Course Syllabus:
Biology of Size BIOL 836, 3 credits
Summer 2017

INSTRUCTOR:

Dr. Letitia Reichart
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Biology Department, BHS 318
University of Nebraska Kearney
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NOTE: Email is my preferred method of contact if you inquire about a personal issue. General questions about the course can be posted on the Frequently Asked Questions Discussion Board in Blackboard.

OFFICE HOURS: Email to arrange a time for a phone discussion

COURSE DESCRIPTION: This course examines the importance of size for biological organisms from bacteria to blue whales, microcosms to large-scale communities. Often in biology we fail to consider the importance of physical laws, which determine rates of diffusion and heat transfer, transfer of force and momentum, the strength of structures, the dynamics of locomotion and more. This class attempts to rectify this oversight with readings and lectures examining the impacts of being a given size. Assigned readings from the scientific literature, exams, inquiry based activities/assignments, and online discussions will be used to explore these topics. Plan to spend several hours each week on reading, writing, responding to topic discussions, and participating in activities.

COURSE OBJECTIVES:

1). Gain familiarity with allometry, the study of biological scaling relationships, and basic allometric relationships
2). Examine and discuss recent research for current topics in scaling and allometric relationships across biological organisms.
3). Learn techniques used to study a variety of different allometric relationships and identify potential research questions from discussions of current literature

INSTRUCTOR ROLE: As your instructor I will provide feedback to students in two ways. First, students will receive individual feedback for specific assignments/activities (e.g., written assignments, simulations, and/or or data analysis activities). Second, I will read and may comment on group class discussions, and provide clarification or summary information for student questions. Any general comments or observations that would be helpful to the class as a whole will be made available to all students via announcement. I will respond to every email sent from student UNKlopermail accounts, you can expect a response to your emails within 24 hours of sending,

Monday-Friday. However emails sent on the weekends (or late on Friday) will not be seen until Monday morning.

REQUIRED HARDWARE/SOFTWARE: Students should refer to the following eCampus website to make sure you meet the minimum hardware/software and internet connection speed required by all UNK eCampus students.
eCampus requirements: http://www.unk.edu/academics/ecampus/resources-info/students/technology/requirements.php
NOTE: Microsoft Office Word is the only acceptable word processing software for this course (All other file formats are unacceptable for submitting online documents). This software is available for download with your Office365 account. Please go to the following link to learn more about getting setup with appropriate software.
http://www.unk.edu/offices/its/instructional_technology/office365_unk_email/index.php

WEBSITE: General information for this course, including this syllabus, and other materials can be found on UNK Blackboard. Log on to Blackboard using your UNK Username and password. All of your UNK courses will be listed under the My Courses tab. Choose the following option to access the main course webpage. 2017UBIOL83601 Biology Of Size**.**

CLASS PARTICIPATION: Regular participation each week is important for successful completion of this course. The student is expected to complete coursework by the assignment deadlines. Reasons for not completing assigned work on time may include: illness, hospitalization, injury, family emergency, or other situations that cannot be avoided; however, documentation for incomplete work must be provided to the instructor. Negotiations may be made at time of occurrence, if the reason for missing an assignment deadline is acceptable in the opinion of the instructor. **Students must contact the instructor prior to missing a scheduled coursework!**

GRADING: Grades are based on performance on lecture exams, assignments, and group discussion. Final grades will be calculated from the average of all assignments.

Course Evaluation	**Points**
Personal Introduction	20
Lecture Exams (2 Exams, 150pts each)	300
Assignments (50pts per assign.)	200
Discussion Board	40
Total Points Possible	**560**

GRADING SCALE

98 – 100 % = A+	80 – 82 % = B-	63 – 67 % = D
93 – 97 % = A	78 – 79 % = C+	60 – 62 % = D-
90 – 92 % = A-	73 – 77 % = C	59% or less = F
88 – 89 % = B+	70 – 72 % = C-	
83 – 87 % = B	68 – 69 % = D	

STUDENTS WITH DISABILITIES OR THOSE WHO ARE PREGNANT:
Students with disabilities or those who are pregnant are encouraged to contact Dr. Reichart for a confidential discussion of their individual needs for academic accommodation. It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students with documented disabilities or those who are pregnant. To receive accommodation services for a disability, students must be registered with UNK Disabilities Services Coordinator, David Brandt, in the Academic Success Office, 163 Memorial Student Affairs Building, 308-865-8214 or by email unkdso@unk.edu. For those needing accommodation due to pregnancy, you need to visit with Student Health. 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

If you have an accommodation plan, please see Dr. Reichart as soon as possible, so any necessary arrangements can be made for your learning. **No accommodations can be provided until a Reasonable Accommodation Plan is in place. Please remember, plans are not retroactive and cannot be used for assignments prior to the date of the instructor's signature.** To the greatest extent possible, University Representatives, shall observe confidentiality with respect to any request for accommodation.

