BSC 116 **Principles of Biology II Section 4 (Spring 2020)**

Instructor: Dr. Kevin Kocot
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Lecture schedule: MWF 10:00 to 10:50 AM in 328 Lloyd Hall

Office hours: MW 4:00 PM to 5:00 PM or by appointment in 307 Mary Harmon Bryant Hall

Course web page: http://ualearn.blackboard.com

Required materials: Campbell Biology 11th edition, access to Pearson Mastering Biology (for the online homework), and either a Turning Technologies Response Card NXT (a "clicker") or the Turning Technologies mobile app. The Supe Store carries all the materials required for this course.

Prerequisites: Grade of C- or better in BSC 114/115 or BSC 118.

Course description: For biology majors, biology minors, pre-health students, and select others. Study of the diversity, structure, function, and ecology of organisms, including bacteria, plants, algae, other protists, fungi, and animals. Offered fall, spring, and summer. NOTE: A student must take both BSC 116 and BSC 117 in order to use either one of the courses to satisfy a portion of the natural science (N) requirement of the University Core Curriculum. 3.0 credit hours.

Student learning outcomes: The objectives of this course are to 1) survey the diversity of the major groups of life and 2) provide the foundation necessary for success in future coursework in the biological sciences.

Your instructor will:
1. Survey the major groups of single- and multi-celled organisms.
2. Compare and contrast variation in form and function of organisms in the context of evolutionary relationships and ecological interactions.
3. Review the basic physiology of multicellular organisms with an emphasis on plants and animals.
4. Review the ecological principles underlying the complex interactions among organisms and their environment at the levels of the individual, population, community, and ecosystem.
5. Emphasize the relevance of organismal biology to human health and happiness.

By the end of this course, you should be able to:
1. Recognize and classify higher-level organismal diversity.
2. Know the basic historical (evolutionary) and contemporary (ecological) patterns observed in the biosphere.
3. Contrast and compare the variety of organismal body-plans, ecologies, life histories, and reproductive modes.
4. Understand the nature of organismal interactions and the ways these relationships lead to the organization of individuals into populations, communities, and ecosystems.
5. Demonstrate the ability to learn, synthesize, and retain a large body of knowledge, including a vast terminology.
6. Understand the scientific method and be able to critically evaluate scientific information.

Attendance policy: Attendance at all lecture periods is required. Attendance will be assessed in class using clickers. Lectures will generally be recorded and made available via Blackboard using Panopto. However, technical difficulties sometimes prevent this.

Evaluation: There are 805 possible points in the course with the following breakdown:

5 points	Assessment (points for completion; submit via Blackboard by 11:59 PM on January 15th)
100 points	Exam 1 (February 3rd, 2020; 5-6:15 PM in 16 Lloyd Hall)
100 points	Exam 2 (March 2nd, 2020; 5-6:15 PM in 16 Lloyd Hall)
100 points	Exam 3 (March 30th, 2020; 5-6:15 PM in 16 Lloyd Hall)
100 points	Exam 4 (NOT cumulative; 11:30 AM – 2:00 PM; location TBD)
100 points	Clicker quizzes (5 pts each; only best 20 are scored)
300 points	Mastering Biology homework (deadlines: 2/2/20, 3/1/20, 3/29/20, and 4/26/20 by 11:59 PM)

Assessment:

- Student knowledge of the material covered in this course will be assessed at the beginning of the course with an online quiz
- These questions will appear again on exams or clicker quizzes
- Students who complete the assessment will get full credit regardless of how well they perform

Lecture exams and final exam:

- There will be four examinations worth 100 points each.
- Exams 1-3 will be in 16 Lloyd Hall on select Monday evenings from 5-6:15 PM (see the class schedule for dates of exams). Exam 4 will be during the course's final exam period – the time and location will be announced in class.
- Regular exams in BSC 116 are computer-based and all questions are multiple choice. There will be 50 questions per exam with each worth 2 points. Exam 4 may be computer- or scantron-based.
- Questions will cover material from the lectures, assigned reading, and homework. Lecture material will be strongly emphasized but you are expected to do all assigned readings and complete homework assignments on time.
- You must bring your university photo ID with you to all exams.
- All exams are closed book; no printed, written or digital study aids may be used during the exam.
- If you arrive for an exam after another student has already finished it and left, you will not be allowed to take the exam.

Pearson Mastering Biology homework, practice questions, and other resources:

- Access Pearson resources via Blackboard, which is available via through mybama.ua.edu.
- Assignments for practice ("Dynamic Study Modules") and for a grade ("Homework") are available via "Mastering Assignments." Other valuable resources including practice exams are available via the "Study Area" link.
- Mastering Biology assignments not submitted before a deadline cannot be made up. Sorry, no exceptions.
- Students are encouraged to do each lecture's homework assignment that evening, but the deadline for each 'batch' of homework assignments is 11:59 PM on the Sunday evening before each exam.
- Homework deadlines: 2/2/20, 3/1/20, 3/29/20, and 4/26/20.

