The University of Texas at Tyler  
Department of Health and Kinesiology

Course Syllabus - KINE 5319: Aging and Physical Performance  
Section 001 (3 semester credit hours)  
Spring 2015

Instructor: Arturo A. Arce-Esquivel, M.D., Ph.D.  
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Office hours: Tuesday and Thursday from 10:00 a.m. - 11:45 a.m. All other times by appointment only

Course meeting times: Wednesday: 5:00 p.m. - 7:45 p.m.
Location of Classroom: HPC 3035

No textbook is required, but you may wish to have and use a standard exercise physiology and aging textbooks. I recommend that you have access to a basic anatomy and physiology textbook. We will review some basic physiology and related anatomy in this course.

COURSE DESCRIPTION, GOALS AND LEARNING OUTCOMES:

Course description: This course is concerned with the process of aging as it affects physical activity. Each student will develop a good working knowledge of the physiological, psychological and socio-economic issues affecting the fitness levels of older adults. The present course is designed to give students the knowledge and understanding necessary to examine the prevailing theories of biological aging and survey the effects of aging on exercise capacity, exercise training adaptations, and overall functional capacity. Students will read and synthesize current research articles examining both the mechanisms of aging and the efficacy of exercise training to maintain functional capacity over the lifespan. The course will be concluded by examining pertinent components of exercise programs for older individuals.

Course Goal: The student should learn the basic theories of aging and distinguish the true physiological aging effects from inactivity-related effects commonly observed in the aging population. The concept of healthy aging will be defined, and the role of exercise training in healthy aging will be explored.

Rationale: Programs of physical activity for older adults are increasing locally, nationally, and internationally. An understanding of the aging process is essential for those who work with activity programs for mature adults.

Specific Learning Outcomes
The successful student will be able to:

1. Explain the prevailing theories of human aging
2. Identify the primary effects of aging on physiological systems with emphasis on musculoskeletal and motor performance
3. Distinguish between true aging effects on human physiology and age-associated physical changes due to inactivity
4. Analyze the potential for exercise training to maintain physical function during aging and support healthy aging
5. Identify and explain the primary program variable modifications necessary for safe and effective exercise prescriptions for older adults
INSTRUCTIONAL METHODS:
This course requires attendance at each class session. The workload is designed to be spread out fairly consistently across the semester, rather than focused on a couple of high-pressure weeks. You must do the assigned readings on time and keep up with your assigned work. Part of every class will be devoted to lecture and discussion based on readings about the week’s topic.

Instructional methods will include lecture, discussion, and evaluation of research articles and case studies. Student activities will include though may not be limited to: (a) articles readings; (b) completing assignments; (c) participating in small-group and whole-class discussions; and (d) completing exams. Students are expected to read assigned material before coming to class and must be prepared to discuss the previously assigned readings (including handouts). That is-READ beforehand! Active participation in the classroom is strongly encouraged!

Assigned readings: Readings from review articles and/or original research papers will be assigned in each weekly module. Some of the assigned readings may be difficult to understand if you do not have the appropriate scientific background. An exercise physiology and an aging texts should provide the appropriate background for a better understanding of the assigned articles. If not, you will need to consult additional resources.

COURSE POLICIES:
Professionalism: Students are expected to arrive on time for class. It is expected that students will display a professional attitude at all times, including being attentive during lectures and being respectful to the instructor and fellow classmates.

Attendance: Although attendance is not required, it is important because we will cover some information in class that will not be covered in the textbook. Although you will not directly earn or lose points based on your attendance, your success in this class will depend on your attendance and the effort you put forth.

IMPORTANT: Monday March 23rd is last day to withdraw from class with automatic grade of W. (Disclaimer: My alerting to this date in this syllabus does not make this UT Tyler’s official withdrawal date. You should check UT Tyler’s official calendar to verify this date.)

Assignments: All assignments will be given out during class times and are to be turned in on time. Some assignments will be turned in during class and/or online through blackboard. Note: Spelling and grammar will be graded on all assignments and tests.

Blackboard and E-mail: Blackboard will be used in this class as a means to help you prepare for class meetings. Important class resources, including the syllabus, lecture notes, grades, announcements, external links, assigned readings, study guides, and other assignments or materials will be distributed through this site. You should consult it frequently. Please check your patriots e-mail account as this is where the instructor will send all announcements to. Note: a. The instructor will not send any e-mails to private accounts such as yahoo, Gmail, Hotmail, etc.

b. When e-mailing the instructor (or any other faculty or staff members), please be sure to use proper etiquette in on-line communication, including the proper use of spelling, grammar, and punctuation. There are numerous resources on e-mail etiquette on the web and you are expected to review some if you are not familiar with these accepted procedures.

c. All e-mail communication from you to me should reference “KINE 5319-001” in the subject line. If it does not, the likelihood of it being read by me decreases.
d. Due to teaching and research loads and the size of this class, it may take me a day or two to respond to e-mail; however, I'll make every effort to respond to e-mail on the same day. Please note that emails received on the weekends (late Friday through late Sunday) will generally be responded to on the following Monday.

