Course Syllabus
Biology of Aging

Semester:
Course Number: GMS6486
Credit Hours: Three (3) credit hours
Course Format: This online course is tailored for distance learners in an asynchronous format.

Course Description:
This course will serve as an introduction to the biology of aging, focusing on the fundamental concepts of how we age that are common to most species, including rodents and humans. In this course, you will learn four major aspects of aging research: 1) Definition of Aging, 2) Biology of Aging, 3) Physiology of Aging, and 4) Interventions.

- In the first module, you will learn: A) what is aging? B) exceptional longevity, and C) sex differences in longevity. In the second module, you will learn the basics of biology of aging, focusing on: A) hormonal influences on longevity, B) mitochondria and aging, C) immune responses, and D) aging of stem cells. In module 3, you will learn the physiology of aging, focusing on: A) frailty, B) cardiovascular/heart aging, C) brain/cerebrovascular aging, and D) aging of the sensory systems. In the last module, you will learn aging interventions – how can aging be slowed, focusing on: A) the effects of calorie restriction, B) effects of intermittent fasting, and C) effects of exercise on aging.

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Schedule: This course will be offered every semester.

Course Goals:
The goals of the course are two-fold: (1) to provide a foundation of the fundamental concepts and terminology of aging and age-related diseases; and (2) to promote critical thinking of the clinical consequences of aging and associated diseases.

Learning Outcomes:
Upon completion of this course, students will be able to:
1. Understand the fundamental concepts of the biology of aging.
2. Explain how major organ systems function and how they become dysregulated with age.

3. Explain how genetic manipulation, dietary restriction, regular exercise, or anti-aging compounds can slow down the aging process in laboratory animals.

Learning Resources:

1. Topic articles will be placed on the course website. The information in these articles is coordinated with online lecture materials and serves as the required text for the course.
2. Weekly discussion questions will stimulate critical thinking about issues relevant for that week's topic.
3. An on-line discussion will be available every week to address questions related to the lectures or other learning material.

Course Outline and Assignments:

The course is divided into 4 overall categories. Each module consists of specific reading assignments, videos and other internet resources. For each module students will: (1) review the learning objectives and corresponding lecture notes; (2) read and complete the assignments as given; (3) participate in weekly discussion boards as assigned.

Discussion Board

Students will be expected to participate in discussion boards. These discussion boards will be used for addressing questions related to the weekly lecture as well as addressing selected student discussion questions. This discussion board will have an ongoing format, where students may post questions or comments at a convenient time during the week. The course director or instructor for each class session will monitor the discussion board and respond to questions or comments as necessary.

Projects

With the completion of each module, the student will be required to write a perspective paper. Each project is a bit different. However, the idea is to create content so that the student may use the module projects to help construct the larger final project.

Grading

Each student's final grade for the course will be calculated as follows:

- Midterm Exam (100 pts): 25%
- Assignments/Discussions/Online forums (240 pts): 50%
- Final project/Final Exam (100 pts): 25%

Grading Scale	
A = 93-100%	C+ = 77-79%
A- = 90-92%	C = 73-76%
B+ = 87-89%	C- = 70-72%
B = 83-86%	D+ = 67-69%
B- = 80-82%<	D = 63-66%
	D- = 59-62%
	E < 59%

A grade of incomplete (I) may be given if a student fails to complete the course as scheduled for unforeseen circumstances beyond the student's control.

Course Schedule: Fall 2022

Module	Week	Module
Introduction	Week 0	Introduction to Biology of Aging
Defining Aging	Week 1	What Is Aging?
	Week 2	Exceptional Longevity
	Week 3	Sex Differences in Aging and Longevity
Biological Aging	Week 4	Hormonal Influences on Longevity
	Week 5	Mitochondria and Aging
	Week 6	Immune Responses
	Week 7	Aging of Stem Cells **Midterm Exam**
Physiology of Aging	Week 8	Frailty
	Week 9	Heart/Cardiovascular Aging
	Week 10	Brain/Cerebrovascular Aging
	Week 11	Sensory aging – Loss of Hearing and Vision
Interventions	Week 12	Calorie Restriction
	Week 13	Intermittent Fasting
	Week 14	Exercise
	Week 15	**Final Project/Final Exam**

Academic Integrity:
Please review the University's complete policy regarding academic dishonesty, found online in the student handbook: http://www.dso.ufl.edu/judicial/pdffiles/handbook2003.pdf

Students are expected to abide by the University's Academic Honesty Policy, and to adhere to the following pledge:

> "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."
>
> On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied:

"On my honor, I have neither given nor received unauthorized aid in doing this assignment."

According to the UF Student Guide, Academic dishonesty includes the following.

Cheating - copying another's work for academic gain. Plagiarism - representing another's work as your own.
Bribery - offering, giving, soliciting, or receiving goods or services of value for academic gain.
Misrepresentation - altering facts (e.g., signing an absent classmate's name to an attendance sheet).

Conspiracy - planning with others to commit academic dishonesty.
Fabrication - making up information to avoid punishment or other difficulty.

Copyright Information:
Please also review the policy for the use of copyrighted materials, which can be found on the Health Science Center Library's web page:
http://www.library.health.ufl.edu/services/copyright.htm

Accommodation Policy:
Students requesting classroom accommodation must first register with the Dean of Students' office, 202 Peabody Hall, 392-1261. The DSO will provide documentation to the student who must then provide this documentation to the instructor.

Student Support Services
As a student in a distance learning course or program you have access to the same student support services that on-campus students have. For course content questions contact your instructor. For any technical issues you encounter with your course please contact the UF computing Help Desk at 352-392-4357. For Help Desk hours visit: http://helpdesk.ufl.edu/. For a list of additional student support services links and information please visit: http://www.distance.ufl.edu/student-services

Special Accommodations
Students requesting disability-related academic accommodations must first register with the Disability Resource Center. http://www.dso.ufl.edu/drc/
The Disability Resource Center will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

Complaints
Should you have any complaints with your experience in this course please visit http://www.distance.ufl.edu/student-complaints to submit a complaint.