In-class quizzes using clickers:

- There will be at least 20 lectures with Turning Technologies "clicker" quizzes over the course of the semester.
- If more than 20 quizzes are offered, a student's best 20 scores will count toward their quiz total (100 points).
- Clicker quizzes serve to 1) assess attendance, 2) help the instructor gauge teaching efficacy, and 3) help students to gauge if they are understanding key points. Questions may cover content covered in the previous lecture or previously in that day's lecture.
- Breakdown of clicker points: 3 points are for attendance (submitting any answer to the first question) and 1 point is for each of two questions correctly answered.
- The first question may be asked at the very beginning of class so be punctual.
- If your clicker malfunctions, you may turn in your answers for that day on a piece of paper. Leaving your clicker at home is not a valid excuse. See your instructor immediately if you lose your clicker or get a new clicker.
- Using another student's clicker, for any reason or purpose, is considered a case of academic misconduct and will be reported immediately to the Dean of Arts & Sciences for disciplinary action.

Grading policy: Grades are based on a percentage derived from total points accumulated during the semester:

A+ = 97-100	B+ = 87-89.9	C+ = 77-79.9	D+ = 67-69.9	F < 60
A = 94-96.9	B = 84-86.9	C = 74-76.9	D = 64-66.9	
A- = 90-93.9	B- = 80-83.9	C- = 70-73.9	D- = 60-63.9	

In order to ensure a fair and accurate representation of the performance of all the students in the class, the instructor reserves the right to modify the above point distribution in the student's favor for all students in the course in the event of unusual circumstances that prevents a large fraction of the class from completing class requirements in the normal fashion. PLEASE DO NOT ASK FOR EXTRA CREDIT OR EXTRA WORK TO IMPROVE YOUR GRADE.

Policy on missed coursework: Students will be permitted to make up exams with a significant, documented excuse (generally health related) that should be submitted as soon as possible. Requests for makeup exams made after the exam will only be granted for emergencies. The university medical center does not handle emergencies. Make-up exams may be different from regular exams and consist of essay, short answer, and/or fill-in-the-blank questions. A grade of 0 will be assigned for all missed clicker quizzes and online homework. Sorry but there will be no make-ups for missed in-class quizzes or homework.

Getting help: Free tutoring is available for this course at the Capstone Center for Student Success. Their office is located on the 3rd floor of Russell Hall (room 356) and the exact location for tutoring is TBD (likely on the second floor of Russell Hall). CCSS also has free printing and coffee! Visit their website (https://success.ua.edu/) for more information. There will also be a presentation by the Capstone Center for Student Success early on in the semester with more details. Assistance is also available through the Department of Biological Sciences Helpdesk. Announcements with details on the availability of help through these services will be made in class. I strongly encourage students to take advantage of these services!

Students with disabilities: If you are registered with the Office of Disability Services, please make an appointment with me as soon as possible to discuss any course accommodations that may be necessary. If you have a disability but have not contacted the Office of Disability Services, please call 348-4285 to register for services. Students must set up all exams (including the final) at ODS during the first two weeks of the semester to ensure that they have a spot for testing.

Academic misconduct: All acts of dishonesty in any work constitute academic misconduct. This includes but is not limited to, cheating, plagiarism, and fabrication of information, misrepresentations and abetting of any of the above. The Academic Misconduct Policy will be followed in the event that academic misconduct occurs. Students should refer to the Student Affairs Handbook, which can be obtained in the Office of Student Life and Services in the Ferguson Center. The University of Alabama expects all students to conduct their studies in an honorable manner. Any form of academic misconduct will result in appropriate penalties, which may include dismissal from the university.

As an academic community, our educational mission is enhanced by the robust exchange of ideas that occurs between a diverse student body, faculty, and staff within a respectful and inclusive learning environment. All members of the UA community are expected to contribute positively to the environment and to refrain from behaviors that threaten the freedom or respect that every member of our community deserves. UA is committed to providing an inclusive environment that is free from harassment or discrimination based on race, genetic information, color, religion, ethnicity, national origin, socioeconomic status, political beliefs, sex, sexual orientation, gender expression, gender identity, age, ability, size, or veteran status. UA prohibits any verbal or physical conduct that threatens or endangers the health or safety of any individual or group, including physical abuse, verbal abuse, threats, stalking, intimidation, harassment, sexual misconduct, coercion, and/or other communication or conduct that creates a hostile living or learning environment. Harassment or other illegal discrimination against individuals or groups not only is a violation of University Policy and subject to disciplinary action, but also is inconsistent with the values and ideals of the University.

