

BIOL213: Structure and Function Across the Tree of Life  
(a.k.a., Principles of Biological Structure and Function)

Course Syllabus, Spring 2021

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<u>Office Hours:</u>	by appointment	by appointment

Lectures: MWF, 11:30 –12:20; Renfrew 112

Labs: All Labs will be in LSS 361

Sec 01: TUE 9:30am –12:20pm  
Graduate TA: Malia Santos ([msantos@uidaho.edu](mailto:msantos@uidaho.edu))  
Peer TA: Elise Abbott

Sec 02: TUE 1:30pm – 4:20pm  
Graduate TA: Andrew Simpson ([simp5363@vandals.uidaho.edu](mailto:simp5363@vandals.uidaho.edu))  
Peer TA: Kendall Bancroft

Sec 03: WED 1:30pm – 4:20pm  
Graduate TA: Nick Hoffman ([nhoffman@uidaho.edu](mailto:nhoffman@uidaho.edu))  
Peer TA: Megan Dobson

Sec 04: THU 1:30pm – 4:20pm  
Graduate TA: Andrew Simpson ([simp5363@vandals.uidaho.edu](mailto:simp5363@vandals.uidaho.edu))  
Peer TA: Janey Greenberg

Healthy Vandals Policies. It is a longstanding tradition that Vandals take care of Vandals, and we all do our best to look out for the Vandal Family. These simple precautions go a long way in reducing the impact of coronavirus on our campuses and in our communities. With everyone engaging in these small actions, we can continue to participate in our vibrant campus culture where we are able to learn, live, and grow. Please bookmark the University of Idaho Covid-19 webpage and visit it often for the most up-to-date information about the U of I's response to Covid-19.

1. Daily Symptom Monitoring and In-Person Class Attendance. Evaluate your own health status before attending in-person classes and refrain from attending class in-person if you are ill, if you are experiencing any of the known symptoms of coronavirus, or if you have tested positive for COVID-19 or have been potentially exposed to someone with COVID-19.

- If you display symptoms and/or test positive, you should quarantine following the CDC's recommendations. Do not return to class until you meet the CDC's requirements.
- If you have been exposed but are asymptomatic, you should follow directions from Idaho Public Health. If you can't attend an in-person class session, you should be

able to attend via Zoom and access course materials on BbLearn. Documentation (a doctor's note) for medical excuses is not required; instead, email us to make arrangements to submit any missed work and make plans to use Zoom and/or online course materials to stay current with the course schedule.

2. Face Coverings. All faculty, staff, students and visitors across all U of I locations must use face coverings whenever in any U of I buildings. You are required to wear a face covering over your nose and mouth in this classroom at all times.

a. If you have a medical condition that you believe affects your ability to comply with the face covering policy, please contact the Center for Disability Access and Resources (CDAR) to request a reasonable accommodation.

b. If you have other reasons you believe make you exempt from wearing face coverings, please contact the Covid-19 Coordinator at [covid19questions@uidaho.edu](mailto:covid19questions@uidaho.edu).

c. Failure to wear a face covering means you will be required to leave the classroom. If a disruption to the learning experience occurs due to repeated offence and/or egregious behavior, it will be referred to the Dean of Students Office for potential code violation.

Course Materials. Textbook (required) – Freeman et al., Biological Science, 7<sup>th</sup> edition (5<sup>th</sup> and 6<sup>th</sup> editions have very similar content and could also be used.

Note: There are copies of Freeman on reserve in the library under Biology 114/115/213. Laboratory Exercises – will be posted on blackboard course site.

Course Description. BIOL114 surveyed the appearance of different organisms, their diversity, ecology, and evolution. In BIOL115, the fundamental concepts of life were studied at the cellular level. In BIOL213 we are going to build on your knowledge from these courses and examine some of the morphological and physiological similarities and differences that exist across the tree of life in a comparative framework. You may (or may not) have previously considered that organisms often faced similar challenges as they were presented with different environments during different geological time periods. To survive, these organisms evolved morphological and physiological adaptations that allowed them to overcome these challenges. We will discuss similarities and also the diversity among the many adaptations found in different organisms.

