sites).</td>
<td>n/a</td>
</tr>
<tr>
<td>15th May</td>
<td>Pack up camp at Mo Ranch (early morning). Travel from Hunt to Gonzales. Sample streams and rivers along route (~3 sites). Set up camp at Gonzales</td>
<td>n/a</td>
</tr>
<tr>
<td>16th May</td>
<td>Sample streams and rivers in vicinity of Gonzales (~4 sites)</td>
<td>n/a</td>
</tr>
<tr>
<td>17th May</td>
<td>Pack up camp at Gonzales (early</td>
<td>n/a</td>
</tr>
</tbody>
</table>
morning). Travel from Gonzales to Coleto Creek. Sample streams and rivers along route (~3 sites). Set up camp at Coleto Creek.

18th May  
Sample streams, rivers and estuaries in vicinity of Victoria (~4 sites)  
n/a

19th May  
Pack up camp at Coleto Creek (early morning). Travel from Coleto Creek to College Station. Sample streams and rivers along route (~2 sites). Return equipment to BRTC.  
n/a

20th May  
Laboratory at BRTC. Sorting and identification of fishes 1:00-5:00pm. Morning free  
Hubbs et al. (2008); McEachran & Fechhelm (1998)

21st May  
Laboratory at BRTC. Sorting and identification of fishes 9:00-12:00pm, 1:00-5:00pm.  
Hubbs et al. (2008); McEachran & Fechhelm (1998)

22nd May  
Laboratory at BRTC. Sorting and identification of fishes 9:00am-12:00pm; Grad student presentations 2:00pm-5:00pm.  
Hubbs et al. (2008); McEachran & Fechhelm (1998)

23rd May  
**Final Class exam: 9:00am-12:00pm. Synthesis document to be turned in by 5pm.**  
n/a

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

#### Attendance/Tardiness
Attendance is not taken but participation is graded. Therefore, both tardiness and lack of attendance are likely to negatively impact grades.

#### Late Work and Make-up Exams
A note is required to excuse students from all graded in class work. Students will be given a chance to make-up the work but it must be done in a timely manner.

#### Extra Credit
Extra credit may be available at the instructors’ discretion.

#### Cell Phone Use
Please refrain from using cell phones in class, this include texting, tweeting, posting or any other such shenanigans

**Laptop (Tablet) Use**
Laptop use in class is permitted as long as the student is using it to facilitate the learning process. Appropriate uses include; taking notes, looking up materials during discussion and looking at relevant papers. Inappropriate uses include; checking email, looking at Facebook and playing Hello Kitty Island Adventure. If a student continually abuses the privilege of using a laptop in class they will be asked not to use it any more.

**Food in Class**
Eating in class is not prohibited unless it proves disruptive.

**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)**

The grade of W will be assigned to any student officially dropping a course. Please consult with the instructor before you decide to drop to be sure it is the best thing to do. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Should dropping the course be the best course of action, visit the Office of the University Registrar for the Course Drop Form that must be submitted. No student is eligible to receive a W without completing the official drop process by this deadline. Please consult the Academic Calendar ([http://www.tamucc.edu/academics/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 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/](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 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.

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.

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.