

BIOL 1334 – Life on Earth: Evolution, Ecology & Global Change (for non-science majors)

Section 001: TR 2⁰⁰pm-2⁵⁰pm, LS 100

Dr. Jill DeVito 817-272-1225 jilldevito@uta.edu

Office Hours: TR 3⁰⁰-3⁴⁵ TR 4³⁰-5¹⁵ & by appointment LS 460

**** Fall 2015 **** Please note census date Sep 14 and drop date Nov 4 **

Description of Course Content

Emphasis is on fundamental principles, concepts, and topical subjects related to biology. This course is for non-science majors and with 1333, will satisfy the laboratory science requirements for students in the Colleges of Liberal Arts and Business Administration and in the School of Social Work.

Note: Modern Biology is an integrative discipline, incorporating elements of Mathematics, Chemistry, Computer Science, and Writing. We expect that you have at least a basic understanding of each of these elements.

This course satisfies the University of Texas at Arlington core curriculum requirement in life and physical sciences. The italicized student learning outcomes required of core courses below will be assessed for each student in the laboratory portion of the course. The final lab report will be assessed to determine how a student has mastered critical thinking, communication, and empirical and quantitative skills. A teamwork assessment (peer evaluation) will be completed by each student in lab to determine how students work together in lab groups to achieve the student learning outcomes described below.

Student Learning Outcomes

- understand crucial biological processes and structures that maintain life related to evolution, diversity, and ecology
- gain a familiarity with biological concepts related to issues of health, social and environmental concerns by investigating case studies in lecture
- learn the scientific process by designing and conducting experiments, collecting and analyzing data, and presenting results, in both written and oral formats
- Critical Thinking Skills: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information;
- Communication Skills: to include effective development, interpretation and expression of ideas through written, oral and visual communication
- Empirical and Quantitative Skills: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
- Teamwork: to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

Required Textbook: *Scientific American: Biology for a Changing World*, 2nd Ed., Shuster et al. 2014, W.H. Freeman (ISBN 1464126739)

Grading Policy: BIOL 1334 lab component counts for 1/3 of your total grade (see GTA for lab syllabus).

Semester grade = [lecture avg x 0.67] + [lab avg x 0.33]

Lecture grades will be awarded as follows:

two (midterm) exams (each worth 25% of total lecture grade)

quizzes & assignments (complete set worth 25% of total lecture grade)

cumulative lecture final (worth 25% of total lecture grade)

semester grade: A = 89.5-100%, B = 79.5-89.4% C = 69.5-79.4%, D = 59.5-69.4%, F < 59.5%

Lecture exams will contain a combination of question styles (e.g., multiple choice, matching, true/false). A typical exam will contain 35-50 questions. It will be your responsibility to bring a Scantron form 882 and No. 2 pencil.

Make-up Exam Policy: Exams can occasionally be made up **with adequate advance notice** by appointment with a graduate student proctor, at your instructor's discretion. If you miss an exam without adequate advance notice, please talk to your instructor about the **possibility** of double-weighting the final exam. This arrangement is a **last resort**, made on a case by case basis, **at the discretion** of your instructor. You are advised to provide **documentation** of your absence to strengthen your case.

Attendance: At The University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. In this class, quizzes and assignments will occur at various points throughout the semester, requiring your attendance on any given day. **If you anticipate a schedule conflict with this class, DO NOT take it this semester.**

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Tentative Lecture Schedule – last updated: **Aug 17**

Aug 27 Th	Introduction
Sep 01 Tu	DNA & Heredity Review (Chapters 7,8,9)
Sep 03 Th	DNA & Heredity Review (Chapters 7,8,9)
Sep 08 Tu	Short Quiz covering DNA & Heredity; Natural Selection & Adaptation (Chapter 14)
Sep 10 Th	Natural Selection & Adaptation (Chapter 14)
Sep 15 Tu	Nonadaptive Evolution & Speciation (Chapter 15)
Sep 17 Th	Evidence for Evolution (Chapter 16)
Sep 22 Tu	Evidence for Evolution (Chapter 16)
Sep 24 Th	Life on Earth (Chapter 17)
Sep 29 Tu	Prokaryotic Diversity (Chapter 18)
Oct 01 Th	Eukaryotic Diversity (Chapter 19) bring textbook to class for a group research activity
Oct 06 Tu	Biodiversity Bingo activity (please sign the attendance record)
Oct 08 Th	Exam 1 (ch14-19)
Oct 13 Tu	in class film assignment: <i>Your Inner Fish</i> (part 1)
Oct 15 Th	in class film assignment: <i>Your Inner Fish</i> (part 2)
Oct 20 Tu	in class film assignment: <i>Your Inner Fish</i> (part 3)
Oct 22 Th	Human Evolution (Chapter 20)
Oct 27 Tu	Population Ecology (Chapter 21)
Oct 29 Th	Community Ecology (Chapter 22)
Nov 03 Tu	Ecosystem Ecology (Chapter 23)
Nov 05 Th	Ecosystem Ecology (Chapter 23)
Nov 10 Tu	Sustainability (Chapter 24)
Nov 12 Th	special topic lecture (Dr. DeVito's adventures with "Earthship" sustainable homes)
Nov 17 Tu	in class film assignment: <i>The Human Family Tree</i> (part 1)
Nov 19 Th	in class film assignment: <i>The Human Family Tree</i> (part 2)
Nov 24 Tu	flex day (we will only hold class if we have fallen behind schedule; stand by for updates)
Nov 26 Th	Thanksgiving Holiday (no class)
Dec 01 Tu	Exam 2 (ch20-24 plus special topic)
Dec 03 Th	in class film assignment: <i>Years of Living Dangerously</i>
Dec 08 Tu	Climate Change Jeopardy activity (please sign the attendance record)
Dec 15 Tu	Final Exam Sec 001: Tues Dec 15, 2⁰⁰ pm

