Healthy Aging: Biological Outcomes  
GMS 6717  
Course Syllabus

**Instructor Information:**
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Department of Aging and Geriatric Research  
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Phone: (352) 294-5800

**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 build on the behavioral concepts of lifestyle-based intervention discussed in the preceding course. Here, the emphasis will be to examine the underlying biologic and physiologic changes experienced by older adults in response to prominent lifestyle-based interventions, e.g. diet and physical exercise. These changes include adaptations of major organ systems including the musculoskeletal, cardiovascular, pulmonary systems, and nervous systems. Adaptations will be evaluated across the spectrum of physiologic organization, from whole-body to molecular and cellular changes.

**Course Objective:**
The objective of this course is to provide the student with an understanding of the biologic and physiologic mechanisms which underlie changes in physical health among older adults in response to the engagement in common lifestyle-based interventions.

**Learning Outcomes:**
Upon completion of this course, students will be able to:
1. Discuss the role of lifestyle in the development of age-related conditions and diseases
2. Describe physiologic adaptations to lifestyle intervention from a variety of physiologic perspectives; including various organ systems and organization levels
3. Find, analyze, and summarize pertinent peer-reviewed research literature in this area

**Course website:**
The course will be delivered entirely via the UF Canvas system at [http://lss.at.ufl.edu](http://lss.at.ufl.edu). Weekly homework assignments will be distributed via Canvas, and should be submitted by the student through the Canvas site as instructed.

**Course Communications:**
The online discussion board can be used to comment on the readings and assignments, ask thoughtful questions, and explore related concepts. You may also use the online discussion board to ask specific questions about course content. However, questions about your individual performance in the class should be sent via email to the Course Instructor via email at r.mankowski@ufl.edu. All emails will be returned as soon as
possible, but please allow 24-48 hours for a response.

**Technical Assistance:**
Please contact the helpdesk between 8 AM and 5 PM ET for assistance with the course website. For a list of additional student support services links and information please visit: [http://www.distance.ufl.edu/student-services](http://www.distance.ufl.edu/student-services)

**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. Other multimedia materials, e.g. videos, PowerPoint slides; will also be provided as appropriate for each module.

**Prerequisite:**
Students must be registered students in good standing at the University of Florida. The course is open to individuals from all disciplines.

**Course Outline and Assignments:**
The course is divided into 13 modules. For each module students will: (1) review the learning objectives, (2) read or view the corresponding learning resources, and (3) complete the corresponding assignment(s).

**Course Schedule:**

<table>
<thead>
<tr>
<th>MODULES</th>
<th>OBJECTIVES</th>
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<tbody>
<tr>
<td><strong>Week 1</strong></td>
<td>Describe the emerging field of “Geroscience” and define the implications for understanding relationships between aging biology and chronic disease in promoting healthspan</td>
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<tr>
<td>Geroscience: A new approach to healthy aging</td>
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<td><strong>Week 2</strong></td>
<td>Highlight several key cellular/molecular mechanisms which contribute to biologic aging and several age-related disease processes across various organ systems.</td>
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<td>Prominent Biologic factors in aging and disease</td>
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<td><strong>Week 3</strong></td>
<td>Highlight some of the key clinical/pathologic outcomes associated with sedentary behavior among older adults</td>
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<td>Sedentary lifestyle as a risk to Healthy Aging</td>
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<td><strong>Week 4</strong></td>
<td>Survey recent original literature evaluating mechanisms of action related to beneficial health effects of physical activity interventions on physical health.</td>
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<td>Biologic Effects of physical activity interventions relevant to Physical Function</td>
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<tr>
<td>Week 5</td>
<td>Biologic Effects of physical activity Interventions Relevant to cognitive Function</td>
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<td>Week 6</td>
<td>Other Biologic Effects of physical activity interventions relevant to healthy aging</td>
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<td>Week 7</td>
<td>Unbalanced diet as a risk to Healthy Aging</td>
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<td>Week 8</td>
<td>Biologic Effects of Dietary Interventions Relevant to physical function</td>
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<tr>
<td>Week 9</td>
<td>Biologic Effects of Dietary Interventions Relevant to cognitive Function</td>
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<tr>
<td>Week 10</td>
<td>Other Biologic Effects of physical activity interventions relevant to healthy aging</td>
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<td>Week 11</td>
<td>Clinical and biologic Effects of Sleep-related Lifestyle interventions</td>
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<td>Week 12</td>
<td>Interventions to enhance social engagement + reduce psychological stress</td>
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<tr>
<td>Week 13</td>
<td>Multi-modal interventions</td>
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Course Requirements/Grading:

Each week, students will be required to read a set of materials posted on the course Canvas site. The weekly modules also include videos posted on the course Canvas site that each student will be required to watch. Readings will be taken from relevant journal articles, web sites, and other sources that will be freely accessible to all registered UF students.

Weekly assignments:

Each week, students will be expected to submit a project or assignment related to that week’s course topic. Point values for each week’s assignment will vary but will be stated with each assignment. Assignments will be posted on the course Canvas site. Some assignments will involve discussions among the all students in the class; other assignments will be more individual.

Grades in this class are earned based on points and then converted to letter grades (as shown in this chart). Letter-grade GPA equivalents are shown in the second table below.

Grading Scale:

A = 93-100%
A- = 90-92%
B+ = 87-89%
B = 83-86%
B- = 80-82%
C+ = 77-79%
C = 73-76%
C- = 70-72%
D+ = 67-69%
< 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.

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar’s Grade Policy regulations at http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html

Course Evaluations:

At the end of the course, students will be asked to complete the anonymous UF course evaluation. You will receive information about how to complete the course evaluation later in the semester.
**Make-Up Policy:**

All assignments/projects must be submitted via the deadline provided on the course website. Late work will not be accepted without prior approval from the Course Instructor. In the event of an emergency where prior approval could not be sought, contact the Course Instructor as soon as possible.

**Copyright Information:**

Please review the University policy regarding the use of copyrighted materials, which can be found on the Health Science Center Library’s web page. [http://guides.uflib.ufl.edu/c.php?g=147422&p=966897](http://guides.uflib.ufl.edu/c.php?g=147422&p=966897)

**University Policy on Accommodating Students with Disabilities:**

Students requesting accommodation for disabilities must first register with the Dean of Students Office [https://www.dso.ufl.edu/drc/](https://www.dso.ufl.edu/drc/) The Dean of Students Office will provide documentation to the student, who must then provide this documentation to the Course Instructor when requesting accommodation. The student must submit this documentation prior to submitting assignments or taking quizzes or exams. Accommodations are not retroactive; therefore, students should contact the Dean of Students Office as soon as possible in the term in which they are seeking accommodation. The College is committed to providing reasonable accommodations to assist students in their coursework.

**University Policy on Academic Misconduct:**

Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code at [https://www.dso.ufl.edu/students/php](https://www.dso.ufl.edu/students/php).

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

“We, the member 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.

Counseling and Student Health:

Students may occasionally have personal issues that arise in the course of pursuing higher education or that may interfere with their academic performance. If you find yourself facing problems affecting your coursework, you are encouraged to talk with an instructor and to seek confidential assistance at the University of Florida Counseling Center, 352-392-1575, or Student Mental Health Services, 352-392-1171. Visit their web sites for more information: http://www.counsel.ufl.edu/ or http://www.health.ufl.edu/shcc/smhs/index.htm#urgent

Crisis intervention is always available 24/7 from Alachua County Crisis Center: (352) 264-6789.