**Biology 1331: Organismal Biology**

**Course description** (from catalog): This course provides science majors with a foundation in organismal biology: Mendelian and population genetics, evolution, and ecology. Topics include patterns of inheritance, genetics, evolution, speciation, phylogenetics, and behavioral, population, community and ecosystem ecology.

**Academic Semester**: **Fall 2019**

Instructor: Dr. Caitlin Gabor

Office number: Supple 438

Contact Information: gabor@txstate.edu

Class time: M W 2:00 -3:20 pm

Office hours: MW 3:20-4:20 pm; Other times by appointment

This course provides students a foundation for subsequent core and advanced courses offered by the Texas State Department of Biology. (1) Students should learn and understand basic biological concepts and be able to apply these concepts in novel situations. (2) This course will provide students with opportunities to experience science as an investigative process. (3) Students are responsible for understanding and being able to answer questions pertaining to all information presented in lecture and assigned readings.

**General Education Core Objectives/Learning Outcomes**

**Life & Physical Sciences Component Outcomes**

* Students will describe, explain, and predict natural phenomena using the scientific method.
* Students will describe interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.

**General Education Core Objectives/Competencies Outcomes:**

* **Teamwork**
  + Students will demonstrate the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.
* **Communication**
  + Students will demonstrate effective development, interpretation and expression of ideas through written, oral and visual communication.
* **Critical thinking**
  + Students will demonstrate creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
* **Empirical and Quantitative Skills**
  + Students will manipulate and analyze numerical data or observable facts resulting in informed conclusions.

**Additional departmental / instructor course outcomes:**

Students will generally (in addition to specific outcomes identified for each lecture:

1. Develop an understanding of the basic mechanisms that lead to evolution and how living organisms adapt to their surroundings.
2. Develop an understanding of speciation and phylogenetic relationships among living organisms.
3. Develop an understanding of the complex interactions between and within individuals, populations, and communities.
4. Develop an understanding of the contributions that all organisms make towards the sustainability of life on the earth.

**Course Materials are all ONLY available online delivered through TRACS and paid for at registration**

1. THE eTEXT: *Biological Science*, by Freeman et al. 2019 (7th edn., Pearson) found in TRACS in MB
2. MASTERING BIOLOGY (MB): found online via TRACS provided by Direct Digital Access (DDA)

**Special Needs:** Students with special needs (as documented by the Office of Disability Services: [disability-services@txstate.edu](mailto:disability-services@txstate.edu)) should identify themselves at the beginning of the semester**.**

**Lecture Attendance Policy:** Attendance at all lectures is expected and will be essential for successful completion of the course. It should be understood that you are responsible for all material covered in class. Lectures in BIO 1331 stand on their own and the assigned textbook readings support the lecture (not vice-versa). I will provide a hardcopy of each lecture outline in class. If you miss class, you can get a copy of the outline in the next class period, or copy from a classmate. They will not be posted online.

**Breakdown of Grading for Class:**

Exam I 75 points

Exam II 75 points

Exam III 75 points

Final Exam 115 points

Mastering Biology 100 points

In class activities (Learning Catalytics) and assessments 60 points

Final Course Grade Standards: The following grade standards will be strictly applied. NO EXTRA CREDIT WILL BE GIVEN. PLEASE DO NOT ASK.

90-100 % = A (450-500 points)

80-89.9 % = B (400-449 points)

70-79.9 % = C (350-399 points)

60-69.9 % = D (300-349 points)

0-59.9 % = F

**Exams and grading:** Exams may be a combination of multiple choice, fill in the blank, and short answer questions. A total of four exams will be given during the semester, including the final exam. Each exam will focus on conceptual issues and will require the application of analytical skills (expect questions that require problem solving). Each exam will be comprehensive (i.e., knowledge of concepts learned throughout the semester will be assumed on each exam). **ALL** exam grades are graded *relative to the highest student’s score*. *This manner of grading allows students in the class to set the standards for excellence in the course. I know of no fairer policy.* Thus if the highest grade on an exam is 72/75, your grade would be your score on the exam divided by 72 and multiplied by 75.