As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. – Jill DeVito, PhD

Expectations for Out-of-Class Study: Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional nine hours per week of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, etc.

Academic Integrity: All students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

Instructors may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System Regents' Rule 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

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In the event of a suspected breach of academic integrity (collusion, copying, plagiarism, stealing blank copies of a quiz or exam, referring to notes during a quiz or exam, etc.), you will receive a hearing by the Office of Community Standards. The hearing will be fair to the student, and judgments are based on evidence. If the outcome of the hearing finds you to be responsible for breaking the honor code, the penalty for the incident is left up to the individual instructor. This penalty can range from small (i.e., receive a zero for an individual quiz or assignment), to moderate (i.e., receive a zero for the whole series of quizzes or assignments / receive an exam score of zero), to severe (automatic failing grade for the course). In the past, I (Dr. DeVito) have tended to dole out penalties in the "moderate" category. However, I reserve the right to choose the penalty according to my judgment in each individual set of circumstances. Also keep in mind that once you have a judgment against you, a repeat offense can result in very severe penalties (at the discretion of the Office of Community Standards) including dismissal from the university.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.**

Americans With Disabilities Act: If you are a student who requires accommodations in compliance with the ADA, please consult with me at the beginning of the semester. As a faculty member, I am required by law to provide reasonable accommodation to students with disabilities, so as not to discriminate on the basis of that disability. Your responsibility is to inform me of the disability at the beginning of the semester and provide me with documentation authorizing the specific accommodation. Student services at UTA include the Office for Student with Disabilities (located in the lower level of the University Center) which is responsible for verifying and implementing accommodations to ensure equal opportunity in all programs and activities.

Title IX: The University of Texas at Arlington is committed to upholding U.S. Federal Law "Title IX" such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit www.uta.edu/titleIX.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as lecture, seminar, or laboratory shall be directed to complete a Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week unless specified in the class syllabus. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Drop for non-payment of tuition: Payment must be received by the term due date or your registration will be cancelled. If your registration is cancelled for non-payment, you may reregister for classes but only if seats are available.

Grade Grievance Policy: Please refer to the current undergraduate catalog for the grade grievance policy and the required timeframe for filing an appeal.

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Laboratory

The laboratory is designed to provide all students with opportunities to investigate biological processes in an inquiry-based fashion. Students will be expected to work as teams in lab groups (usually of four students) to conduct experiments and participate in the scientific process.

Assignments

1. One lab report will be required during the semester. This will be graded according to a rubric (posted on the course Blackboard page) to assess student focus, organization, meeting the requirements of the assignment, ability to analyze and synthesize data, and style. In particular, GTAs will look for evidence of critical thinking skills and empirical and quantitative analysis, along with the ability to communicate clearly in writing. Lab reports will be based on group work, but must be written up individually.
2. Each lab group will give one oral presentation based on the results of one of their inquiries. This presentation will be graded using a rubric to evaluate oral communication skills of the group.
3. Each student will evaluate her/his peers in her/his lab group for teamwork skills once towards the end of the semester.
4. Five quizzes will be given in lab to assess student understanding of key concepts learned in lecture and lab.
5. Additional writing exercises will be assigned including two group proposals prior to carrying out experiments, a draft of the lab report described above, and written results sections of additional experiments.

Lab Safety Training: Students registered for this course must complete all required lab safety training prior to entering the lab and undertaking any activities. Once completed, Lab Safety Training is valid for the remainder of the same academic year (i.e., through the following August) and must be completed anew in subsequent years. There are no exceptions to this University policy. Failure to complete the required training will preclude participation in any lab activities, including those for which a grade is assigned.