ASU New College of Interdisciplinary Arts and Sciences
Arizona State University

Summer 2020

BIO 182: General Biology II

INSTRUCTOR INFORMATION

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Course Format:	iCourse	
Lecture Sections:	DYN: 47474	B: 46397
Lab Sections	DYN: 47475	B: 46398
Office Hours:	M-F: 10:00-11:00 am (via Zoom)	

COURSE DESCRIPTION

General Biology II (BIO 182) is designed to give students a survey of the basic theories of the discipline and the relationship between structure and function in living organisms at the cellular, organismal and higher levels of organization. This will include a detailed exploration of the mechanisms of evolution, biological diversity, and ecology. This course is designed to be taken as the second half of a two-semester series. The first semester (BIO 181) should be taken before this course. Credit is allowed for only BIO 182, 281, or 282.

**** **Summer 2020:** I am teaching two different sections of BIO 182 this summer that overlap by a couple weeks. The first section (Section DYN) begins June 15th and ends July 24th, while the second section (Section B) begins July 1st and ends August 11th. **All material related to the first section will include DYN in the title. All material related to the second section will include B in the title** except for the eText, which will be available to students in both sections throughout the course.*

LEARNING OUTCOMES

The goal of this course is to provide students with a basic understanding of the theories and paradigms associated with three major themes in the biological sciences: evolution, biodiversity, and ecology. Upon completion of the course students should be able to:

- **Knowledge-based Learning Outcomes**
  1. Explain and compare characteristics common to all living organisms
  2. Identify and describe the principles of evolution by natural selection
  3. Compare and contrast the general characteristics of each of the major domains and major taxonomic groups within each

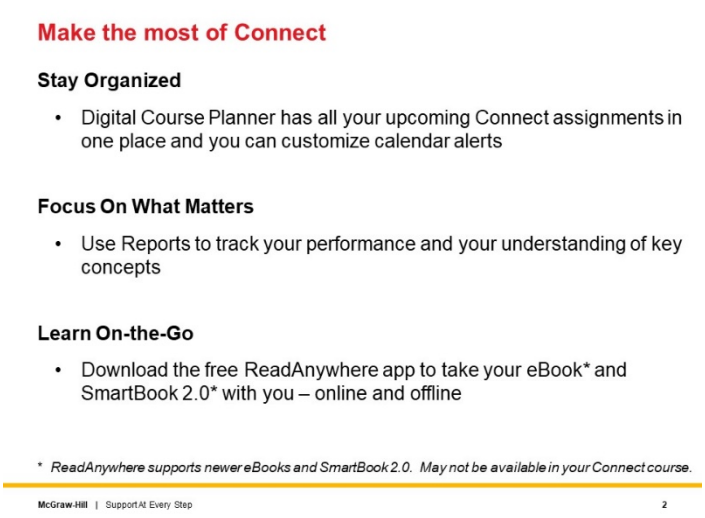
4. Explain how the unique natural histories of organisms enables them to survive in different ecological niches
5. Describe how abiotic factors and biotic interactions determine the distribution and abundance of species

- **Skills-based Learning Outcomes**
  1. Demonstrate knowledge of proper safety skills and procedures in biology
  2. Describe and apply the scientific method to investigate biological phenomena
  3. Analyze modern phylogenetic trees to assess evolutionary relationships among organisms
  4. Demonstrate the ability to construct a graph that accurately portrays quantitative data and to interpret graphical representations of information
  5. Describe a problem that needs to be addressed and apply fundamental knowledge to find plausible solutions

REQUIRED MATERIALS

McGraw-Hill Connect: For this course, you will be required to purchase Connect, which will contain the Brooker, Principles of Biology 2e eBook. We will be participating in the Inclusive Access "Opt Out" Program to ensure you pay the lowest possible price for your Connect access. You will begin receiving e-mails in your ASU account about the Inclusive Access "Opt-Out" Program 2-3 days prior to class. You will continue receiving periodic e-mail reminders through drop/add. On the first day of class, you can log into Canvas and get registered for Connect. Approximately 2 days after drop/add, you will see a "materials fee" charge in your ASU account that will be titled: Bkstr Publisher Negotiate Rate. The cost for Connect will be $57, plus tax.

You may choose to opt out of Inclusive Access, but know you will likely pay a higher price for your Connect access. To opt out, simply click on the link (https://includedcp.follett.com/1230) which will open the "opt out" portal. You will click "Create an Account" and enter your ASU email address. Please note: ASU email addresses are configured in two different ways: firstname.lastname@asu.edu and asurite@asu.edu. The ASU system will only recognize one, so if the first configuration doesn't work, you may need to try the second configuration (Helpful hint: the Follett system will match how your email displays in https://asu.edu/directory). If prior to drop/add, you chose to "opt out", but wish to opt back in, this option is also available through the portal.



