

Functional Morphology BIOL 866-01, Spring 2019

Instructor

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Course Description

A study of the structure, form, and function of morphological adaptations in plants and animals (organisms) as examined through anatomical, mechanical, ecological, and evolutionary perspectives. While some background information will be presented as lectures, this course will primarily utilize published papers for information with a core emphasis placed on self-study as a mechanism of learning.

Learning Objectives

1. Students will become familiar with the morphology (structure) of representative examples of single-celled organisms, fungi, plants and animals.
2. The function of specific structures will be evaluated at the level of morphology (how anatomy relates to function).
3. Students will become familiar with primary literature relating to functional morphology and develop the skills to extract basic information from this class of publication.
4. Comparison of morphology between different organisms will be emphasized when appropriate.

Course Materials

Required Textbook: No textbook required. Instructor will provide reading materials. Students will obtain additional information from publicly accessible sources, library, Internet, etc. as needed. Access to a good general biology textbook may be useful.

Computer and Software: Access to a computer, modern browser and Internet connection are required for the course. A word processor compatible with the instructor's software is needed for preparation of written assignments. Microsoft Word, Word Perfect, or Open Office should work fine. Formatting problems should be expected when the instructor's comments are incorporated into draft versions. Details for submitting versions will be provided with each written assignment. Students will need to configure their computers for viewing of the videoed lectures. Some lectures may be supplied as HTML5 compatible video which can be easily viewed with any recent version of Firefox.

Web Resources: Canvas, an online course management system, is used for this course. Students will be responsible for becoming proficient at using the system. Instructions can be found online by searching the eCampus section of the University of Nebraska at Kearney web site. Students will be expected to check the Canvas site often for announcements and assignments. In addition, students are required to use and check the email account assigned to them by the university.

Legal: The materials on this course website are only for the use of students enrolled in this course for purposes associated with this course and may not be retained or further disseminated. The materials on this course website may be protected by copyright, and any further use of this material may be in violation of federal copyright law.

Grading

Quizzes: Numerous online quizzes are assigned throughout the semester and must be completed by the due date. Each quiz is multiple choice, fill in the blank, matching, short answer, etc. Quizzes may include questions about ANY material covered, and a time limit will be issued for each quiz, so studying before taking the quiz is advised.

Mini-assignments: Students will complete numerous mini-assignments. The topic and format will be assigned by the instructor. Typically each assignment will correspond to a reading.

Exams: Two time-limited online exams will be given. Exams will incorporate features suggested by the Human Anatomy and Physiology Society for "Assessment Design and Cheating Risk in Online Instruction". *All exams are comprehensive.*

Final Exam: Students will be provided access to the final exam approximately one week before the due date. Late exams will not be accepted.

Tentative Point Distribution: The value of each assignment will be as follows:

Assignment	Points Each	Total Points
Quizzes	best 12 @ 10pts	120 pts
Mini-assignments	best 18 @ 25 pts	450 pts
Exams	2 @ 100 pts	200 pts
Final	1 @ 230 pts	<u>230 pts</u>
	total	1000 pts

The final grade will be determined base on the number of earned points. In the event that assignments are changed, the scores will be normalized to 1000 pts (points earned / total possible x 1000). Grades will be assigned as follows:

A+ (1000-990), A (989-960), A- (959-930), B+ (929-900), B (899-870), B- (869-840), C+ (839-810), C (809-780), C- (779-750), D+ (749-720), D (719-690), D- (689-660), F (Below 659)

Course Information and Policies

Expectations: Individual achievement and self-study are a major theme in this course. Students will be encouraged to identify their own solutions and develop their own well supported opinions relating to the subjects presented. You are free to contact the instructor by email as often as necessary, but please, do not be surprised when you are redirected to possible sources of additional information.

Due Dates: Due dates will be enforced. There will be no opportunity to make up missed quizzes or online exams, and a score of zero will be assessed. Late writing assignments will result in a loss of 10% of the maximum points per day. The final exam must be returned by the due date or a grade of zero will be given.