Make-up Policy: **You will not be able to make-up an exam** unless you notify me well in ***advance*** and can provide DOCUMENTATION deemed acceptable. Request for make-ups will be granted only in extraordinary circumstances. Make up exams will consist of an essay exam administered by, and at a time selected by, the instructor of record.

You must query any grading discrepancies VIA EMAIL by the class period after I post grades. This means that if I post the exam scores on Wednesday, you must e-mail me about grading issues by the next Monday.

**MasteringBiology assignments** will be available only on my MasteringBiology course site delivered via TRACS. There will be 9 larger “Tutorial” assignments due throughout the term that are each worth 6 points. I will drop the lowest score “Tutorial” assignment. There will also be 28 assigned “Dynamic Study Modules” (DSMs) that will be worth 2 points each. These are completion grades. You must complete the assignment to receive the points, but I will drop the 2 lowest of these as well. Given the number of excused scores on the assignments, there will be no make-up assignments or due-date extensions.

**Learning Catalytics/ attendance quizzes:** Unannounced in class activities administered via Learning Catalytics from MB via TRACS will also be given at the discretion of the instructor. Learning Catalytics comes with your MasteringBiology subscription. **There will be NO make ups for missed points from Learning Catalytics.**

**Academic honesty**: I expect students to behave with integrity. Students found cheating on quizzes or exams will receive a score of zero for that exam and will be subject to disciplinary action as specified in University code (http://www.txstate.edu/effective/upps/upps-07-10-01.html). **Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failing the course and dismissal from the University.** I am happy if students wish to learn in a collaborative nature but sharing answers directly without having worked together to problem solve will not help anyone learn the course material and succeed in the course (i.e., pass the exams). Students caught sharing or receiving answers to the assigned homework or quizzes electronically will be in violation of the Texas State University Honor Code.

**Class Courtesy:**

* Do not talk in class when I am talking to the whole class or when we are watching a video presentation as a class—it’s rude because it disturbs and distracts other students.
* PLEASE turn the ringer OFF on all cell phones. You may use phones, tablets etc. for engaging in classroom related matters only.
* PLEASE don’t come late or leave early (If you must leave early for a valid reason, you must identify yourself at the beginning of class, and exit only from the rear doors).

**Email Policy**: You should only use email to set up a one-on-one meeting with me if office hours conflict with your schedule. Use the subject line “Meeting request.” Your message should include at least two times when you would like to meet and a brief (one-two sentence) description of the reason for the meeting**.** For more in-depth discussions (such as guidance on assignments or clarification of lecture material) please plan to meet in person, and not right after or before class. Our conversations should take place in person rather than via email, thus allowing us to get to know each other better and fostering a more collegial learning atmosphere. Email communications must: (a) include a proper salutation (i.e., Dr. Gabor); (b) come from your txstate.edu email address; (c) be composed using complete sentences with proper grammar and spelling; and (d) be signed with your full name. If these requirements are met, I usually respond within 24 hours.

**Please note this important date:** October 28. This is the last day to drop a class. If you drop on or before that date you will receive a grade of “W.” After this date you cannot drop the course. This is University Policy, and I have no authority to allow exceptions.

**Peer-Peer learning**

We are trying to set up Peer-peer learning. If we do then you will have a peer leader who will provide additional study and learning help. Peer-Peer learning focuses on collaboration, group study, and interaction for assisting students in undertaking "traditionally difficult" courses. The hope is that students that attend session will be better prepared for this course and other difficult courses they will encounter. Please understand that *Peer-peer Leaders do not have administrative authority* in this class and that attending session is not in any way a substitute for attending lecture! Specific questions regarding grades or grading standards should be directed to your Professor.

