

ES 1123 - ENVIRONMENTAL ZOOLOGY

Component Area: 030 - Life and Physical Sciences

College: Sciences

Department: Environmental Science & Ecology

Faculty Contact: Jessica Beckham - jessica.beckham@utsa.edu

Is this course required for a degree or certificate program? Yes

Is this course a service learning course: No

Syllabus link – https://utsacloud-my.sharepoint.com/:b:/g/personal/si_millican_utsa_edu/EcrCv_BHrAhOsUB4R_NrxZEBGo_-mu4SWvoHow0zZCqQcA?e=dwEUo8

Critical Thinking

Student Learning Outcomes:

-interpret, analyze and evaluate data, scientific statements, graphics, and scientific questions -
synthesize scientific concepts and data to explain patterns in the biological world.

Assessment Method(s):

Exams, Quizzes, daily iClicker questions: multiple choice questions that present data and require students to interpret results Exams: essay questions requiring students to explain scientific phenomena (e.g., how natural selection can result in speciation)

Modifications:

-modified test and quiz questions -included external readings outside of text requiring interpretation of how concepts relate to real world

Communication Skills (Written)

Student Learning Outcomes:

Communicate effectively through written communication in a scientific setting.

Assessment Method(s):

-essay questions on exams -literature review for final project

Modifications:

-modified exam questions to be clearer on expectations -included tutorials on writing literature reviews -links in Blackboard course to tutorials on scientific writing

Communication Skills (Oral)

Student Learning Outcomes:

Use oral communication to communicate effectively in a scientific setting.

Assessment Method(s):

Final oral presentation over endangered animal species wherein students present a powerpoint over their selected topic with their team.

Modifications:

The final presentation previously was a single grade. Now we begin introducing the project halfway through the semester, with two due dates ahead of the final project due date. These are a topic identification assignment, and a literature review. These milestones help the students to build a stronger final presentation.

Communication Skills (Visual)

Student Learning Outcomes:

See above.

Assessment Method(s):

See above.

Modifications:

See above.

Empirical & Quantitative Skills

Student Learning Outcomes:

-creating and interpreting graphs and tables -manipulation and analysis of numerical data -make predictions and inferences based on data.

Assessment Method(s):

-quiz and exam questions -in-class iClicker questions -in-class case studies where data are interpreted; questions asked

Modifications:

-more emphasis in lecture has been placed on understanding probability and Punnett squares; half a class is used for practice problems where students are able to confer with instructor on any confusing details -when data are presented in class, extra time is taken to explain figures, etc. -exam questions modified as needed for clarity

Teamwork

Student Learning Outcomes:

-work effectively as members of a team -work with fellow students on assignments, including in-class discussion, team activities, quizzes, and final presentation

Assessment Method(s):

-teamwork evaluations after in-class activities and for final presentation -team quizzes follow individual quizzes and student grades are a combination of the two scores

Modifications:

-team quizzes were implemented to increase learning and collaboration in team setting -more team discussion questions included in lectures

ES 1123 - Environmental Zoology (Q)

Instructor: Dr. Jessica Beckham

Office: FLN 1.01.02C

Office Hours: 11 AM – 11:50 MW

Office phone: 210-845-8292

Email: Jessica.Beckham@utsa.edu

Course Description: Environmental Zoology - 3 credit hours.

An introduction to basic concepts in biology through study of the major lineages of invertebrate and vertebrate animals, with emphasis on the structure, and function of organ systems in an evolutionary context. Topics covered will include basic cell structure and function, genetics, systematics, evolution, animal groups, and selected body systems. Functional interactions with their environment and with humans will also be studied.

Course Objectives:

ES 1123 is a Core Curriculum Course and a “Q” Course that satisfies UTSA’s quantitative scholarship requirement. As a student you will have the opportunity to develop core skills, including:

Critical Thinking Skills: interpret, analyze and evaluate data, scientific statements, graphics, and scientific questions; synthesize scientific concepts and data to explain patterns in the biological world.

Communication Skills: oral, visual, and written communication skills.

Quantitative Skills: creating and interpreting graphs and tables; manipulation and analysis of numerical data; make predictions and inferences based on data.

Teamwork Skills: work with fellow students on assignments, including in-class discussions and team activities.

In addition, successful students will:

1. Understand eukaryotic cell structure and function, including cellular metabolism, protein synthesis, and cell division
2. Use the general principles of genetics to explain the nature of heredity
3. Describe the theory of evolution by natural selection.
4. Interpret phylogenetic trees.
5. Describe characteristics of selected invertebrate and vertebrate taxa.
6. Understand the characteristics of animal digestive, circulatory, respiratory, nervous, and reproductive systems.
7. Work effectively as members of a team.
8. Communicate effectively in a scientific setting.
9. Engage in citizen science by contributing observations of animals in the natural world.

