

Biology of Aging (BIOL 830P) – Fall 2021

Instructor Information

Instructor: Dr. Surabhi Chandra

Office: BHS201B

Email: chandras2@unk.edu (preferred contact); emails responded within 24-48 hours

Textbook and Computer Requirements

Required Text: “Biology of Aging” 2nd ed. by Roger B. McDonald; ISBN-13: 978-0815345671

ISBN-10: 0815345674

Recommended Text: Any human physiology textbook or access to internet sources to complement understanding of physiological processes

Computer: You will need to have an up-to-date browser, operating system and some additional software on your computer in order to take this class. Some of the documents in this course will be available in PDF form. If you do not have Adobe Acrobat Reader software on your computer, you can download it from

<https://get.adobe.com/reader/>

Course Description and Objectives

Course Description:

This course presents the biological principles that have led to a new understanding of the causes of aging and describes how these basic principles help one to understand the human experience of biological aging, longevity, and age-related disease. It will describe how the rate of biological aging is measured; explore the mechanisms underlying cellular aging; discuss the genetic pathways that affect longevity in various organisms; outline the normal age-related changes and the functional decline that occurs in physiological systems over the lifespan; and consider the implications of modulating the rate of aging and longevity.

Course Objectives:

1. Understand the basic concepts in the biology of aging as it pertains to humans, animals, and plants
2. Explain the cellular aging process and how it contributes to the physiological changes
3. What are the genetic changes during the aging process?
4. Describe the cause and progression of diseases related to aging in humans
5. Is increase in longevity overall better for the population?

University Policies Related to COVID-19:

Questions regarding COVID-19 should be directed to the Public Health Center unkhealth@unk.edu; 308-865-8254. Questions regarding the COVID-19 academic policy should be directed to Sr. Vice Chancellor Bicak at bicakc@unk.edu.

Questions regarding department specific requirements should be directed to the chair of the Biology department – Dr. Julie Shaffer, BHS 335, 308-865-8661, shafferji@unk.edu

Course Format, Access, and Attendance

Course Format:

Because this is a web-based course and conducted entirely online, it is extremely important that you **regularly check your UNK email and Canvas course link**. In this course students will demonstrate their level of achievement by completing tests/assignments, and participating in discussion boards.

Attendance:

Since this is an online course, “attendance” refers to checking Canvas announcements, reading the content, doing the activities, and submitting the assignments by the deadline. It is required that you should be logging in the course at least 3-4 times a week. The instructor can check if you have been accessing the course regularly or not. You are advised to allot specific times on several days of the week (MWF or TTh) towards this course similar to your regular in-class sessions. Print a copy of the schedule on the last page and paste it at a prominent place to keep track of deadlines

Course Design

The course is outlined in the form of modules. Each module will entail reading the textbook chapters, watching the lecture videos posted on Canvas, reading additional resources, and participating in a quiz. In addition to the quizzes, there will be one mid-term exam and a comprehensive final exam during the semester. The details on these will be provided as per their schedule.

- **Modules:** There will be three modules in this course which are categorized based on the content covered. You will be able to access only one module at a time, and will not be graded for the previous module if the deadline is over.
- **Lecture Videos:** The lecture videos will be posted on Tuesday of each week by 8 am.
- **Quiz:** Topics covered in the quiz will be announced on Canvas (Schedule on the last page). Content would include chapters covered in the week and additional reading materials provided in Canvas. Quizzes will open on Friday @ 8 am until Tuesday @ midnight.
- **Lecture Exams:** Exams will be online and take-home, which should be submitted before the deadline listed on the schedule. Final exam will be comprehensive covering all content taught during the semester. These will be submitted through turnitin link on Canvas.

Course Communication

Announcements: Announcements will be posted in Canvas when you log in. Please make sure to check them regularly, as they will contain important information regarding assignments, or class concerns.

Discussion Board:

- *Original Post-* Please read the material assigned, and respond to the question posted. You can create your own post by clicking on “create new thread” once you access the forum. The length of the post must be **minimum of 250-300 words** with critical and thoughtful explanation of the topics. You will be working in groups (created by the instructor) when posting in the discussion board.
- *Reply to Postings-* There will be a minimum of 2 responses that you are required to provide on other students’ postings. These responses should not be limited to one word such as “bravo”, “nice” or use internet lingo (LOL, ROFL etc.). Typical responses should be at least 2-3 sentences after carefully analyzing the post and providing your inputs.
- *Grading -* Grading rubric for discussion boards will be provided on Canvas. Each original post will be worth 7 points and responses will be 3 points (each response 1.5 points). Original post MUST be submitted by Friday before the due date, and the responses will be due by the deadline.

Grades

Discussion board postings	35 points = 3 forums (10 points each) + Introduction (5 points)
Syllabus Quiz	10 points
Quizzes	100 points = 12 quizzes (10 points each) -2 lowest (10 points)
Mid-term Exam	75 points
Final Exam (cumulative)	150 points

Total **370 points**

Grades will be assigned as follows:

- 100 – 90% - A grades (>98% = A+; 97-92% = A; 91-90%= A-)
- 89 – 80% - B grades (89-88% = B+; 87-82%= B; 81-80% = B-)
- 79 – 70% - C grades (79-78% = C+; 77-72%= C; 71-70% = C-)
- 69 – 60% - D grades (69-68% = D+; 67-62%= D; 61-60% =D-)
- 60% and lower – F grade

Grades will be converted to the closest integer (e.g. 94.5% would become 95%, but 94.4% would be 94%)

Other Course Policies

Late Work: Late work will not be accepted. If you have an extenuating circumstance, please contact me before the assignment/work is due to make alternate arrangements. I will require documentation in such cases.

