BIOLOGY 4404 ICHTHYOLOGY
Fall 2017

Lectures:  MW 10:50 a.m. -12:05 p.m. – ESWOT 1.403  Lab: Tuesday 1:40-4:20 p.m. – SCNE 2.260

Instructor:  Dr. Christopher Taylor  Office:  SCNE 3.128
Telephone: (956) 665-3758  e-mail: christopher.taylor@utrgv.edu
Office Hours:  By Appointment or MTW 2-4pm

Text:  *The Diversity of Fishes* by Helfman, Collette and Facey
       *Fishes: An Introduction to Ichthyology* (5th Edition) by Moyle and Cech

Laboratory Guides:
  a)  *An Annotated checklist of the freshwater fishes of Texas, with keys to identification of species*  
  by Hubbs, Edwards and Garrett—a free download of this is in Blackboard (in Course Materials).

  b)  *Fishes of the Gulf of Mexico* by Hoese and Moore.

  c)  *Freshwater Fishes of Texas* by Thomas, Bonner & Whiteside

All books are suggested and will be useful, but I do not require you to buy any book. If you do,  
bring your guides to laboratories when we are identifying specimens.

FOR FIELD WORK YOU WILL NEED:
  a) tennis shoes that can get wet and dirty.
  b) old clothes that can get wet and dirty.

FORMAT OF COURSE:
  a) 2 lectures per week on a variety of topics relating to:
     1) The science and field of Ichthyology
     2) Texas fishes, with emphasis on local forms
     3) Endangered and Threatened fishes, especially in Texas
     4) Selected current research topics

  b) 1 three hour laboratory per week:
     1) Survey of Lower Rio Grande Valley Fishes
     2) Tools and measurements for ecological (field) studies on fish populations.

  Note: When we have a Saturday field trip scheduled, we will not hold lab that week

Writing assignments:
  a)  **Review paper** -- 7-15 pages; on any subject related to a scientific aspect of fishes, in the broadest sense. You can choose from the Topics list or pick a subject on your own. If you would like I can also give you suggestions. See me first if you are in doubt about your topic. (20% OF COURSE GRADE).

    Due Wednesday, November 15

  b)  **Lab Report** -- "A Survey of Lower Rio Grande Valley Fishes"

    Due Wednesday, December 6
EXAMS:
   a) Midterm exam - essay format – October 18
   b) Final exam (2nd midterm) - essay format - TBA
   c) Lab exam -- identification of local fishes – November 29

Summary of gradable events:

| Date      | Event                        | Percentage
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<tbody>
<tr>
<td>Oct. 18</td>
<td>Mid-term exam</td>
<td>20%</td>
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<tr>
<td>Nov. 15</td>
<td>Review paper</td>
<td>15% (-5% per day late)</td>
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<tr>
<td>Nov. 28</td>
<td>Lab exam</td>
<td>20%</td>
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<tr>
<td>Dec. 6</td>
<td>Lab report</td>
<td>20% (-5% per day late)</td>
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<tr>
<td>TBA</td>
<td>Final Exam</td>
<td>20%</td>
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<td>Participation and attendance</td>
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<td>5%</td>
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DATES TO REMEMBER:

August 28     First day of classes
August 31     Last day to add a course or register for fall 2017
September 4   Labor Day – NO classes
November 15    Last day to drop a course; will count toward the 6-drop rule
November 23 – 26 Thanksgiving Holiday – NO classes
December 6     Last day of classes
December 7     Study Day – NO class
December 8 -14 Fall 2017 Final Exams
December 15-16 Commencement Ceremonies

TYPICAL LECTURE TOPICS IN ICHTHYOLOGY

1. Hybridization in fishes
2. Morphological variation
3. Genetic interaction between species
4. Classification of fishes
5. Morphological adaptations
6. Reproductive strategies
7. Migrations--salmons
8. Migrations--eels
9. Marine fish distribution
10. Freshwater fish distribution
11. Texas fish distribution
12. Ancient Fishes -- the coelacanth story
13. Behavior--feeding, territories, schooling
14. Behavior--reproductive
15. Perturbations/Species Introductions
16. Coastal fishes
17. All female species (uniparental populations)
18. Parasitic fishes
19. Fecundity in fishes/Age and growth
20. Sound production/ Sensory physiology
21. Energy and ecology of aquatic environments
22. Community ecology of fishes
23. Salinity preferences
24. Reservoir fish biology/ Riverine fish biology
25. Endangered fishes
2016 Ichthyology Field Trips

September
- 12—Edinburg Lake Canal
- 19—Edinburg Municipal Park Canal and Pond

October
- 7—Falcon Reservoir/Rio Grande (SATURDAY)
- 14—South Padre Island (SATURDAY)

- The University does not provide transportation to field trips. You must make your own arrangements to participate on field trips. Please carpool, if possible.