Required Resources:

-iClickers –

These may be purchased or rented through the bookstore and used for any and all classes that require them. A limited number of iClickers are available to be checked out from the university library. **Your iClicker must be registered as soon as possible. *** Please register your iclicker through Blackboard in your ES1123 class. *** Instructions for doing this are located in Blackboard on the left-hand menu of the landing page.**

-Textbooks –

- 1) required: Integrated Principles of Zoology; Hickman, 17th ed.
- 2) supplemental: Biology 2E by OpenStax (free online text / download available at <https://openstax.org/details/books/biology-2e> ; hard copy may also be purchased)

Methods of Evaluation and Contributions to Final Grade:

1) Exams – 40%

There will be four traditional exams (10% each) for a total of 40% of your grade. There will be no cumulative final exam in this class.

2) Quizzes – 15%

Quizzes will cover material from the assigned reading and material presented in lecture since the last exam. Each quiz grade will be taken both individually using the iClicker AND as a team. Your quiz grade will be an average of your individual and team grade. There will be six quizzes, but your lowest quiz grade will be dropped.

3) Daily Assignments - 15%

Homework assignments and in-class team-based assignments. Some of the daily assignments will require students to participate in a series of cooperative learning (team-based) and active learning exercises. Out-of-class preparation may be required to complete some in-class activities. Daily assignments may be given on any day. You must be present in class to receive credit for daily assignments.

4) Daily iClicker – 10%

iClicker questions will be used throughout lectures to check for understanding. Each question will have a total of 5 possible points: 2 points for submitting an answer, and 3 additional points for the correct answer. You must have your iClicker and use it in class to receive iClicker points. No handwritten answers will be accepted!!

5) iNaturalist Project – 10%

This project will involve you observing animals in the world around you and contributing those observations to the iNaturalist citizen science platform. We will discuss this in detail during the first week of the course.

6) Final Group Presentation – 10%

During the scheduled final exam, student teams will each give a short presentation (via Powerpoint) to the class on an animal species of their choice. More information on this project will be discussed later in the semester, and will be available on Blackboard in the “Content” → “Final Group Presentation” folder in Blackboard.

Your project topic is due Nov 7 (TR sections) / Nov 8 (MWF sections)

Your project literature review and outline is due Nov 26 (TR sections) / Nov 27 (MWF sections)

Your final presentation will take place during your scheduled final exam:

1123.001: Tues 12/10, 9:45am-12:15pm

1123.003: Tues 12/10, 7-9:30 am

1123.004: Fri 12/13, 12:30-3pm

Policy on Extra Credit Points: No extra credit assignments will be given for this class. At my discretion I may offer bonus questions on exams.

A final letter grade for the course will be assigned according to the schedule below. Based on Environmental Science program policy no (+) or (–) letter grades will be assigned.

100-90% (A); 89-80% (B); 79-70% (C); 69-60% (D); less than 60% (F)

Incomplete*: The grade of 'IN' (Incomplete) will only be assigned under the following circumstances:

- 1) the student has been in attendance for at least 75% of the semester,
- 2) the student has a satisfactory grade ($\geq 60\%$),
- 3) there are verifiable, extenuating circumstances that make it impossible for the student to complete the remainder of the course.

Do not request a grade of 'IN' unless you meet **all** of the above requirements.

Exams:

1. Regularly scheduled exams will be objective (multiple choice) and essay type. You will need a **ParScore Test Form No. X-101864-PAR-L (red)** for exams.
2. If an exam is not taken, a zero will be recorded for that exam and averaged in with your other exam grades in the calculation of your final grade.
3. **Make-up exams are only available to those students with an excused absence.** Sickness with a doctor's excuse, death in the family with documentation, a court date with documentation, auto accident on route to class with documentation, emergency military service with documentation, official university business with documentation, or religious holy days will be the **ONLY** reasons acceptable for taking a make-up exam. In accordance with university policy a student is responsible for requesting an excused absence in writing, providing satisfactory evidence to the instructor to substantiate the excused absence and delivering the request personally to the instructor. **Notification must take place no later than five school days before the absence unless such advance notice is not possible, in which case the student must provide notice by the end of the third school day after the absence along with an explanation of why notice could not be sent prior to the absence.** Make-up exams will be administered only after verification of an excused absence. **All make-up exams will be subjective/essay type exams.** Make-up exams will not be given for conflicting work or travel schedules, weddings, multiple exams on a single day, or students who do not feel prepared to take an exam.

Policy on Attendance and Late Assignments:

1. **Attendance is required.** If you are absent, you are responsible for any and all material covered in class on the day of the absence. Missed daily assignments and iClicker points cannot be made up.
2. Sickness with a doctor's excuse, death in the family with documentation, a court date with documentation, auto accident on route to class with documentation, emergency military service with documentation, official university business with documentation, or religious holy days will be the **ONLY** reasons acceptable for making up a quiz.
3. If an assignment is not completed, a zero will be recorded for that assignment and averaged in with your other scores to obtain a final grade.