Make-up: Unless you contact the instructor ahead of time, late assignments will be penalized 50%. After one week, late work will not be accepted at all and a zero will be given for that grade. Contact the instructor before the due date if you will be unable to complete it and want to avoid a penalty. Please do not email the instructor assignments or projects unless otherwise asked to. A missed exam without a prior excuse receives an automatic zero. An excused, missed exam must be taken before the next class (arrange with instructor).

Technology: Cellphones are not allowed in the classroom during lectures and/or exams. Cellphones must be turned to "OFF" or "SILENT" (not VIBRATE) during class. If I see it or hear it, there will be an automatic deduction of 20 points off your total points at the end of the semester. If you need it in case of an emergency, please see me before class. Laptops and iPads are okay to use in class, but only for taking notes. If I catch you browsing the internet, playing solitaire, or anything else un-related to the class, you will be asked to not bring it to class anymore and an automatic deduction of 20 points off your total points at the end of the semester.

Class distractions: Please do not participate in any activity in the classroom that may be a distraction to other students or the instructor. This includes talking to neighbors during lectures or discussions, eating, texting, instant messaging, checking e-mail, surfing the web, etc. Finally, class will begin at 5:00 p.m. Please be on time.

Quality of work: All written work, including exams and assignments, must be written legibly or typed according to the assignment instructions. All work turned in will be graded with rigor appropriate for graduate-level standing.

Copyright: All handouts used in this course, including those delivered via Blackboard, are copyrighted. The term "handouts" refers to all materials generated for this class, which include but are not limited to syllabi, quizzes, exams, PowerPoint slides, outlines, lab problems, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy the handouts, unless I expressly grant permission.

COURSE REQUIREMENTS AND EVALUATIONS: Some modifications may be necessary due to time, facility, and/or equipment constraints. Exams: There will be 2 regular exams (Midterm and Final) given during the semester. Exams might consist of a combination of short essay (i.e. two to three paragraphs), and long essay (i.e. more than four paragraphs) questions, and/or diagrams. The exams will be based upon material covered in the reading assignments, lectures, and discussions. Be sure to arrive to class early on exam days. Exams will start at the beginning of class. If you arrive after an exam starts, you should take your seat quietly so as to not distract others. If you arrive after the first exam is completed and turned in by another student, you will not be allowed to take the exam.

Final Exam: The final exam will be held during the scheduled final examination period and will be cumulative (i.e. comprehensive). The final exam for this class is tentatively scheduled for Wednesday, April 29th from 7:00 to 9:00 p.m. However, this date or time may change when the university releases its official exam schedule later in the semester.
Make-up exams will be given only for university-approved absences (flat tires, vacations, oversleeping, etc. are NOT valid university-approved absences). Since University-approved activities (i.e., athletic events, performances, religious observance, etc.) are generally known at the beginning of the semester, it is up to the student to notify the instructor during the first two weeks of class if there is a conflict with any of the scheduled exams. In such an event, a makeup exam will be given prior to the exam to be missed. If the absence is due to illness, the student should contact the instructor immediately and proper documentation (e.g., doctor’s note) should be presented to the instructor upon their return.

**Evaluation:** Total 100 points

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<thead>
<tr>
<th>Component</th>
<th>Points</th>
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<tbody>
<tr>
<td>Midterm Exam</td>
<td>30</td>
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<tr>
<td>Final Exam (comprehensive)</td>
<td>35</td>
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<tr>
<td>Class Discussions</td>
<td>15</td>
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<tr>
<td>Aging Topics Paper/Presentation</td>
<td>20</td>
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**Grading** will be based on the following modified scale:

- **A** = 270 - 300 points (90 - 100%)
- **B** = 240 - 269.97 points (80 - 89.99%)
- **C** = 210 - 239.97 points (70 - 79.99%)
- **D** = 180 - 209.97 points (60 - 69.99%)
- **F** = ≤ 179.97 points (≤ 59.99%)

**IMPORTANT DATES:**

- January 19: Martin Luther King Jr. Holiday - no classes
- January 26: Census Date
- **March 4 (Wednesday): Midterm Exam**
- March 9 - 13: Spring break for faculty and students
- March 16: Priority filing date for Summer 2015 graduation
- March 23: Last day to drop course with “W”
- April 27: (Monday): Study Day
- **April 29 (Wednesday): Final Exam (7:00 p.m. to 9:00 p.m.)**
- May 1-2: Spring Commencement
- May 5: (Tuesday): Final grades due in Faculty Center by 12:00 p.m.
Tentative Course Schedule: (some changes could be made during the semester)

