The mission of Concord University is to provide quality, liberal arts based education, to foster scholarly and creative activities and to serve the regional community (http://www.concord.edu/academics/).

Biology 202 Animals as Organisms

Dr. Douglas A. Creer
Associate Professor of Biology
Office: 201-C Science Hall
Telephone: x-5328
E-mail: dcreer@concord.edu
Department website: http://www.concord.edu/biology/

Office hours: 11-12 MWF; 12:30-2:30 T; other times by appointment

Course Title: Biol 202, Animals as Organisms
Course CRN # and section, credit hours: 20009, sec 01, 4 hours
Semester taught: Spring 2019
Room number: S-300 (S-210 for lab)
Course time: MWF 1:00-1:50pm (laboratory times vary by section)
Course Management System: none
Hardware/Software needed: no specific requirement
Pre-requisites: Biology 101, 102 **or** Biology 103; Chemistry 101; or consent of instructor.

Textbooks:

Required:

- Hickman et al. 2014. Integrated Principles of Zoology. 16th ed. McGraw-Hill.
- Hickman, Kats, & Keen. 2014. Laboratory Studies in Integrated Principles of Zoology. 16th ed. McGraw-Hill.
- Ward's College Dissecting Set (available in the bookstore)
- Other readings as assigned during the course of the semester

Catalog description: Form, function, behavior, development, and classification in the major animal groups. Three hours lecture, three hours laboratory.

Course description/rationale: This course is intended as an introduction to animal life for Biology majors. It is further designed to provide students with training in skills that will be essential in more advanced coursework and in their future careers. Much of the material in this course will review and expand upon

concepts studied in general biology. We will begin with a study of the molecular and cellular processes that are common to all animal life. We will then survey the major groups of animals, putting them into a taxonomic and phylogenetic context and considering the major adaptations of different taxa. Finally, we will examine the comparative physiology of animals in detail. Through this course, students should:

- understand the chemical and cellular basis of animal life
- understand how the process of evolution has led to the current diversity of living things on earth
- understand the evolutionary basis of modern taxonomy, and learn how to put the diversity of animal life into a phylogenetic context.
- be familiar with the major groups of animals and of selected protists.
- be familiar with the physical challenges that must be met by animals in their various environments, and understand the anatomical structures that permit adaptation to these environments at different spatial scales.
- gain basic dissecting skills in the laboratory.
- become familiar with the anatomical features of major animal groups in a laboratory setting.
- increase their understanding of technical writing in the sciences.

Concord University Educational Goals: This course addresses the following goals under the category of "Skills":

1. Effective inter-communication skills and literacy adapted as needed for the demands of various kinds of discourse:
   listening and speaking
   reading and writing
2. An ability to employ appropriate observational, logical, analytical, computational, creative, and critical thinking skills within and across academic disciplines; and to apply these skills in problem-solving.
3. An ability to employ appropriate methods and technologies for conducting empirical and scholarly research, to interpret research findings, and to use insights gained from such research as a basis for informed decision making.
4. An ability to analyze, synthesize, and integrate elements, information and ideas.
5. An ability to evaluate elements, information, and ideas on the basis of appropriate criteria.

This course addresses the following goals under the category of "Knowledge":

1. An awareness of the fundamental characteristics and properties of the physical universe.

2. A recognition of the complex interactions between organisms, including human beings, and their environments.

Learning Outcomes: See above.

Course Requirements: See below.

Grading policies: Course grades will be based on the following:

- Lecture examinations. There are four exams scheduled in the lecture course, which will be completed in class. Dates are given in the course schedule, below. Lecture exams may consist of any mix of multiple-choice, short-answer, diagram, and short-essay questions. Each exam will cover the material presented since the last exam.
- Lecture quizzes. Several quizzes will be given in class during the course of the semester. These will be shorter and simpler than the lecture exams. Quizzes will be announced at least one class period in advance.
- Lab exams. There will be three lab exams; dates are given in the lab schedule (see below). Each lab exam will cover only the material studied since the previous exam.
- Lab project. Students will complete a simple experiment involving invertebrate organisms. The results of this experiment will be written up in a formal lab report. Further details will be given later in the semester.
- Final exam. The final will cover all material studied in the course, with some extra emphasis given to material covered since the last lecture exam. Final exam questions will be similar to questions in the lecture exams.