Disability Statement: Instructional support services, including registration assistance and equipment, are available to students with documented disabilities through the Office of Disabled Services (DSS), MS 3.01.13. You may contact DSS at 458-4157 to make arrangements for these services.

Policy on Plagiarism and Collusion:

All work must be original and done independently. If work is not original and independent, the student will **receive a zero on the assignment and be reported to the appropriate offices on campus for disciplinary steps.** All students are responsible for reading and understanding the student code of conduct presented on the UTSA web page (<http://utsa.edu/infoguide/appendices/b.html>). See below for more information.

Scholastic Dishonesty:

The integrity of a university degree depends on the integrity of the work done for that degree by each student. The University expects a student to maintain a high standard of individual honor in all scholastic work (*Rules and Regulations of the Board of Regents*, Chapter VI, 3.(22)).

If a student is accused of academic dishonesty, the faculty member may initiate disciplinary proceedings through the Department Chair, the Dean of the college, and the Student Judicial Affairs Coordinator.

- a. The Dean or a faculty member may initiate disciplinary proceedings under Sections 203 and 303, *Student Code of Conduct* against a student accused of scholastic dishonesty.
- b. "Scholastic dishonesty" includes, but is not limited to, cheating, plagiarism, collusion, falsifying academic records, and any act designed to give unfair academic advantage to the student (such as, but not limited to, submission of essentially the same written assignment for two courses without the prior permission of the instructor, providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment), or the attempt to commit such an act.

More information on activities that constitute scholastic dishonesty can be found at <http://catalog.utsa.edu/informationbulletin/appendices/studentcodeofconduct/> .

One of my obligations as a faculty member is to do my best to assure that the performance of students is evaluated fairly and that all students are treated similarly. Acts of scholastic dishonesty are inconsistent with both and will be dealt with severely.

Classroom Behavior:

Civility and non-disruptive behavior are expected of all students in the classroom. **Disruptive behavior is classified as any behavior that disturbs either the instructor or fellow students.** Students displaying non-civil or disruptive behavior will be asked to discontinue the behavior. If a student continues the behavior he/she will be asked to leave the classroom. Leaving the classroom as a result of non-civil or disruptive behavior will be considered an unexcused absence. Examples of non-civil or disruptive behavior include but are not limited to the following:

- texting, reading email, or surfing the internet on laptops, tablets, or cellular phones
- ringing of cellular phones (please set to silent mode or turn off before class begins)
- tardiness or leaving class early
- making offensive remarks
- prolonged chattering
- reading newspapers or text books for other courses
- wearing headphones/earbuds during lecture
- sleeping
- overt inattentiveness

Changes:

This syllabus is provided for informational purposes regarding anticipated course content and schedule of courses. It is based upon the most recent information available on the date of its issuance and is as accurate and complete as possible. I reserve the right to make any changes necessary and/or appropriate. I will make every effort to communicate any changes in a timely manner. Students are responsible for the awareness of these changes.

Tentative Topics Schedule - Fall 2019 Environmental Zoology (TR)

Unit	Date	Topic	Prior Reading (H= Hickman text; OS = openstax text) / Associated Assignments
Unit 1 - Introduction to Living Animals	27-Aug	Syllabus & Class Expectations; Team Assignments; Properties of Life; begin Animal Cells	H Ch 1 (2-9); OS 1.2
	29-Aug	<i>Team Activity: iNaturalist training and campus Bioblitz</i>	1 iNat observation due by 11:59 pm
	3-Sep	Animal Cells; Intro to Metabolism and Enzymes	H Ch 2 (31-33); H Ch 3 (38-42); H Ch 4 (55-60); OS 4.3-4.4; OS 6
	5-Sep	Energy Production in Cells (Fermentation and Cellular Respiration)	H Ch 4 (60-67) ; OS 7
	10-Sep	Energy Production (continued); <i>Team Activity: Cancer Cell Metabolism</i>	
	12-Sep	DNA Structure and Replication	Quiz 1 ; H Ch 3 (49-53); OS 14.1-14.5
	17-Sep	Cell Cycle and Mitosis (continued)	OS 10.1-10.4
	19-Sep	Test 1	10 iNat observations due 9/20 11:59 pm
Unit 2 - Continuity and Evolution of Animal Life	24-Sep	Meiosis; Introduction to Genetics	H Ch 5 (71-85); OS 11, OS 12
	26-Sep	Introduction to Genetics (continued); <i>Team Genetics Practice</i>	
	1-Oct	Protein Synthesis	Quiz 2 ; H Ch 5 (85-96); OS 15
	3-Oct	Protein Synthesis; Begin Evolution	
	8-Oct	Introduction to Evolution	H Ch 6 (99-130); OS 18-19
	10-Oct	Evolution (continued); <i>Team Clicker Case: Sneaky Salmon</i>	Quiz 3
	15-Oct	Taxonomy, Phylogeny	H Ch 10 (197-214); OS 20
17-Oct	Test 2	10 iNat observations due 10/17 11:59 pm	
Unit 3 - Diversity of Animal Life	22-Oct	Porifera, Cnidaria	H Ch 12 (246-257); H Ch 13 (260-282)
	24-Oct	Mollusca, Arthropoda, Echinodermata	H Ch 16 (332-358); H Ch 19 (402-416); H Ch 20 (421-440); H Ch 21 (443-467); H Ch 22 (471-489)
	29-Oct	Fishes	H Ch 24 (516-541); Quiz 4
	31-Oct	Fishes (continued); <i>Team Clicker Case - Strange Fish</i>	
	5-Nov	Amphibia; Reptilia	H Ch 25 (543-560); H Ch 26 (563-582)