REPORTING STUDENT SEXUAL HARASSMENT, SEXUAL VIOLENCE OR SEXUAL ASSUALT 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, Human Resources Director (petroskimj@unk.edu or phone 8655).

ACADEMIC INTEGRITY: Plagiarism or cheating will not be allowed under any circumstances! Never copy the exact words of any author (from book, newspaper, journal, or website) without giving the author the proper credit. To claim another person's work as your own work is PLAGIARISM! Cases of plagiarism will result in an automatic zero for the assignment. Additional procedures are also likely, please see student handbook for comments on the consequences of plagiarism, available at the following url:
http://aaunk.unk.edu/catalogs/current/ac/acregIntegrity.asp

CLASS SCHEDULE & ASSIGNMENTS: A general class schedule can be found below. There will be two recorded video lectures each week, for general lecture topics, posted Tuesday and

Thursday by 5pm CST. In addition, readings from the primary literature will be assigned each week. Some weeks a discussion topic will be provided that examines the general topic with respect to assigned reading. Exams will be essay and will cover topics discussed during the semester. Assignments include written assignments, data analysis, and/or simulation activities. Finally, members of the class will be divided into groups and each group will be responsible for leading and moderating a group discussion for readings during the course. **Due Dates for each assignment will be provided when the assignment is announced, but you can typically assume that your assignment will be due one week following the assigned date (e.g., an activity assigned on Wed May. 10th, will be due Wed. May 17th).** Due dates must be followed and assignments are due by **midnight CST** on the date given, specific dates will be specified when the assignment is posted. For assignments turned in late a penalty of 5 points per day will be deducted.

NOTE: The instructor reserves the right to modify the class schedule and assignments if necessary; however, students will be informed of minor modifications via blackboard announcements.

EXPECTATIONS: Students are expected to keep up with assigned course material and are responsible for checking announcements and assignments each week. All grades will be based on participation and the quality of the assignment or discussion board post. For most discussion board posts, content should be a critical evaluation of the topic we discuss and should not be a brief thoughtless response, such as "this was a really cool study," OR "I agree with the other members of the group," etc. I expect students to spend time thinking about ideas, providing quality comments and/or posing articulate questions for each discussion topic. Most weeks will require two or more discussion posts per student. I **will not require** all discussion board posts to have comments with citations; however, I expect students will be able to use information gleaned from lectures or assigned primary literature to provide appropriately detailed comments.

In addition, I expect students to use appropriate language (e.g., profanity and derogatory comments are unacceptable), to respect differences in opinion, and to show evidence of knowledge on the subject matter (i.e., gleaned from assigned readings).

NOTE: Topics and Assignments are subject to change at the instructor's discretion. Exam dates will NOT change. Class readings and readings from the primary literature will be posted on the Course Webpage.

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Week	**Date**	**Assignments**	**Disc. Board**	**Lecture Topics**	**<u>Readings</u> Primary Lit.**
1	May 8 - 14	Personal Introduction, Introductory Activities	1	Scaling in Biology; Allometry & Natural Selection	
2	May 15-21	Activity 1	2	Problems in Scaling; Scaling in Terrestrial Organisms	
3	May 22-28	Activity 2	3	Size Change during Ontogeny & Evolution; Universal Scaling Laws in Biology	
4	May 29 – June 4	**Exam 1, DUE June. 9th, midnight CST**			
5	June 5 - 11	Activity 3	4	Scaling in Cardiovascular Biology; Allometric Scaling in Vascular Plants	
6	June 12 - 18	Activity 4	5	Cell Size and Shape; The Strength of Bones & Skeletons	
7	June 19 - 25		6	Metabolic Rate and Body Size; Movement – running, jumping, swimming, flying	
8	June 25 - 30	**Exam 2, DUE June 30th, midnight CST**			