Note on Technology: While not common, problems with technology do happen. This can be caused by instructor error, server crashes, weather-related power outages or problems with Internet connections. Verified problems with course technology will be dealt with fairly. If you find that the Canvas service is not responding or behaving improperly, notify the instructor immediately. If the problem is reasonably beyond the student's control, an opportunity to reclaim missed points will be provided. *Normally, assessments will only be reset once per student per semester.*

Other Policies of Interest

Plagiarism: Presenting someone else's work as your own is a serious academic offense. Any assignments containing inappropriate use of someone else's work will receive a grade of zero. Because

presenting another's work as your own is intellectual theft, a second incidence will result in assignment of a failing grade for the course. In addition, students risk the possibility of administrative action by the department, college or university.

Withdraw and Incomplete Grades: Students should consult the academic calendar for the last day to withdraw from a course which will result in a grade of "W". Instructors are not permitted to withdraw a student; therefore, any student not continuing the class that fails to withdraw will receive a grade of "F". If very unusual circumstances prevent completion of a course (such as major hospitalization), students may request a grade of incomplete which may be permitted at the *sole discretion of the instructor*. An "I" will only be considered for students passing at the time of the request, and the student will be issued an addendum to the syllabus specifying conditions for resolving the incomplete (maximum of one year permitted).

Students with Disabilities

It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students with documented disabilities. To receive accommodation services for a disability, students must be registered with UNK Disabilities Services Coordinator, David Brandt, in the Disability Services for Students office, 175 Memorial Student Affairs Building, 308-865-8214 or by email unkdso@unk.edu

Students Who are Pregnant

It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students who are pregnant. To receive accommodation services due to pregnancy, students must contact Sue Pedersen in Student Health, 308-865-8218. The following link provides information for students and faculty regarding pregnancy rights.
<http://www.nwlc.org/resource/pregnant-and-parenting-students-rights-faqs-college-and-graduate-students>

Reporting Student Sexual Harassment, Sexual Violence or Sexual Assault

Reporting allegations of rape, domestic violence, dating violence, sexual assault, sexual harassment, and stalking enables the University to promptly provide support to the impacted student(s), and to take appropriate action to prevent a recurrence of such sexual misconduct and protect the campus community. Confidentiality will be respected to the greatest degree possible. Any student who believes she or he may be the victim of sexual misconduct is encouraged to report to one or more of the following resources:

Local Domestic Violence, Sexual Assault Advocacy Agency 308-237-2599

Campus Police (or Security) 308-865-8911

Title IX Coordinator 308-865-8655

Retaliation against the student making the report, whether by students or University employees, will not be tolerated.

If you have questions regarding the information in this email please contact Mary Chinnock Petroski, Chief Compliance Officer (petroskimj@unk.edu or phone 8400).

Tentative Schedule

Potential topics for lessons, notes and reading assignments are listed. Date and sequence are tentative, and subject to change by the instructor. *Expect additional reading materials or lecture videos to be posted as the semester develops.*

Week/Date	Topic/Activities	Reading
1 1/7	Introduction	
2 1/14	Single Cell Organisms 01, flagella bacteria 02, flagella eukaryote Quiz 1	Cohen-Bazire, 1967 Bui, 2010
3 1/21	Fungi 03, ascospores 04, perithecium Quiz 2	Read, 1996 Lord, 2010
4 1/28	Exam 1	
5 2/4	Plants 05, roots 06, roots Quiz 3	Ennos, 1992 Lynch, 1995
6 2/11	07, seeds 08, seeds Quiz 4	Pujol, 2005 Kitajima, 2002
7 2/18	09, plant types 10, leaves Quiz 5	Dormann, 2002 Neinhuis, 1997
8 2/25	Animals 11, eating Quiz 6	Jackson, 2004
9 3/4	12, mandibular raking 13, eating frog eyes Quiz 7	Kley, 1999 Levine, 2004
10 3/11	Exam 2	
11 3/18	Spring Break (3/17-3/24) Limited instructor availability.	
12 3/25	14, vision Quiz 8	Coates, 2003

Week/Date	Topic/Activities	Reading
13 4/1	15, vision Quiz 9	Douglas, 1998 Wagner, 1998
14 4/8	16, aspiration (breathing) Quiz 10	Brainerd, 2006
15 4/15	17, inflation Quiz 11	Brainerd, 1994
16 4/22	18, instructor's choice Quiz 12	TBA
17 4/29	Final Exam Finals Week (4/29-5/2)	
Last Day of Course 5/2	Note this is on a Thursday afternoon (May 2, 2019). Course closes and becomes unavailable a few days later.	