	7-Nov	Aves; Mammalia	Quiz 5; H Ch 27 (584-608); H Ch 28 (610-637); Presentation topic due
	12-Nov	Test 3	10 iNat observations due 11/12 11:59 pm
Unit 4 - Activity of Animal Life	14-Nov	Integument, Skeletal, Muscular systems	H Ch 29 (639-658)
	19-Nov	Excretory System (Homeostasis: Osmotic Regulation & Excretion)	H Ch 30 (660-678)
	21-Nov	Digestive System	H Ch 32 (702-717);
	26-Nov	<i>Team Activity - Fad Diets</i>	Quiz 6; Presentation Literature Review and Outline Due
	28-Nov	<i>Thanksgiving Holiday - no classes</i>	
	3-Dec	Circulatory & Respiratory Systems (Homeostasis: Circulation & Respiration)	H Ch 31 (680-700)
	5-Dec	Test 4	10 iNat observations due 12/5 11:59 pm
	6-Dec	Student Study Day - no classes	
	Dec 7 - 13	Final Presentation during scheduled final	
		1123.001 : Tues 12/10, 9:45am-12:15pm	

Drop Date: Monday October 28 – Undergraduates: Last day to drop a class with an automatic “W”. Students are not automatically dropped from a class if they stop attending the class.

Undergraduate Studies

2/4/2020

Professor Beckham,

The Core Curriculum Committee recently completed its periodic review of ES 1123 - ENVIRONMENTAL ZOOLOGY as per the guidelines outlined on the UTSA Core Curriculum website. The overall recommendation by the committee members for this course is:

- Recommend to remain in the UTSA Core Curriculum**
- Revisions recommended to remain in the UTSA Core Curriculum**
- Substantive revisions required to remain in the UTSA Core Curriculum**
- Recommend removal from the UTSA Core Curriculum**

The committee was very impressed overall with the materials that were submitted. While there were some minor suggestions to modify the assessment methods and how you use these results, the committee would love to use this as an example for others as they prepare for future reviews.

On the next page, you should find summary comments from the committee on the availability of ES 1123 as well as comments related to the syllabus and information that you submitted through the review portal prior to November 1. There may be recommendations for follow-up at the end of the document.

I'd like to extend the invitation to visit with me personally if I can be of any assistance or provide you with more detailed information about the review process or the Committee's findings. Our office is here to assist you in any way.

If you have not already done so, I would also encourage you to consult the course design and assessment resources found on the Core Curriculum Resource Page found on the Teaching and Learning Services website. This site can be accessed at teaching.utsa.edu/utsa-core-curriculum-resource-page.

Sincerely,



Dr. Si Millican
Associate Vice Provost - Undergraduate Studies
Professor of Music Education

CC: Kristi Johnson, Management Analyst - University College
Janis Bush, Chair - Environmental Science and Ecology

Course prefix and title: ES 1123 - ENVIRONMENTAL ZOOLOGY

Point of contact: Jessica Beckham

The course is offered regularly: Yes

Comments on course availability: Consider offering as a summer course if student demand supports this.

SYLLABUS COMMENTS

The committee was very impressed with this submission, and would like to use it as a model for others with your permission.

MODIFICATIONS COMMENTS (submitted via online portal)

Student Learning Outcomes:

Well defined student learning outcomes related to the state-required objectives.

Assessment:

Many of the outcomes are assessed using "investigation and discussion." It was unclear how instructors might complete and/or document this assessment.

Changes or Modifications Implemented:

It was not always clear how the changes that were made related to the collected assessment data.

Follow Up Actions:

Thank you for your submission. Please let me know if you would like to visit about other ways to assess and document the achievement of the learning outcomes for this course. Let me know if we have permission to share this packet with our peers across the university as an example.