If you would like to purchase the loose-leaf textbook (not required), you can do so in two ways. First, the ASU Bookstore will offer a print upgrade for a minimal price (approximately $30). This print upgrade is available only for students participating in the Inclusive Access Program. To ensure that only participating students are able to purchase, the book info for the upgrade will NOT appear in the course listing until the first day of classes. At that time, students may purchase either through the Bookstore website or in-person. In-person customers will need to ask for the upgrade at the Text Info counter, as we need to verify enrollment in the program. Second, you can always purchase the loose-leaf textbook through Connect for $25 (free shipping & handling).

Ready to get registered for Connect? Watch this easy to follow Connect registration video -
http://video.mhhe.com/watch/xUs68jEUwVnAB2K64eWMgc

GRADE DETERMINATION

Final grades will be based on student performance in both the lecture and laboratory parts of the course. Assessment of learning for the course will be based on 1 Reflective Journal (10%), 12 LearnSmart Activities (15%), 12 Chapter Quizzes (15%), 12 Virtual Labs (20%), and 3 Unit Exams (40%). All assignments **MUST BE COMPLETED BY 11:59 PM THE DAY THEY ARE DUE**. Refer to the schedule specific to the section you are in (DYN or B). No grades will be dropped, and no curves will be given. Students will be able to monitor grades via the Canvas gradebook. Final grades will be assigned as follows: A = 90 – 100; B = 80 – 89; C = 70 – 79, D = 60 – 69, F = 0 – 59.

COURSE WORKLOAD

Unit Exams (40%): There will be 3 Unit Exams throughout the semester, each focusing on a different theme in biology (Evolution, Biodiversity, Ecology). Each unit exam will consist of 40 multiple-choice questions that will ask you to apply critical thinking skills to explain biological phenomena, not simply repeat facts that you have memorized. Online exams will require the use of Respondus LockDown Browser to prevent, or at least minimize the likelihood of, cheating during online exams (https://myapps.asu.edu/app/respondus-lockdown-browser). Unit exams will be posted for 24 hours, during which you can take them anytime as long as they are submitted by 11:59 pm the day of the exam.

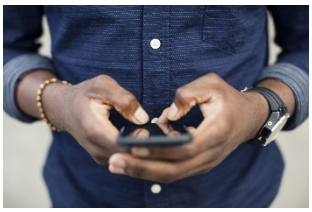
Virtual Labs (20%): The primary purpose of the labs is to help you understand pertinent biological concepts and develop scientific reasoning skills. More specifically, the labs will focus on the reasoning skills used to generate arguments and test alternative hypotheses and theories using circumstantial, correlational, and experimental evidence. All lab materials can be accessed online through the Labster link on Canvas. You will be completing and submitting a total of 12 labs this semester. All instructions for completing labs and lab assignments can be found in Canvas under the appropriate assignment. Virtual labs will be posted for an average of 12 days, during which students can complete the assignments anytime as long as they are submitted by 11:59 pm the day they are due.

LearnSmart Activities (15%): McGraw-Hill's LearnSmart is an interactive study tool that adaptively assesses students' skill and knowledge levels to track which topics students have mastered and which require further instruction and practice. Based upon student progress, it then adjusts the learning content based on their knowledge strengths and weaknesses, as well as their confidence level around that knowledge. LearnSmart's adaptive technology also understands and accounts for memory degradation. It identifies the concepts that students are most likely to forget over the course of the semester—by considering those that they had been weakest on or least confident with—and encourages periodic review by the student to ensure that concepts are truly learned and retained. In this way, it goes beyond systems that simply help students study for a test or exam, and helps students with true concept retention and learning. LearnSmart activities will be posted for an average of 12 days, during which students can complete the assignments anytime as long as they are submitted by 11:59 pm the day they are due.

Chapter Quizzes (15%): The purpose of the chapter quizzes is to assess your knowledge of important and fundamental concepts in biology. Material for the quizzes will come from the LearnSmart activities, reading assignments, and any lecture notes that I post. Each quiz will consist of 10 questions worth 100 points and will be administered through Canvas. The mean of all 12 quiz scores will be used as your final quiz average. Chapter quizzes will be posted for an average of 12 days, during which students can complete them anytime as long as they are submitted by 11:59 pm the day they are due.