Receiving an Incomplete: An incomplete ("I") is issued only if circumstances beyond your control (for example, hospitalization during finals week) prevent you from completing the required work for the class by the end of the semester. The circumstances preventing you from finishing the class must have arisen *after* the withdraw deadline. An incomplete grade will give you an *extension* to complete outstanding work only; it is *not* an opportunity to "start over" in the class. A contract must be signed detailing a timeline for completing the work, and all outstanding work must be completed within one year or the "I" grade *automatically* converts to a failing "F" grade. The conversion of an incomplete grade to a failing grade is university policy and is not within the control of instructor.

Ethics and Behavior

You should be following the highest ethical, academic, and professional standards. The University's Academic Integrity policy is listed in Article VI of the Student Handbook. UNK Student Handbook or (<http://www.unk.edu/offices/reslife.aspx?id=2402>). Use of proper language and maintaining appropriate decorum is expected during the course. Discussion boards will be moderated and any use of abusive/foul language will be dealt strictly and can result in expulsion from the university.

Copyright and Plagiarism Policy

All lecture videos and additional contents posted in this course is subjected to copyright restriction. Work CANNOT be used, adapted, copied, or published without the instructor's permission. Plagiarism from peers or from other sources is not acceptable, and will be subjected to a grade penalty.

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 the UNK Disabilities Services for Students (DSS) office, 175 Memorial Student Affairs Building, 308-865-8214 or by email unkdso@unk.edu

UNK Statement of Diversity & Inclusion:

UNK stands in solidarity and unity with our students of color, our Latinx and international students, our LGBTQIA+ students and students from other marginalized groups in opposition to racism and prejudice in any form, wherever it may exist. It is the job of institutions of higher education, indeed their duty, to provide a haven for the safe and meaningful exchange of ideas and to support peaceful disagreement and discussion. In our classes, we strive to maintain a positive learning environment based upon open communication and mutual respect. UNK does not discriminate on the basis of race, color, national origin, age, religion, sex, gender, sexual orientation, disability or political affiliation. Respect for the diversity of our backgrounds and varied life experiences is essential to learning from our similarities as well as our differences. The following link provides resources and other information regarding D&I: <https://www.unk.edu/about/equity-access-diversity.php>

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 Cindy Ference in Student Health, 308-865-8219. 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).

Veterans Services:

UNK works diligently to support UNK's military community by providing military and veteran students and families with resources and services to help them succeed. Veterans Services assists with the GI Bill process and acts as a liaison between the student and the Veterans Administration. If you need assistance or would like more information, please contact Lori Weed Skarka at 308-865-8520 or unkveterans@unk.edu.

Additional Resources

Tech Support: Available through email at unkhelpdesk@unk.edu or phone 308-865-8363.

Learning Commons: UNK provides student services for proof reading your documents. To submit papers online for Learning Commons' writing tutors to review, [click here](#). A tutor will respond within three days, not counting weekends.

Biology of Aging (BIOL 830P)
Fall 2021 Schedule (Tentative)

Week	Dates	Modules	Chapters	Quizzes, and Exams
1	08/23-08/27		Syllabus Quiz, Introduction Forum	Syllabus Quiz
2	08/30-09/03	Module 1	Chap 1: Basic Concepts in the Biology of Aging	Quiz 1
3	09/06-09/10	Module 1	Chap 2: Measuring Biological Aging	Quiz 2
4	09/13-09/17	Module 1	Chap 4: Cellular Aging	Quiz 3
5	09/20-09/24	Module 1	Chap 4 contd.	Quiz 4
		Discussion Board 1: Original post due on Friday (09/24), responses due on Sunday (09/26)		
6	09/27-10/01	Module 2	Chap 5: Genetics of Longevity	Quiz 5
7	10/04-10/08	Module 2	Chap 6: Plant Senescence	Quiz 6
8	10/11-10/15	Module 2	Chap 7: Human Longevity and Lifespan	
		Mid-term Exam (online and take-home): Opens 10/11 @ 8am and due 10/18 @ midnight		
9	10/18-10/22	Module 2	Chap 8: Common Functional Loss associated with Aging	Quiz 7
		Discussion Board 2: Original post due on Friday (10/22), responses due on Sunday (10/24)		
10	10/25-10/29	Module 2	Chap 8 contd.	Quiz 8
11	11/01-11/05	Module 3	Chap 9: Common Time dependent Diseases in Humans	Quiz 9
12	11/08-11/12	Module 3	Chap 9 contd.	Quiz 10
13	11/15-11/19	Module 3	Chap 10: Modulating Human Aging and Longevity	Quiz 11
14	11/22-11/26	Thanksgiving Break		
15	11/29-12/03	Module 3	Chap 11: Implications of an Extended Lifespan	Quiz 12
		Discussion Board 3: Original post due on Friday (12/03), responses due on Sunday (12/05)		
16	12/06-12/10	Final Exam (online and take-home): Opens 12/06 @ 8am and due 12/13 @ midnight		