**Tentative** **Schedule of Lectures and Exams**

These are readings from the ebook. For all chapters assigned read the Chapter Introduction, Chapter, Chapter review, Chapter Questions and Case Study. You will occasionally be assigned external reading assignments for some topics. I will assume that you have read the assignments prior to class attendance.

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| --- | --- | --- | --- | --- |
| **Day** | **Date** | **Lecture** | **TOPIC** | **Reading Assignment** |
| Mon | 26 Aug | 1 | Introduction to course | CH 1.3,1.4,1.6/BioSkills: 2, 3, 12, 18. End-of-Unit Case Study; Dobzhansky TRACS |
| Weds | 28 Aug | 2 | Conservation Biology I | CH 53.3, 54.1; TRACS Cons BIO I folder-Listen - Explaining climate |
| Mon | 2 Sept |  | Labor day |  |
| Weds | 4 Sept | 3 | Meiosis | CH 13.1, 13.2, 13.4, 47.1 (1/2) |
| Mon | 9 Sept | 4 | Mendelian Genetics | CH 14.1-14.2; Bioskills 4 |
| Weds | 11 Sept | 5 | More Mendelian Genetics | CH 14.3-14.5; Big Pic: Genetics |
| Mon | 16 Sept | 6 | Genes, Development and Evolution | CH 21 |
| Weds | 18 Sept | 7 | History of Evolutionary Thought/Evidence of Evolution | CH 22.1-22.2; End-of-Unit Case Study |
| Mon | 23 Sept | 8 | Natural Selection | CH 22.3-22.5, Bioskills 17 |
| **Weds** | 25 Sept |  | **Exam I: L1-8** |  |
| Mon | 30 Sept | 9 | Hardy-Weinberg Equilibrium | CH 23.1; Bioskills 4 |
| Weds | 2 Oct | 10 | Microevolution | CH 23.2-23.6 |
| Mon | 7 Oct | 11 | Speciation | CH 24 |
| Weds | 9 Oct | 12 | Phylogenetics | CH 25; Bioskills 13; End-of-Unit Case Study |
| Mon | 14 Oct | 13 | Diversity: Prokaryotes/Protists/plants | CH 26.3, 27.3, 28.1 28.3; Big Picture: Evolution |
| Weds | 16 Oct | 14 | Diversity: Land Plants | CH 28.3, 28.4 |
| Mon | 21 Oct | 15 | Diversity: Animals I | CH 30-30.3 |
| Weds | 23 Oct | 16 | Diversity: Animals II & Human evolution | CH 31, 32.1, 32.3, 32.6; 25.3; End-of-Unit Case Study |
| **Mon** | 28 Oct |  | **Exam 2: L9-16** |  |
| Weds | 30 Oct | 17 | Behavioral Ecology I | CH 49.1, 50.1-50.2, 50.4 |
| Mon | 4 Nov | 18 | Behavioral Ecology II | CH 50.3, 50.5-50.6, 23.3 |
| Weds | 6 Nov | 19 | BE – Sexual selection | TRACS |
| Mon | 11 Nov | 20 | Life History Evolution | CH 51.2 |
| Weds | 13 Nov | 21 | Population Ecology | CH 51.3-51.4, 51.1 |
| Mon | 18 Nov | 22 | Community Ecology I | CH 52.1-52.2, 49.2 |
| Weds | 20 Nov | 23 | Community Ecology II | CH 52.3-52.4; Big Pic: Ecology |
| Mon | 25 Nov |  | **Exam 3: L 17-23** |  |
| **Weds** | 27 Nov |  | **Thanksgiving Break** |  |
| Mon | 2 Dec | 24 | Conservation Biology II | Ch 54.2-54.4 + TRACS; End-of-Unit Case Study |
| Weds | 4 Dec | 25 | Aquarena Center Field Trip | TRACS -Assessment |
| **Weds** | **11 Dec** |  | **Final Exam 2:00-4:30pm Supp 116** |  |