Learning Outcomes. The objectives of this course are to learn how plants and animals have evolved morphological structures and physiological processes to adapt to the common challenges faced by all organisms.

Course Material. Class Notes, labs, and other course information can be found on the class site on bblearn: <https://bblearn.uidaho.edu/>. You will be prompted to enter your username (vand1234) and password to access course materials.

We will be using iClicker Reef app (works on smartphone, tablet, or laptop: [www.app.reef-education.com](http://www.app.reef-education.com)) for in class 'clicker' questions throughout the semester.

Lecture slides and/or notes will be posted on bblearn as study aids following lectures.

Grading. Letter grades will follow the University of Idaho grade scale:

A	90 – 100%
B	80 – 89.9%
C	70 – 79.9%
D	60 – 69.9%
F	0 – 59.9%

And, will be based on:

4 lecture exams (100 pts each)	400
Comprehensive final exam	150
Labs	200
Lab practicums	100
Structure/Function Blog Post	50
<u>In class ('clicker') questions</u>	<u>variable (10% of grade)</u>
<b>TOTAL</b>	<b>900+</b>

Absence from exams and lab sessions will only be excused for a documented reason of illness, quarantine, family emergency, or conflict with an official University function. To minimize exposure risk for all students, missed lab sessions may not be rescheduled. It is the responsibility of the students who are missing a lab session to communicate with their instructors to review the missed material.

Final Exam Policy. Students with University excused absences during the final exam period must notify us in advance. Failure to notify instructors in writing (email) at least ONE WEEK in advance will result in you NOT being allowed to make-up the final exam. Not writing the final exam means you get a zero. Please note that it is departmental policy for NO EARLY FINAL EXAMS. Please make your travel arrangements accordingly.

Grading Concerns. Exam keys will be posted online. If you think your exams or labs were incorrectly graded, you must submit your concern to us in writing justifying your request for re-grading within 3 days of receiving your graded assignment.

Lecture Exams will consist of a combination of fill in the blank, short-answer, matching, multiple-choice, and short essay questions. Lecture exams will be scheduled during the normal lecture period.

Blog Posts. Students will work in pairs to produce a blog post related the theme of Form and Function. Details and a grading will be presented in lab.

Laboratory Exercises and investigations will supplement lecture material, and be available for download from the class site on blackboard (<https://bblearn.uidaho.edu/>) prior to lab. Further details will be presented in lab.

Readings are assigned in the course schedule by chapter in Freeman, or as noted in supplementary readings.

Academic Dishonesty. Acts of cheating or plagiarism will not be tolerated. Your exams and assignments must be your own work. According to university policy cheating or plagiarism can result in you failing this class. This includes giving your work to others to copy.

Cheating refers to the acquisition of answers to test questions in a dishonest fashion.

Plagiarism is defined as (i) the representation of another person's work as your own, in its entirety or with slight changing of wording, (ii) the use of writing from published sources without citing the author(s) or, (iii) downloading material from the internet and presenting it as your own work.

The UI Faculty-Staff Handbook (<http://www.webpages.uidaho.edu/fsh/2300.html>) further outlines the expected code of conduct for students at the University of Idaho; Article II addresses academic honesty of students.

Withdrawal from Course. Students withdrawing from the course need to have their drop form dated no later than Wednesday, January 27, 2021 for a full refund of laboratory fees. Last day to withdraw from the course is Friday, April 2, 2021.

Center for Disability Access and Resources (CDAR). Reasonable accommodations are available for students who have documented temporary or permanent disabilities. All accommodations must be approved through CDAR located in the Idaho Commons Building, Room 127, to notify your instructor(s) as soon as possible regarding accommodation(s) needed for the course. Phone: 208-885-6307 Email: [cdar@uidaho.edu](mailto:cdar@uidaho.edu) Website: [www.uidaho.edu/cdar](http://www.uidaho.edu/cdar) Please notify the instructor during the first week of classes if accommodations are required.