- You will be required to sign a waiver before taking part in off-campus field activities.
Biology Student Learning Outcomes (non-core curriculum courses):

(1) The biology graduate knows the role of the cell in life and living systems, and understands the inter-relationships between sub-cellular structures that contribute to its functioning as a unit.
(2) The biology graduate understands the role of DNA in inheritance and can explain how environmental conditions influence natural selection processes and contribute to adaptation.
(3) The biology graduate is aware of the diversity of life, and understands inter-relationships among organs and organ systems within an organism, and inter-relationships between an organism and its environment.
(4) The biology graduate is familiar with the tremendous diversity in structure (organellar, cellular, organismal) and how that relates to the organismal niche or habitat.
(5) The biology graduate is aware of the diversity of life, and understands inter-relationships among organs and organ systems within an organism, and inter-relationships between an organism and its environment.
(6) The biology graduate understands the Scientific Method, is able to analyze and interpret data, and communicate research findings in both oral and written form.
(7) The biology graduate is prepared to accept employment in a variety of environmental and health related professions, enter medical and dental schools, pursue graduate degrees in the biological sciences, or teach in public or private schools.

UTRGV Policy Statements

The UTRGV disability accommodation, mandatory course evaluation statement and sexual harassment statement are required on all syllabi. Additional policy statements are optional, such as those covering attendance, academic integrity, and course drop policies.

STUDENTS WITH DISABILITIES: Required on all syllabi. Do not modify.
Students with a documented disability (physical, psychological, learning, or other disability which affects academic performance) who would like to receive academic accommodations should contact Student Accessibility Services (SAS) as soon as possible to schedule an appointment to initiate services. Accommodations can be arranged through SAS at any time, but are not retroactive. Students who suffer a broken bone, severe injury or undergo surgery during the semester are eligible for temporary services.
Brownsville Campus: Student Accessibility Services is located in Cortez Hall Room 129 and can be contacted by phone at (956) 882-7374 (Voice) or via email at ability@utrgv.edu. Edinburg Campus: Student Accessibility Services is located in 108 University Center and can be contacted by phone at (956) 665-7005 (Voice), (956) 665-3840 (Fax), or via email at ability@utrgv.edu.

MANDATORY COURSE EVALUATION PERIOD:
Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account (http://my.utrgv.edu); you will be contacted through email with further instructions. Students who complete their evaluations will have priority access to their grades. Online evaluations will be available:
Fall 2017 Module 1 Oct. 5 – Oct. 11
Fall 2017 Module 2 Nov. 29 – Dec. 5
Fall 2017 (full semester) Nov. 15 – Dec. 6

ATTENDANCE: Recommended on all syllabi; may be modified by the instructor as long as it is not inconsistent with UTRGV policy.
Students are expected to attend all scheduled classes and may be dropped from the course for excessive absences. UTRGV’s attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; for observance of religious holy days; or for military service. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.

SCHOLASTIC INTEGRITY:
As members of a community dedicated to Honesty, Integrity and Respect, students are reminded that those who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in
the course and expulsion from the University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism (including self-plagiarism), and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts. Since scholastic dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced (Board of Regents Rules and Regulations and UTRGV Academic Integrity Guidelines). All scholastic dishonesty incidents will be reported to the Dean of Students.

SEXUAL HARASSMENT, DISCRIMINATION, and VIOLENCE:
In accordance with UT System regulations, your instructor is a “Responsible Employee” for reporting purposes under Title IX regulations and so must report any instance, occurring during a student’s time in college, of sexual assault, stalking, dating violence, domestic violence, or sexual harassment about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at www.utrgv.edu/equity, including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect that is free from sexual misconduct and discrimination.

COURSE DROPS: According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the “3-peat rule” and the “6-drop” rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.