<table>
<thead>
<tr>
<th>Week</th>
<th>Day</th>
<th>Agenda</th>
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<tbody>
<tr>
<td>1</td>
<td>Jan 14</td>
<td>Spring semester 2015 begins: Introduction to Course and Overview of Syllabus - Introductory Concepts</td>
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<tr>
<td>2</td>
<td>Jan 21</td>
<td>The Process of Aging and the Potential for Healthy Aging - Defining Successful Aging Aging and Homeostatic Processes - Aging Demographics</td>
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<td>3</td>
<td>Jan 28</td>
<td>Theories of Aging: Damage-based Theories of Aging: Protein Damage and Autophagy; Energy Metabolism/The Free Radical Theory of Aging</td>
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<td>4</td>
<td>Feb 4</td>
<td>Theories of Aging: Mutations of Mitochondrial DNA and Aging; Programmed Theories of Aging: The Developmental Theory of Aging; The Endocrine/Immuno Theory of Aging</td>
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<td>5</td>
<td>Feb 11</td>
<td>Cardiopulmonary System: Age-Related Changes - Cardiovascular Disease</td>
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<td>6</td>
<td>Feb 18</td>
<td>Musculoskeletal System: Age-Related Changes in Biochemical Properties</td>
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<td>7</td>
<td>Feb 25</td>
<td>Nervous System: Age-Related Diseases</td>
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<td>8</td>
<td>Mar 4</td>
<td>Midterm Exam</td>
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<tr>
<td>9</td>
<td>Mar 11</td>
<td>SPRING BREAK</td>
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<td>10</td>
<td>Mar 18</td>
<td>Nutrition, Common Diseases, and Conceptual Framework of Frailty The Role of Physical Activity</td>
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<td>11</td>
<td>Mar 25</td>
<td>Physiologic Adaptability to Training and Physical Activity: Exercise Prescription and Training for Fitness in Older Adults</td>
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<tr>
<td>12</td>
<td>Apr 1</td>
<td>Physiologic Adaptability to Training and Physical Activity: Exercise Prescription and Training for Fitness in Older Adults</td>
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<tr>
<td>13</td>
<td>Apr 8</td>
<td>Physiologic Adaptability to Training and Physical Activity: Exercise Prescription and Training for Fitness in Older Adults</td>
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<td>14</td>
<td>Apr 15</td>
<td>Student Presentations</td>
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<tr>
<td>15</td>
<td>Apr 22</td>
<td>Student Presentations</td>
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<tr>
<td>16</td>
<td>Apr 29</td>
<td>FINAL EXAM: Wednesday April 29th: 7:00 p.m. - 9:00 p.m.</td>
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SELECTED UT TYLER STUDENT POLICIES
(From the Handbook of Operating Procedures and the UT Tyler Website)

STUDENTS RIGHTS AND RESPONSIBILITIES
To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please review this link: http://www.uttyler.edu/wellness/StudentRightsandResponsibilities.html

GRADE REPLACEMENT/FORGIVENESS
If you are repeating this course for a grade replacement, you must file intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to file intent to use grade forgiveness will result in both the original and repeated grade being used to calculate your overall grade point average. A student will receive grade forgiveness (grade replacement) for only three (undergraduate student) or two (graduate student) course repeats during his/her career at UT Tyler. (2006-08 Catalog, p. 35)

STATE-MANDATED COURSE DROP POLICY
Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the 12th day of class (See Schedule of Classes for the specific date). Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Registrar's Office and must be accompanied by documentation of the extenuating circumstance. Please contact the Registrar's Office if you have any questions.

DISABILITY SERVICES
In accordance with federal law, a student requesting accommodation must provide documentation of his/her disability to the Disability Support Services counselor. If you have a disability, including a learning disability, for
which you request an accommodation, please contact Ida MacDonald in the Disability Support Services office in UC 282, or call (903) 566-7079.

STUDENT ABSENCE DUE TO RELIGIOUS OBSERVANCE
Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

STUDENT ABSENCE FOR UNIVERSITY-SPONSORED EVENTS AND ACTIVITIES
If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

SOCIAL SECURITY AND FERPA STATEMENT
It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

EMERGENCY EXITS AND EVACUATION
Everyone is required to exit the building when a fire alarm goes off. Follow your instructor’s directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do Not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.

ACADEMIC DISHONESTY
At The University of Texas at Tyler students and faculty are responsible for maintaining an environment that encourages academic integrity. Students and faculty members are required to report an observed or suspected case of academic dishonesty immediately to the faculty member in charge of an examination, classroom or laboratory research project, or other academic exercise.
Since the value of an academic degree depends on the absolute integrity of the work done by the student for the degree, it is imperative that students maintain a high standard of individual honor in scholastic work. Scholastic dishonesty includes but is not limited to cheating, plagiarism, and collusion:

"Cheating" includes:
1. Copying from the paper of another student, engaging in written, oral or any other means of communication with another student, or giving aid to or seeking aid from another student when not permitted by the instructor;
2. Using material during an examination or when completing an assignment that is not authorized by the person giving the examination or making the work assignment; 3. Taking or attempting to take an examination for another student, or allowing another student to take an examination for oneself;
4. Using, obtaining, or attempting to obtain by any means, the whole or any part of, an unadministered examination or work assignment.

"Plagiarism" includes the unacknowledged incorporation of the work of another person in work that a student offers for credit.

"Collusion" includes the unauthorized collaboration with another person in preparing written work that a student offers for credit.