Tutoring and College Success (TCS) offers three distinct services dedicated to student success: tutoring, SI-PASS, and Academic Coaching. Vandal Tutoring provides drop-in style tutoring in person at the Library or online through [www.uidaho.edu/tutoringonline](http://www.uidaho.edu/tutoringonline) at no cost to undergraduates. SI-PASS provides peer assisted study sessions for difficult courses. You can find the schedule of currently supported courses at [www.uidaho.edu/si](http://www.uidaho.edu/si). Academic Coaching offers students an opportunity to work with a coach, one on one, to improve their academic skills such as: effective studying, test taking, time management, and note taking. Visit [www.uidaho.edu/academic-coaching](http://www.uidaho.edu/academic-coaching) to schedule an appointment.

## LECTURE SCHEDULE SPRING 2021

Lecture topics and assigned readings could be changed.

Date	Topic	Textbook Reading		Lab	Supplementary Reading
		Freeman 7 <sup>th</sup> Ed	Freeman 5 <sup>th</sup> Ed		
W Jan 13	Intro, Tree thinking			No lab	Chapters 1-3 in Tree Thinking (Baum & Smith, 2012); Gregory, T. R. 2008. Understanding Evolutionary Trees)
F Jan 15	Tree thinking				
M Jan 18	MLK day – no class			Animal diversity and tree thinking	
W Jan 20	Animal Diversity & Evolution	Fr. 30, 31, 32 (review from BIOL114), 47.4	Fr. 23		
F Jan 22	Animal Diversity & Evolution				
M Jan 25	Animal Development				
W Jan 27	Animal Development				
F Jan 29	Animal Development				
M Feb 1	Animal Nutrition	FR. 41	Fr. 44	Animal nutrition	
W Feb 3	Animal Nutrition				
F Feb 5	Gas Exchange & Circulation	Fr. 42	Fr. 45	Animal circulation	
M Feb 8	Gas Exchange & Circulation				
W Feb 10	Catch up & review				
F Feb 12	Exam I				
M Feb 15	President's day – no class				
W Feb 17	Animal Neurons	Fr. 43	Fr. 46	Behavior, movement, and communication	
F Feb 19	Animal Nervous Systems				
M Feb 22	Animal Sensory Systems	Fr. 44	Fr. 47	Lab Review	
W Feb 24	Animal Sensory Systems				
F Feb 26	Animal Movement	Fr. 45	Fr. 48		
M Mar 1	Animal Movement			Lab practicum	
W Mar 3	Animal Behavior	Fr. 50	Fr. 53		
F Mar 5	Animal Behavior				
M Mar 8	Topic TBD			Work on Blogs	
W Mar 10	Catch up & review				
F Mar 12	Exam II				
M Mar 15	Spring break			No lab	
W Mar 17	Spring break				
F Mar 19	Spring break				

Dr. Tank takes over					
M Mar 22	Plant Diversity & Evolution	Fr. 28		No lab	Donoghue, M. J. 2002. Plants. Pp. 911-918 in <u>Encyclopedia of Evolution</u> , Vol. 2
W Mar 24	Plant Diversity & Evolution				
F Mar 26	Plant Diversity & Evolution				
M Mar 29	Plant Form & Function	Fr. 34		Land plant diversity & evolution	
W Mar 31	Plant Form & Function				
F Apr 2	Plant Form & Function				
M Apr 5	Water & Sugar Transport	Fr. 35		Plant tissues	
W Apr 7	Catch up & review				
F Apr 9	Exam III				
M Apr 12	Water & Sugar Transport			Plant stomata	
W Apr 14	Water & Sugar Transport				
F Apr 16	Water & Sugar Transport				
M Apr 19	Plant Nutrition	Fr. 36		Plant responses	
W Apr 21	Plant Nutrition				
F Apr 23	Plant Nutrition				
M Apr 26	Plant Nutrition			Angiosperm reproduction	
W Apr 28	Catch up & review				
F Apr 30	Exam IV				
M May 3	Angiosperm Reproduction	Fr. 38		Lab practicum	
W May 5	Angiosperm Reproduction				
F May 7	Review for the final				

Final exam will be Friday, May 14 from 10:15am-12:15pm. Location Renfrew 112.

All "Fr." readings refer to chapters from "Biological Science", Freeman.