

INTEGRATIVE ORGANISMAL BIOLOGY, BIOL 3600 (3 Units)

California State University, Los Angeles
Department of Biological Sciences
FALL 2018

Instructors: Nathan Lanning, PhD
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Office Hours: Dr. Lanning: Thursdays 11:00 AM – 12:00 PM
Dr. Scoffoni: Tuesday 3:00 PM – 4:00 PM

Lecture Location: BIOS 144
Lecture Time: Tuesdays and Thursdays 1:40 PM – 2:55 PM

Prerequisites: BIOL 3000 or CHEM 2300.

Course Description: BIOL 3600 Integrative Organismal Biology will explore organismal diversity in detail, with particular focus on form and function in multicellular Eukaryotes. In particular, we will examine plants, animals, and fungi, using angiosperms, mammals (mainly humans), and basidiomycetes as representative examples. This course will be integrative, in that it will focus within and among animals, plants, and fungi on five major themes, including Diversity, Growth & Development, Anatomy & Physiology, Reproduction, and Interactions & Importance. Throughout the course, we will emphasize comparisons of how these different major groups of Eukaryotes have evolved to fill ecological niches, and their global impact. Lastly, we will explore how members of each of these three groups are globally important to humans and to other organisms and the environments with which they interact.

Course Learning Objectives:

Upon successful completion of this course, students will be able to:

- 1) Demonstrate a basic understanding of the physical and chemical constraints placed upon living organisms by the terrestrial and aquatic environments.
- 2) Describe the basic mechanisms that allow living organisms to carry on the fundamental necessities of life.
- 3) Compare the variations in anatomical and physiological adaptations mandated by aquatic and terrestrial environments.

Required Course Materials:

Textbook: There is no required textbook for BIOL 3600.

Computer Requirements: You will need to have an up-to-date browser, operating system and some additional software on your computer to take this class. Check [the ITS Helpdesk Student Resources page](#) for instructions. Some of the documents in this course will be available to you in PDF form. You will need download and install [Adobe Acrobat Reader software](#) on your computer.

Attendance and Studying: Students are responsible for all material presented in class, including announcements about changes in course procedures. While attendance is not taken, students who do not attend class generally do not pass this course. A fair calculation for the time required for this class should take into account the need to spend at least 2 hours of independent study for each class hour.

Evaluation:

Grading (estimated points: total number of points is subject to change)

Midterm Exam 1 (animal)	150 points
Midterm Exam 2 (animal)	150 points
<u>Homework</u>	<u>200 points</u>
Midterm Exam (plant)	150 points
Final Exam (plant)	150 points
<u>Homework</u>	<u>200 points</u>
1000 points total	

Grading Scale

Grades in this course are not curved. Course grades will be assigned as follows:

A:	100-93%	C:	76-73%
A-:	92-90%	C-:	72-70%
B+:	89-87%	D+:	69-67%
B:	86-83%	D:	66-60%
B-:	82-80%	F:	59-0%
C+:	79-77%		

Note: There are no possibilities for making up assignments or obtaining extra credit.

Format of Graded Lecture Content

1. **Lecture exams** include multiple choice, matching, true/false, short answer, and long answer questions. A **scantron**, form 882-E, is required for each midterm and the final exam. **No make-up tests will be scheduled. With an excused (i.e. discussed in advance or doctor's note) absence** for a test, the value of the final exam will be increased to compensate for the missed test. If evidence of emergency can be provided for a missed final, an Incomplete will be given. **All cell phones and other electronic devices are to be turned off during the exams.**
2. There were also be assigned homework that must be turned in on time as announced on Moodle or in class. Homework not turned in on time will result in a score of zero—no exceptions.

Course Webpage – This course will use either Moodle or Canvas. Due to a change in CSULA course webpages this term, the instructor will inform you of the proper course webpage on the first day of class. PowerPoint lecture **outlines** (these are NOT all you need to know for the course!), course syllabus, major grades (exams, lecture & lab totals), and announcements. Please check our Moodle course regularly for important information.