Reflective Journal (10%): Students must maintain an electronic journal to serve as a self-reflective tool that monitors their progress in becoming a biologist. Upon completion of each lab, students should be able to provide a (1) brief summary of what you learned both in terms of knowledge and skills, (2) statement of how you can apply covered concepts to your everyday life, and (3) summary of your overall experience working in that lab. Reflective Journals will be posted for an average of 12 days, during which students can complete them anytime as long as they are submitted by 11:59 pm the day they are due.

ADDITIONAL CLASSROOM EXPECTATIONS



Cell phones, pagers, and other electronics: Class participation is important. While cell p hones and other electronic devices are valuable tools which we will use in class, they can also be a distraction. Please silence ALL electronics while in the classroom. Students whose phones interrupt the class may be asked to leave and receive a penalty to their final course grade of 10% or one full letter of the final grade per infraction. If you do need to take a phone call, please step outside as inconspicuously as possible. Cells phones are not permitted in class on exam days. Cell phone use during exams will be considered evidence of cheating and result in a 0 on the exam.

Late Submissions: It is the responsibility of the student to complete work by the assigned due date and time. **Any assignments or exams not submitted by 11:59 pm (Arizona time) will automatically receive a 10% deduction for every hour it is late.** I understand that technical issues do occur, but they do not excuse late submissions when students have multiple days to complete each assignment. For help with course technology, contact the University Technology Office: https://uto.asu.edu/initiatives/ask-asu/support

ASU POLICIES AND PROCEDURES

ASU Academic Integrity - https://provost.asu.edu/academic-integrity: Each student has an obligation to act with honesty and integrity, and to respect the rights of others in carrying out all academic assignments. Violations of the University Academic Integrity policy will not be ignored. Penalties include reduced or no credit for submitted work, a failing grade in the class, a note on your official transcript that shows you were punished for cheating, suspension, expulsion and revocation of already awarded degrees. The university requires that the implementation of any of these penalties for violations of the academic integrity policy be reported to the College's Academic Integrity Officer. The Academic Integrity Policy defines the process to be used if the student wishes to appeal this action.

ASU Student Code of Conduct - https://eoss.asu.edu/dos/srr/codeofconduct: Students are expected to follow the student code of conduct, especially when communicating with your peers and instructors. Violations of the student code of conduct may result in withdrawal from the class.

Assessments: Please be aware that student scores on exams or other graded work may be used for assessment of program goals of degrees offered by the School of Mathematical and Natural Sciences.

Attendance/Absence Policies: In addition to the instructor's general policy on absences and missed work, excused absences and conditions for making up work include "Accommodation of Religious Practices" (https://www.asu.edu/aad/manuals/acd/acd304-04.html) and "Missed Classes Due to University-Sanctioned Activities" (*https://www.asu.edu/aad/manuals/acd/acd304-02.html*). Students must notify their instructors of these absences as early as possible in the semester.

Copyright Infringement: A warning to students that they must refrain from uploading to any course shell, discussion board, or website used by the course instructor or other course forum, material that is not the student's original work, unless the students first comply with all applicable copyright laws; faculty members reserve the right to delete materials on the grounds of suspected copyright infringement.

***Course/Instructor Evaluation*:** The course/instructor evaluation for this course will be conducted online 7-10 days before the last official day of classes of each semester or summer session. Your response(s) to the course/instructor are anonymous and will not be returned to your instructor until after grades have been submitted. The use of a course/instructor evaluation is an important process that allows our college to (1) help faculty improve their instruction, (2) help administrators evaluate instructional quality, (3) ensure high standards of teaching, and (4) ultimately improve instruction and student learning over time. Completion of the evaluation is not required for you to pass this class and will not affect your grade, but your cooperation and participation

in this process is critical. About two weeks before the class finishes, watch for an e-mail with "NCIAS Course/Instructor Evaluation" in the subject heading. The email will be sent to your official ASU e-mail address.

Emergencies/Campus Power Outage: In the event of a campus power outage or other event affecting the ability of the University to deliver classes, any decision to cancel classes will be announced using the ASU emergency notification system. For this reason, it is imperative that students register with the ASU emergency notification system at: *https://cfo.asu.edu/emergency-alert*. In cases in which a limited number of buildings are affected, students should check the university website and/or call the School office at (602) 543-6050.

Evacuation Plan: Students should be aware of the evacuation route posted on the exit door of each classroom. Students who cannot walk down stairs should notify the instructor as early in the course as possible so the instructor can provide information regarding the location of the designated meeting area on each upper floor of the building (marked with a blue sign that states Emergency Evacuation Response Area).