Grades will be broken down as follows:

Lecture exams:	30%
Lecture quizzes:	10%
Lab exams:	25%
Lab project:	10%
Final exam:	25%

Quizzes and exams missed due to an excused absence may be made up. I will determine the time and place of any make-up quiz or exam in consultation with the student. Students who are absent due to illness or emergency are responsible for contacting me as soon possible afterwards to make arrangements for make-up work.

Credit may be deducted from a student's final grade for unexcused absences. Absences due to University-sponsored activities may be excused provided the instructor is notified in writing at least 5 days prior to the absence. Other acceptable reasons for missing class include acute illness or injury requiring medical attention, death of a family member, or other events of comparable seriousness. Students must provide documentation (such as a doctor's note) for such absences to be excused. It is the student's responsibility to make

arrangements with the instructor to make up missed work following an excused absence. Bear in mind that absences from laboratory sessions are difficult to make up.

Course Timeline:
The following schedule is approximate and subject to change, depending on student progress and other factors. Major changes (e.g. in exam dates) will be announced in writing as far in advance as practical.

	Date	**Topic**	**Text Chapter**
January	14	Introduction to Zoology	1
	16	Chemistry of Life	2
	18	Animal Cells	3
	21	no class – MLK Day	
	23-25	Cellular Metabolism and Respiration	4
	25-28	Genetics	5
	30	Reproduction	7
February	1	Development	8
	4	Animal Architecture	9
	6	**Lecture Exam I**	
	8	Evolution – history and genetics	6
	11	Evolution – macroevolution	6, 37
	13-15	Taxonomy and Phylogeny	10
	18	Eukaryote Phylogeny – the protists	11
	20	Animal Origins, Sponges	12
	22	Eumetazoans, the Radiate Animals	13
	25	Bilaterian taxa, Lophotrochozoans	14

	27	Smaller Lophotrochozoan groups	15
March	1	**Lecture Exam 2**	
	4	Mollusks	16
	6	Annelids	17
	8	Introduction to the Ecdysozoa	18
	11-15	Spring Break – no classes	
	18	Introduction to the Arthropods	19
	20	Crustaceans	20
	22	Hexapods	21
	25	Introduction to the Deuterostomes	22
	27	Chordates	23
	29	**Lecture Exam 3**	
April	1-3	Fishes	24
	5	Amphibians	25
	8	Amniotes, Nonavian Reptiles	26
	10	Birds	27
	12	Mammals	28
	15	Muscles and Skeletons	29
	17	Homeostasis	30
	19	Circulation and Respiration	31
	22	Digestion	32
	24	**Lecture Exam 4**	
	26	Nervous Systems	33

	29	Sensory Systems, Endocrine Systems	33, 34
May	1	Endocrine, Immunity	34, 35
	3	Animal Behavior	36
May	10 (F)	**Final Examination** 11:30-1:45	

Lab Schedule: Labs will follow the format laid out in the lab manual generally, but material will be added, subtracted, and/or altered as dictated by the availability of materials and the needs of the course. The following schedule is subject to change; all changes will be announced as far in advance as possible.

January	15	Microscopy; Intro to Lab	Lab 1
	17	Cells and Cell Division	Lab 2
	22	Animal Tissues – open lab	Lab 4
	24	Embryology	Lab 3
	29	Systematics and Taxonomy	Lab 5
	31	Single-celled Eukaryotes	Lab 6
February	5	Porifera	Lab 7
	7	Cnidaria	Lab 8
	12	**Lab Exam I**	
	14	Platyhelminthes	Lab 9
	19	Pseudocoelomate Protostomes	Lab 10
	21	Mollusca	Lab 11
	26	Annelida	Lab 12
	28	Chelicerata and Crustacea	Labs 13-14
March	5	Myriapoda and Hexapoda	Lab 15

	7	Echinodermata	Lab 16
	11-15	[Spring Break – no labs]	
	19	**Lab Exam II**	
	21	Intro to Chordata	Lab 17
	26	Introduction to the Lab Project	
	28	Fishes	Lab 18
April	2	Amphibia	Lab 19
	4	Lab Project Work	
	9	Lab Project Work	
	11	Nonavian Reptilia	Lab 20
	16	Lab Project Work	
	18	Technical Writing Workshop	
	23	Lab Project Work/Writing	
	25	Aves	Lab 21
	30	Mammalia	Lab 22
	2	**Lab Exam III**	