UAct: The University of Alabama is committed to an ethical, inclusive community defined by respect and civility. The UACT website (www.ua.edu/uact) provides extensive information on how to report or obtain assistance with a variety of issues, including issues related to dating violence, domestic violence, stalking, sexual assault, sexual violence or other Title IX violations, illegal discrimination, harassment, child abuse or neglect, hazing, threat assessment, retaliation, and ethical violations or fraud.

UA Severe Weather Policy: In the event of severe weather, all classes will meet as planned unless the University of Alabama in conjunction with the National Weather Service recommends alternative safety precautions (e.g., temporary suspension of classes, closing the university). Please note that for this class, we will follow the weather advisory posted on the University of Alabama's homepage (http://ua.edu/) for information on any class cancellations or changes.

Elasticity Statement: The instructor will make every effort to follow the guidelines of this syllabus as listed; however, the instructor reserves the right to amend this document as the need arises. In such instances, the instructor will notify students in class and via email and will endeavor to provide reasonable time for students to adjust to any changes.

Inclusivity Statement: The instructor will maintain the course as an inclusive learning community, respecting those of differing backgrounds and beliefs. As a community, we aim to be respectful to all citizens in this class, regardless of race, ethnicity, religion, gender identity, or sexual orientation. These expectations also fall on the students of the course. Please maintain a respectful, professional, and civil demeanor.

TENTATIVE SCHEDULE

Date	Lecture Topic	Campbell Chapter(s)
Wednesday, January 8, 2020	Welcome and The Scientific Method	1
Friday, January 10, 2020	Evolution and The History of Life on Earth	1, 25
Monday, January 13, 2020	Phylogeny and the Tree of Life I	26
Wednesday, January 15, 2020	Phylogeny and the Tree of Life II; ***Assessment due by 11:59 PM***	26
Friday, January 17, 2020	Bacteria and Archaea I	27
Monday, January 20, 2020	**NO CLASS (Dr. Martin Luther King Jr. Day)**	
Wednesday, January 22, 2020	Bacteria and Archaea II / Protists I	27, 28
Friday, January 24, 2020	Protists II	28
Monday, January 27, 2020	Fungi	31
Wednesday, January 29, 2020	Plant Diversity I: How Plants Colonized Land	29
Friday, January 31, 2020	Plant Diversity II: The Evolution of Seed Plants	30
Monday, February 03, 2020	Vascular Plant Structure, Growth, and Development	35
Monday, February 03, 2020	***Exam 1 (5-6:15 PM in 328 Lloyd Hall)***	**1, 25-31**
Wednesday, February 05, 2020	Plant Physiology	36
Friday, February 07, 2020	Soil and Plant Nutrition	37
Monday, February 10, 2020	Angiosperm Reproduction and Biotechnology	38
Wednesday, February 12, 2020	Plant Responses to Internal and External Signals	39
Friday, February 14, 2020	Introduction to Animals	32
Monday, February 17, 2020	Invertebrates I	33
Wednesday, February 19, 2020	Invertebrates II	33
Friday, February 21, 2020	Invertebrates III / Evolution of Vertebrates I	33, 34
Monday, February 24, 2020	Evolution of Vertebrates II	34
Wednesday, February 26, 2020	Animal Form and Function	40
Friday, February 28, 2020	Animal Nutrition	41
Monday, March 02, 2020	Circulation & Gas Exchange	42
Monday, March 02, 2020	***Exam 2 (5-6:15 PM in 328 Lloyd Hall)***	**32-40**
Wednesday, March 04, 2020	Innate Immunity	43
Friday, March 06, 2020	Acquired Immunity	43
Monday, March 09, 2020	Osmoregulation and Excretion	44
Wednesday, March 11, 2020	Hormones and the Endocrine System	45
Friday, March 13, 2020	TBD	
March 16-20, 2020	**NO CLASS (Spring Break)**	
Monday, March 23, 2020	Animal Reproduction	46
Wednesday, March 25, 2020	Animal Development	47
Friday, March 27, 2020	Neurons, Synapses, and Signaling	48
Monday, March 30, 2020	Nervous Systems	49
Monday, March 30, 2020	***Exam 3 (5-6:15 PM in 328 Lloyd Hall)***	**41-47**
Wednesday, April 01, 2020	Sensory Motor Mechanisms I	50
Friday, April 03, 2020	**NO CLASS (Honors Day)**	
Monday, April 06, 2020	Sensory Motor Mechanisms II	50
Wednesday, April 08, 2020	Animal Behavior	51
Friday, April 10, 2020	Ecology	52
Monday, April 13, 2020	Population Ecology	53
Wednesday, April 15, 2020	Community Ecology	54
Friday, April 17, 2020	Ecosystems	55
Monday, April 20, 2020	Restoration Ecology	55
Wednesday, April 22, 2020	Conservation Biology	56
Friday, April 24, 2020	Global Change	56
Tuesday, April 28, 2020	***Exam 4 (tentatively 11:30 AM – 2:00 PM; location TBD)***	**48-56**