

## **FIELD BIOLOGY – COURSE SYLLABUS – DESERT ECOSYSTEMS (Fall 2022)**

### **I. Course Number, Title, Prerequisites, Fees, Room:**

BIOL 4225 (CRN 11055) - Field Biology. Prerequisites: Department Approval. A separate field trip fee of \$180.00 is required. This course can also be taken for graduate credit, but the student will be given a TA responsibility assigned by instructor.  
B 206, Wednesday 3:00-4:20 pm.

### **II. Instructor Information:**

Dr. Vicente Mata-Silva  
Office/Lab: Bioscience Research Building, Room 2.138/B 406  
Phone: 747- 5959 (office)  
E-mail: [vmata@utep.edu](mailto:vmata@utep.edu)  
Office Hours: MW 10 am – 2 pm; TR 12 – 2 pm, or by appointment.

**Teaching Assistant (Primary).** Oceane Da Cunha  
B225 – 915-258-2270, [odacunha@miners.utep.edu](mailto:odacunha@miners.utep.edu)

### **III. Objectives.**

Students will perform a scientific research project from data taken under field conditions. Students will design the field project, produce a written and oral proposal, and deliver the study in a scientific manner using both written and oral presentations. Field biology projects will study aspects of the Chihuahuan Desert ecosystem at Indio Mountains Research Station (IMRS), Hudspeth County, Texas. The written manuscript will be submitted to instructor as if they were being submitted for publication in the journal, The Southwestern Naturalist. All students will submit the written manuscript.

**IV. Evaluation, Undergraduates:** Final Grades will be tallied from the following course components (100 pts. possible).

- 10 points - Written proposal: Is it typed? Does it follow the exemplar format? Has a literature search been conducted and included?
- 10 points - Oral presentation of proposal: All students from each group will give a portion of each proposal. Is there adequate coverage for the study?
- 20 points – IMRS Species exam. This exam will cover identification of species that are commonly found at IMRS. You will need to identify the organisms by common name and scientific name. Material will be provided.
- 10 points - Individual participation in research project, including participation in field trip activities, writing paper, and oral presentation.

- 10 points - First draft of paper: Does it follow the specifications for The Southwestern Naturalist? Was it turned in on time?
- 20 points - Final Paper: Is paper in exact format? Is the literature cited adequate?
- 10 points - Final Presentation. One student in each group will be picked randomly to coordinate presentation. All group members should be prepared to present any section of the presentation. Were visuals used? Was presentation complete?
- 10 points - **Mandatory** attendance during scheduled class periods.

FINAL GRADES WILL BE ASSIGNED AS FOLLOWS:

100 - 90 points = A	89 - 80 points = B
79 - 70 points = C	69 - 60 points = D
Below 60 points = F	

**Graduate Students:** Graduate students taking this course as part of their degree plan will become teaching assistants in charge of a group of undergrads. Thus, their grades will be dependent on how the undergrads perform in all aspects of the group's course requirements; the course instructor will determine the graduate student's grade based on their groups performance (60%) and on grades from the two quizzes (20 pts) and flash card exam (20 pts).

**V. Text.** A Handbook of Biological Investigation (newest edition), By H.W. Ambrose III and K. P. Ambrose, Hunter Textbooks, optional (if you can find it – look on web if needed).

**VI. Calendar/Classroom** (fall 2022; Biology 206) – W 3-4:20 pm.

24 Aug.: **Orientation.** Consideration/discussion of research projects and tentative proposals. Discuss forming groups. Discussion of **scientific processes and its limitations.** Fill out release forms.

31 Aug.: Discussion of scientific methods, common field techniques, and challenges doing field work in the desert. Forming groups. Provide Ppt file with IMRS species. Species diversity index (Shannon-Weiner index).

7 Sept.: **Groups formally determined,** discuss proposal format. Tentatively decide on project. Groups work on proposal of research project. Activity on how to identify skulls, tracks, and feces. Study **Species list.** Students dropped from lack of payment. Microhabitat partitioning.