Course Policies

- **Drop Policy**—The drop policy established by the university will be strictly followed. After the no record drop deadline (**09/04/2018**), students may drop a course only for “serious and compelling reasons”. Failing a course is not an acceptable reason for withdrawal. Acceptable documentation is required verifying the reason for the withdrawal. See the Schedule of Classes for information. **09/04/2018**: last day to add for this term. **11/14/2018**: Last day to withdraw for a grade of “W”. **12/07/2018** Emergency withdrawal period ends.
- **Credit by Exam**—Credit by exam is not offered for this course.
- **Incomplete Grade Policy**—Incomplete grades can only be assigned when the majority of the coursework has been completed (essentially all work except the final exam), and the student is passing the course (grade of C or better). The submission of an Incomplete Grade Form is required.
- **ACADEMIC HONESTY**: Students are expected to read and abide by the University's Academic Honesty Policy, which can be found at <http://www.calstatela.edu/academic/senate/handbook/ch5a.htm> as well as in the current Schedule of Classes. Students who violate this policy will be subject to disciplinary action, and may receive a failing grade in the course for a single violation. **All cell phones and other electronic devices are to be turned off during the exams.**
- **Email** - All emails pertaining to the course must come from your **CSULA email account**. E-mail correspondence with the professor and lab instructors must be professional. Now is the time to start practicing for the job market, graduate school applications, business correspondence, etc. When you send a sloppy, unpunctuated e-mail (e.g., from your iPhone), you are conveying a message of non-professionalism, laziness, and

indifference; this will hurt you dearly in the professional world. Having the discipline to write professional correspondence will benefit you!

- **Please refer to this syllabus for all course procedural questions.** This syllabus is subject to change. If a change is made, the professor will immediately notify the class and post a revised syllabus.

Helpful Student Resources

Tutoring

Many students need help outside the classroom to master course content. Helpful resources are available at the CSULA University Tutorial Center (<http://www.calstatela.edu/tutorialcenter>). Students can receive in-person tutoring or online tutoring in Biology.

Technical Resources

Information on CSULA technical support resources for students: [Technical Support](#)

Student Support Services

Information on CSULA student support resources for students: [Student Services](#)

Academic Support Services

Information on CSULA academic support resources for students: [Academic Support](#)

Moodle Mentor Site

Information for students on how to be a successful online student and how to use Moodle: [Moodle Mentor](#) (Moodle Tutorials)

COURSE & UNIVERSITY POLICIES

Student Handbook

Information on student rights and responsibilities, academic honesty, standards of conduct, etc., can be found in Schedule of Classes for the current quarter visit the Cal State LA [Schedule of Classes Information](#) under Policies and Procedures.

Dropping and Adding Students are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. Students should be aware of the current deadlines and penalties for adding and dropping classes by visiting the [GET home page](#). (Registrar news and information)

Americans with Disabilities Act (ADA)

Reasonable accommodation will be provided to any student who is registered with the Office of Students with Disabilities and requests needed accommodation. For more information visit the [Office for Students with Disabilities](#) home page. <http://web.calstatela.edu/univ/osd/atlc.php>.

Course Schedule:

Week	Lecture Date	Lecture Topic
1	Aug. 21	Introduction; Animal organization adapted for homeostasis.
	Aug. 23	Neuronal Signaling
2	Aug. 28	Nervous System Neural Circuitry
	Aug. 30	Nervous System Structural Physiology
3	Sept. 04	Endocrine System
	Sept. 06	Cardiovascular System I: The Heart
4	Sept. 11	Midterm Exam (Animal Biology)
	Sept. 13	Cardiovascular System II: Vasculature
5	Sept. 18	Respiratory System
	Sept. 20	Renal System I: Basic Principles
6	Sept. 25	Renal System II: Regulation of Ion and Water Balance
	Sept. 27	Digestive System
7	Oct. 02	Regulation of Organic Metabolism and Energy Balance
	Oct. 04	Reproductive Systems
8	Oct. 09	Midterm Exam (Animal Biology)
	Oct. 11	Introduction; Evolution of life on land
9	Oct. 16	Diversity, function and structure of stems, roots, and leaves
	Oct. 18	Photosynthesis: light reactions
10	Oct. 23	Photosynthesis: carbon reactions
	Oct. 26	Assimilate transport through the phloem
11	Oct. 30	Plant water transport 1
	Nov. 1	Plant water transport 2 & Midterm review
12	Nov. 6	Midterm Exam (Plant Biology)
	Nov. 13	Plants and nutrients
13	Nov. 15	Plant functional evolution: from bryophytes to angiosperms
	Nov. 20	World climates and vegetation zones
14	Nov. 22	<i>Thanksgiving Break – No Class</i>
	Nov. 27	Tropical, Temperate and Mediterranean biomes
15	Nov. 29	Arid, Boreal and Tundra biomes
	Nov. 30	Fungi & Final review
Final	Dec. 13	Final exam (Plant Biology) : 2:30 Pm – 4:30 PM