Final Exam Make-up Policy: The final exam schedule listed in the Schedule of Classes will be strictly followed. Exceptions to the schedule and requests for make-up examinations can be granted only by the Associate Director of the School of Mathematical and Natural Sciences for one of the following reasons: 1) religious conflict; 2) the student has more than three exams scheduled on the same day; 3) two finals are scheduled to occur at the same time. Make-up exams will NOT be given for reasons of non-refundable airline tickets, vacation plans, work schedules, weddings, family reunions, or other such activities. Students should consult the final exam schedule before making end-of-semester travel plans. If there is a last-minute personal or medical emergency, the student may receive a grade of Incomplete and makeup the final within one calendar month. The student must provide written documentation and be passing the class at the time to receive an Incomplete. A signed "Request for Grade of Incomplete" must be submitted by the student and approved by the student's instructor and the Associate Director of the School of Mathematical and Natural Sciences.

Incomplete*:* A grade of incomplete will be awarded only in the event that a documented emergency or illness prevents a student who is doing acceptable work from completing a small percentage of the course requirements at the end of the semester. The guidelines in the current general ASU catalog regarding a grade of incomplete will be strictly followed. **A grade of incomplete will NOT be awarded unless there is documented evidence of extreme personal or immediate family hardship**. Changes in work hours, child-care emergencies, or other similar personal problems will not be approved as reasons for awarding incompletes. The Associate Director of the School of Mathematical and Natural Sciences must approve any incomplete grade requests.

Policy against Threatening Behavior **-** *http://www.asu.edu/aad/manuals/ssm/ssm104-02.html*: In the classroom and out students are required to conduct themselves in a manner that promotes an environment that is safe and conducive to learning and conducting other university-related business. All incidents and allegations of violent or threatening conduct by an ASU student will be reported to the ASU Police Department (ASU PD) and the Office of the Dean of Students. Such incidents will be dealt with in accordance with the policies and procedures described in Section 104-02 of the Student Services Manual.

Potentially Offensive Content**:** If you find any of the content of this class offensive, please bring your concerns to the instructor immediately.

Reasonable Accommodations for Students with Disabilities: The Disability Resource Center (DRC) provides information and services to students with any documented disability who are attending ASU West. Individualized program strategies and recommendations are available for each student as well as current information regarding community resources. Students also may have access to specialized equipment and supportive services and should contact the instructor for accommodations that are necessary for course completion.

Recording of Lectures*:* Our aim is to create a learning environment where all feel free to contribute; thus any recording of class sessions is prohibited (with the exception of those who have a DRC-approved

accommodation), and no one should post any verbatim accounts of class discussion or say anything that could identify a class member on social media without the expressed permission of the course instructor.

Title IX: Is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at *https://sexualviolenceprevention.asu.edu/faqs.* As mandated reporters, faculty are obligated to report any information of which they become aware regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, *https://eoss.asu.edu/counseling*, is available if you wish discuss any concerns confidentially and privately.

Withdrawals: Specifically, students should be aware that non-attendance will **NOT** automatically result in their being dropped from the course. Therefore, if a student does not attend class during the first week or for any extended period of time during the semester, they should not presume that they are no longer registered. Any withdrawal transaction must be completed by the deadline date in accordance to the appropriate session at the registrar's office. If not, you will still be officially enrolled and you will receive a grade based on your work completed. **It is the student's responsibility to be aware of their registration status.**

See ASU Full Calendar: https://students.asu.edu/academic-calendar#summer20

Some Calendar Reminders	**DYN**	**B**
Classes Begin	June 15	July 1
Last Day to Drop/Add Without College Approval		July 2
Independence Day Observed – Classes excused/University closed		July 3
Tuition & Fees 100% Refund Deadline		July 5
Course Withdrawal Deadline		July 21
Complete Session Withdrawal Deadline/Last Day of Classes *		August 11
Final Exam	July 24	August 11
Classes End	July 24	August 11

*As part of a complete session withdrawal a student must withdraw from all classes in a session. Beginning the first day of classes, undergraduate students are required to work with a Student Retention Coordinator to facilitate the withdrawal process. Please refer to *https://students.asu.edu/StudentRetention*

***** The instructor reserves the right to make changes to this syllabus as needed.***

SUMMER SCHEDULE (DYN)