Accessibility/Accommodations:
Concord University is committed to responding to the needs of students with disabilities as defined by the Americans with Disabilities Act. Please inform your instructor at the beginning of the class semester if you have a disability and are requesting accommodations. It is your responsibility to self-disclose that you are requesting accommodations. The University and instructor will provide you with a reasonable accommodation. You should register with CU's Disability Services Office, located in the Athens campus Jerry and Jean Beasley Student Center, Bottom Floor, across from the Campus Post Office. The Disability Services Office phone is 304-384-6086 or you can email the Director, Nancy Ellison, at nellison@concord.edu for assistance.
Academic Dishonesty

Academic dishonesty is morally unacceptable as well as destructive to the learning and teaching atmosphere. Academic dishonesty includes the giving or receiving of improper help on examinations or assignments, falsifying documents, and plagiarism (the act of stealing and using, as one's own, the ideas or the expression of the ideas of another). Such dishonesty can lead to a variety of penalties — including but not limited to failure of assignment, failure of course, loss of institutional privileges, or dismissal from the University. (See University Catalog Academic Policies and Procedures.)

Concord University Honor Code

A Concord University Honor Code was approved by students, staff, faculty, administration, and the CU Board of Governors. The Code states:

"As a member of the Concord University Community I will act with honesty and integrity in accordance with our fundamental principles and I will respect myself and others while challenging them to do the same."

The Honor Code is intended to unite the Concord community behind a culture of honesty, integrity, and civility.

Class/Online Attendance Policy

Regular class attendance is part of a student's academic obligation at Concord. Irregular attendance may affect academic performance adversely and is detrimental to the atmosphere of a class. (See University Catalog Academic Policies and Procedures.)

Emergency Alert System

In an effort to increase safety and security on our campus, Concord University encourages everyone to register for instant text message alerts. Alerts will only be used for security and safety notices. All students, faculty, and staff are eligible to receive text message alerts on their cell phones or email alerts. Please contact the IT Help Desk for further assistance (304-384-5291).

Emergency Information

Emergency/courtesy telephones are located at the main entrance of each residence hall and at various other locations on campus. Emergency telephones can be identified by the flashing blue light and will provide the user with a direct link to Public Safety at the press of a button. To report an on-campus emergency, call 304-384-5357 or 911. The Office of Public Safety is located on the bottom floor of the Rahall Technology Center. For further emergency information go to: http://www.concord.edu/administration/office-public-safety.

Inclement Weather Policy

As a general policy, the University will remain in normal operations during adverse weather conditions. In the event of severe weather conditions, the following may occur:

University Closure

No students or employees are to report.

Classes Cancelled

Students do NOT report BUT employees are expected to report to work at their normal time.

Operating on an Inclement Weather Delay

Under this schedule, all 8 a.m. classes will start at 10 a.m. Students and faculty will follow the Inclement Weather Schedule. (See

http://www.concord.edu/emergency-alerts for Athens/Beckley Inclement Weather Schedules.)
**Announcements invoking the late schedule or other options referenced above are aired on area radio and television stations and are sent as text and email messages to those enrolled for this service.*

Student Conduct

In classrooms, online, laboratories, and during any activities that are part of course requirements, students are expected to observe reasonable rules of conduct.

Sexual Harassment & Assault

Federal law, Title IX, and Concord University policy prohibits discrimination, harassment, and violence based on sex and gender (Including sexual harassment, sexual assault, domestic/dating violence, stalking, sexual exploitation, and retaliation). If you or someone you know has been harassed or assaulted, you can receive confidential counseling support through the Concord University Counseling Center (304-384-5290). Alleged Violations can be reported non-confidentially to the Concord University Title IX Coordinator at 304-384-6327 or titleix@concord.edu. Reports to Campus Security can be made at (304-384-5357). As an employee at Concord University, I am a mandatory reporter which means I must report any sexual misconduct I am made aware of. This includes verbal or written (such as in an assignment) disclosures of sexual harassment or sexual assault.

Technology Services

Contact the CU Help Desk at extension 5291 from campus or 304-384-5291 off campus. You may also e-mail cuhelpdesk@concord.edu.

Syllabus Disclaimer

"This syllabus is subject to change based on the needs of the class. Please check it regularly."

Miscellaneous (for example): N/A