Course: Biomedical Sciences 4330, Biological Basis of Aging  
Tuesdays and Thursdays: 2:30-3:45 pm; CI 106  
Faculty:  
Suzzette F. Chopin, Ph.D., M.B.A.  
CS 130D; 825-6022  
Office Hours: TR 4:00-5:00  
suzzette.chopin@tamucc.edu  
www.sci.tamucc.edu/~chopin  

Course Description:  
This course is an examination of one phase of the developmental process--the aging organism. Although the course focuses on human aging, perspectives of aging in other organisms are reviewed. Topics included in the course are: demographics of human aging; research methodologies and measurements; development of age-related diseases; theories of aging; and anti-aging interventions.

Supplies:  
Notes, journal articles and PowerPoint slides printed from the course website  
Binder for notes and handouts  

Student Outcomes: At the conclusion of the course, the student will be able to:  
1. Discuss the factors that have contributed to increased life expectancy;  
2. Identify model systems used to study aging;  
3. Compare aging in humans to aging in other organisms;  
4. Explain the physiological effects of aging in humans;  
5. Describe the relationship between aging and disease;  
6. Distinguish among, evaluate and synthesize theories of aging;  
7. Understand strategies that promote healthy aging; and  
8. Evaluate current methods to retard aging.

Subscribe to the course email listserv by:  
Send an email message to:  
zooLOGY-list-request@sci.tamucc.edu  
In the subject heading, type  
subscribe  
In a few minutes, you will receive a message if you subscribed successfully.

Grading: Your course grade is calculated on 400 points, 300 test points and 100 in class exercise points:  
Four intraterm tests 300  
The lowest of these four grades is dropped  
An exam may contain questions in the following formats: multiple choice; true/false; matching; fill in the blank; short answer questions; and essay questions. Journal articles, handouts, videos and presentations are included on the test.
THERE ARE NO MAKE-UP EXAMS. IF YOU MISS AN EXAM, THAT IS THE GRADE THAT IS DROPPED.

In class exercises 100

There are four in class exercises, each worth 25 points.

THERE ARE NO MAKE-UP IN CLASS EXERCISES

Bonus points: Extra points earned by doing activities during class. Bonus point activities will not be announced before the class.

Computation:

\[
\begin{align*}
400 \ - \ 358 &= A \\
357 \ - \ 317 &= B \\
316 \ - \ 277 &= C \\
276 \ - \ 237 &= D \\
236 \ - \ 0 &= F
\end{align*}
\]

Class Standards:

The student is expected to attend each class. If you are absent, you are responsible for obtaining missed information from a classmate. Missed information includes not only missed lecture notes, but also any possible information regarding syllabus changes. If you are absent when handouts are distributed, you can pick up a copy from the plastic holder outside CS 130D.

The student has several opportunities to demonstrate competency in the course. Assessment and computation are performed by the instructor according to objective criteria. If a student experiences difficulty in the course, the instructor is available for consultation. However, it is the responsibility of the student to seek help, preferably when the investment made by the student can still be salvaged.

Academic integrity is expected. Cheating is not acceptable behavior and the student is not to give or receive help during testing. All students are expected to conform to University standards of ethics, academic integrity, grammar and spelling; review the 2006-2007 A&M-CC catalog for more information.

References:

AGENDA

August
R 24  Course Introduction
   Tonight: Print out notes, articles and PowerPoint from website
   Buy Aging with Grace

T 29  Course Overview
   Definitions and measurement of aging
   Article: Baltimore Longitudinal Study of Aging (BLSA)
   What is aging?
R 31  Definitions and measurement: continued
   Bring PowerPoint slides from website
   Lifespan vs. life expectancy
   Causes of death
   Video: The Aging Process 19 min

For Tuesday: Go to http://www.livingto100.com/
   Calculate your life expectancy. Print out your results. Then, go back and enter your info again, changing your answers to improve your life expectancy. Print out your results. Bring your results to class and be ready to discuss them.

September
T 5  Definitions and measurement: continued
   Factors leading to increased life expectancy
   Physiological correlates of aging
   Video: Geriatric Medicine: Innovations and Applications 26 min
R 7  Definitions and measurement: continued
   Methods to study aging

T 12  Definitions and measurement: continued
   In class exercise: BLSA You can use the article and your notes of it
R 14  Aging in Humans and Other Organisms
   Articles: Some Animals Age, Some Do Not and Abuse and Neglect of Elderly
   Are cells immortal?: Carrel and Hayflick
   Reproductive capacity

T 19  Test 1: Definitions and measurement, handouts, article, video
R 21  Aging in Humans and Other Organisms: continued
   Aging in other organisms

T 26  Aging in Humans and Other Organisms: continued
   Aging in humans
   In class exercise: Some Animals Age, Some Do Not
R 28  Aging in Humans and Other Organisms: continued
   Systemic changes: Integumentary and musculoskeletal systems

October
T 3  Aging in Humans and Other Organisms: continued
   Systemic changes: cardiovascular and pulmonary systems
R 5  Aging in Humans and Other Organisms: continued
   Systemic changes: gastrointestinal and renal systems
F 6  Sigma Xi Distinguished Lecture 5:30 PM UC Ballroom: Virginia Huxley, Ph.D.,
   Director, National Center for Gender Physiology, University of Missouri-Columbia: Gender
   Physiology in Medicine
T 10 Aging in Humans and Other Organisms: continued
   Systemic changes: immune and nervous systems
   In class exercise: Abuse and neglect of the elderly You can use the article
   and your notes of it
R 12 Aging in Humans and Other Organisms: continued
   Video: The Alzheimer’s Mystery 48 min
T 17  Test 2: Aging in Humans and Other Organisms, handouts, video, articles
R 19 Theories of Aging
   General observations and ApoE
T 24 Theories of Aging: continued Bring PowerPoint slides from website
   Progeria and Werner’s Syndrome
   Problematic theories
R 26 Theories of Aging: continued
   Theories with interesting perspectives
T 31 Theories of Aging: continued
   Video: Old Before Their Time 45 min

November
R 2  Test 3: Aging with Grace – bring your book to class
T 7  Theories of Aging: continued
   Cross-linkage, free radical theories
R 9  Theories of Aging: continued Combining theories
T 14 Ray Jones: Graduate Student Presentation: Anti-aging Interventions
R 16 Rachell Oliver-Williams Presentation: Health Disparities
T 21 Anti-aging Strategies
   Wacky, wild, possible
   In class exercise: Is There An Anti-aging Medicine
   You can use the article and your notes of it
R 23 Thanksgiving
T 28 Jack Ghably, Jasmine Maldonado and Justin Villareal Honors Student Presentations:
   Healthy Aging
R 30 Test 3: Theories of Aging and Anti-aging Strategies, handouts, guest speakers,
   videos, in class exercises

December
T 5 Wrap-up