Dates	Activities
06/15	Course Syllabus Quiz
06/16	Chapter 19 – Evolution of Life I
06/17	Chapter 19 – Evolution of Life I
06/18	Labster 1 – Lab Safety
06/19	Chapter 20 – Evolution of Life II
06/20	Chapter 20 – Evolution of Life II
06/21	Labster 2 – Mendelian Inheritance
06/22	Chapter 21 – How Biologists Classify Species
06/23	Labster 3 – Biodiversity
06/24	Chapter 22 – History of Life on Earth and Human Evolution
06/25	Chapter 22 – History of Life on Earth and Human Evolution
06/26	Labster 4 - Evolution
06/27	**Unit 1 Exam**
06/28	Chapter 23 – Diversity of Microbial Life
06/29	Labster 5 – Wastewater Treatment
06/30	Chapter 25 – How Plant Diversification Changed Plant Earth
07/01	Chapter 25 – How Plant Diversification Changed Plant Earth
07/02	Labster 6 – Pigment Extraction
07/03	***Independence Day Observed / University closed***
07/04	***Independence Day***
07/05	Chapter 26 – The Vast Array of Animal Life Without a Backbone
07/06	Chapter 26 – The Vast Array of Animal Life Without a Backbone
07/07	Labster 7 – Invertebrate Model System
07/08	Chapter 27 – Fishes, Amphibians, Reptiles, and Mammals
07/09	Chapter 27 – Fishes, Amphibians, Reptiles, and Mammals
07/10	Labster 8 – Marine Biology
07/11	**Unit 2 Exam**
07/12	Chapter 43 – Population Growth and Species Interactions
07/13	Chapter 43 – Population Growth and Species Interactions
07/14	Labster 9 – Ecological Niches
07/15	Chapter 44 – Communities and Ecosystems
07/16	Chapter 44 – Communities and Ecosystems
07/17	Labster 10 – Biomes
07/18	Chapter 45 – How Climate Affects the Distribution of Species on Earth
07/19	Chapter 45 – How Climate Affects the Distribution of Species on Earth
07/20	Labster 11 – Spatial Ecology
07/21	Chapter 47 – Biodiversity and Conservation Biology
07/22	Chapter 47 – Biodiversity and Conservation Biology
07/23	Labster 12 – Landscape Ecology
07/24	**Unit 3 Exam**

SUMMER SCHEDULE (B)

Dates	Activities
07/01	Course Syllabus Quiz
07/02	Chapter 19 – Evolution of Life I
07/03	***Independence Day Observed / University closed***
07/04	***Independence Day***
07/05	Chapter 19 – Evolution of Life I
07/06	Labster 1 – Lab Safety
07/07	Chapter 20 – Evolution of Life II
07/08	Chapter 20 – Evolution of Life II
07/09	Labster 2 – Mendelian Inheritance
07/10	Chapter 21 – How Biologists Classify Species
07/11	Chapter 21 – How Biologists Classify Species
07/12	Labster 3 – Biodiversity
07/13	Chapter 22 – History of Life on Earth and Human Evolution
07/14	Chapter 22 – History of Life on Earth and Human Evolution
07/15	Labster 4 - Evolution
07/16	**Unit 1 Exam**
07/17	Chapter 23 – Diversity of Microbial Life
07/18	Chapter 23 – Diversity of Microbial Life
07/19	Labster 5 – Wastewater Treatment
07/20	Chapter 25 – How Plant Diversification Changed Plant Earth
07/21	Chapter 25 – How Plant Diversification Changed Plant Earth
07/22	Labster 6 – Pigment Extraction
07/23	Chapter 26 – The Vast Array of Animal Life Without a Backbone
07/24	Chapter 26 – The Vast Array of Animal Life Without a Backbone
07/25	Labster 7 – Invertebrate Model System
07/26	Chapter 27 – Fishes, Amphibians, Reptiles, and Mammals
07/27	Chapter 27 – Fishes, Amphibians, Reptiles, and Mammals
07/28	Labster 8 – Marine Biology
07/29	**Unit 2 Exam**
07/30	Chapter 43 – Population Growth and Species Interactions
07/31	Chapter 43 – Population Growth and Species Interactions
08/01	Labster 9 – Ecological Niches
08/02	Chapter 44 – Communities and Ecosystems
08/03	Chapter 44 – Communities and Ecosystems
08/04	Labster 10 – Biomes
08/05	Chapter 45 – How Climate Affects the Distribution of Species on Earth
08/06	Chapter 45 – How Climate Affects the Distribution of Species on Earth
08/07	Labster 11 – Spatial Ecology
08/08	Chapter 47 – Biodiversity and Conservation Biology
08/09	Chapter 47 – Biodiversity and Conservation Biology
08/10	Labster 12 – Landscape Ecology
08/11	**Unit 3 Exam**