14 Sept.: Work on research proposal, Introduction, Materials, and Methods. Resource Overlap index.

- 21 Sept.: Work on Introduction and Materials and Methods section and proposal. **Flash card exam. Pay the field trip fee of \$180.00 by next week's class.**  
Go to Biology office (see Lydia Hernandez) and get form to take to campus cashier and deposit fee into the Biology Field School Desert Ecology account, Cost Center # **30-3054-61**, **Account # 44451**. Bring receipt to class.
- 28 Sept.: Work on Introduction and Materials and Methods section, **Written Proposals due** in correct format (typed) and **oral proposal presentation by groups**. Final meeting before field trip. Species quiz.
- 5 Oct.: **Leave for field trip** from parking lot near Campus Police Station on Sun Bowl Drive at 9:00 am. Don't be late, because we are on a tight schedule and cannot wait for late arrivals. It is preferable that you have someone bring you to the parking lot.
- 9 Oct.: **Return from field trip** to Campus Police Station around 3:00 pm
- 12 Oct.: Begin work on results section and make modifications to Introduction, and Materials and Methods section. Discuss **how to write a scientific paper** (in format of The Southwestern Naturalist) and how to prepare an oral presentation. Introduction to animals sampling techniques.
- 19 Oct.: Continue work on Results section. Introduction to vegetation or sampling techniques. Guest speaker.
- 26 Oct.: Continued work on Results Section and Discussion section. Introduction to animal sampling techniques. Insect diversity. Guest speaker. Give the class a paper on Field Bio to discuss next session
- 2 Nov.: Continued work on Results Section and Discussion section. Introduction to animal sampling techniques. Discuss Paper on Field Bio.
- 9 Nov.: Continue work on Results and Discussion sections. Begin preparing draft of complete paper, including: Abstract, Introduction, Materials and Methods, Results, Discussion, Acknowledgements, and Literature Cited.
- 16 Nov.: Work on entire paper, and oral presentations (Power point). We will examine in class 1<sup>st</sup> draft of all sections of paper for correct style.
- 23 Nov.: Continue to work on oral and written presentations. Examine new draft of paper.
- 30 Nov.: Formal 15-minute (12 minute talk; 3 minute for questions) **Power Point Presentation** by groups. Work on final written paper.

7 Dec.: Last date to turn in hard copy of **final paper**.

**VII. Field Research Facilities.** IMRS HQ area is located about 26 miles (40 km) southwest of Van Horn, Texas. It is isolated and located in rugged Chihuahuan Desert shrub vegetation. Many plants have thorns and spines that can inflict painful wounds. It is required that long pants be worn when actually collecting data in the field or hiking off road. Shorts are fine around the ranch house and on road hikes. IMRS has running water from a well, electricity, functional showers, and flush toilets. Food preparation is by portable stoves and charcoal grills. No food should be taken into the dorm rooms. Students will participate with cooks help and KP sometime during their stay. A more detailed list of rules and activities will be given to you during the field trip orientation.

**VIII. Course Rules.** You will sign a contract agreeing that course rules will be followed):

Attendance is **mandatory** for all students during scheduled class meetings and field trip. One point will be subtracted from your final grade for each unexcused absence. Every student will participate in all aspects of fieldwork, paper writing, and presentation. If any student fails to participate fully, the instructor reserves the right to initiate corrective measures or subtract points from that person's final grade.

All students will obey rules, instructions, and orders given by instructor and teaching assistants while on field trip and in classroom. All laws of Texas and UTEP will be followed during field trip. Unlawful activity may lead to expulsion from course and may result in student being transported to Van Horn, where he/she will arrange for transportation back to El Paso.

Quiet time at IMRS HQ will begin at **10:00 pm**. This means that no loud behavior of any kind will be tolerated after 10:00 pm.

Statistical analysis will be required for studies that can be statistically analyzed. You are also required to develop a Power Point presentation to support your final oral discussion.

You are required to follow the style of The Southwestern Naturalist for your paper, with a few exceptions as discussed in class.

Specific IMRS rules will be followed at all times. An orientation to those rules will be given upon arrival at the station.

**Respect the rights of others.** Different people have diverse mindsets, activity preferences, and belief systems. Live and let live.

Conserve water and electrical resources by turning off faucets or lights when not being used. Cell phones and computers will not be left plugged into power outlets except during the day when the sun is shining. **Glass beverage containers are not allowed.**

Student rights concerning appeal of any action relating to course governance can be found in UTEP's Student Handbook.

### **COURSE CONTRACT**

I (printed name) \_\_\_\_\_

(Student number) \_\_\_\_\_

I am a student enrolled in BIOL 4225 (Field Biology, CRN 11055, Fall 2022), offered by UTEP, have read and agree to follow all rules and laws described in the syllabus or expressed in any other supplementary handouts for this course. I also agree that the instructor is the administrator of this course and is responsible for decisions on all grades assigned to the different conditions listed in the course syllabus. The instructor also has the right to determine disciplinary action concerning rule or law violations stipulated therein.

Signature of student \_\_\_\_\_

Date \_\_\_\_\_

Signature of Instructor \_\_\_\_\_

Date \_\_\_\_\_

Please indicate below any diet restrictions or medical issues that the instructor should be aware of: