

The University of Western Ontario
School of Health Studies
Health Sciences HS3701-001
The Aging Body

Instructor: Dr. Savundranayagam

Fall 2014

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Office Room Number: HSB219

Office Hours: Wednesday, 2:00-4:00 pm

Course Meeting Times: Monday, Wednesday, Friday (12:30 p.m. – 1:30 p.m.)

Location: MC-105B

Prerequisite Checking

Unless you have either the requisites for this course or written special permission from your Dean to enrol in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites. Please refer to the Western's current Academic Calendar at www.westerncalendar.uwo.ca.

Course Information

This course will provide an overview of the age-related physiological changes that occur throughout the adult human life span. Many age-related changes are gradual. They can begin in early adulthood, while other changes appear in late adulthood. Age-related changes are both visible and invisible, but do not necessarily result in diminished quality of life for older adults. This course will also discuss the role of individual and environmental adaptations that promote health aging.

Learning Outcomes: Participation in this course will enable students to:

1. Explain the major theories of biological aging.
2. Summarize research on reversing the effects of aging.
3. Describe the effects of aging on body composition.
4. Identify the impact of age-related changes on different organ systems and the implications of these changes for older people's ability to interact with their social and physical environment.
5. Discuss the ways in which the environment can be modified to help accommodate the biological changes experienced by older adults.

Course Materials

Required Textbook:

Saxon, S. V., Etten, M. J., Perkins, E. A. (2010). *Physical Change and Aging: A Guide for Helping Professionals*, 5th Edition. New York: Springer Press, Inc.

Additional Required Readings (on OWL/Sakai):

Aldwin, C. M., & Gilmer, D. F. (2004). Health, illness, and optimal aging: Biological and psychological perspectives. Thousand Oaks, CA: Sage Publications.

Buettner, D. (2005). New wrinkles on aging. *National Geographic*, 208, 2-26.

Ferrini, A., & Ferrini, R. (2008). *Health in the Later Years*, 4th ed. Columbus, OH: McGraw-Hill.

Gertner, J. (2009). The Calorie-restriction experiment. *New York Times Magazine*. Oct. 11.

Kahn, R., L (2003). Successful aging: Intended and unintended consequences of a concept. In L. W Poon, S. H. Gueldner, & B. M. Sprouse (Eds.), *Successful Aging and Adaptation with Chronic Diseases* (pp. 55-69), New York: Springer Publishing Company.

National Institute on Aging (2010). Can we prevent aging? National Institutes of Health, Washington, D.C.

Olshansky, S., Hayflick, L., & Carnes, B. (2002). No truth to the fountain of youth. *Scientific American*, 286(6), 92.

Riley, M. W. (1998). Letter to the editor. *The Gerontologist*, 38, 51.

Rowe, J. W., & Kahn, R. L. (1997). Successful aging. *The Gerontologist*, 37, 433-440.

Supplemental:

Baltes P. B., Baltes M. M., 1990. Psychological perspectives on successful aging: The model of selective optimization with compensation. In P. B. Baltes & M. M. Baltes (Eds.) *Successful aging: Perspectives from the behavioral sciences* (pp.1-34). Cambridge University Press, Cambridge, England.

Fontana, L. and Klein, S. (2007). Aging, adiposity, and calorie restriction. *Journal of the American Medical Association*, 297, 986-994.

Fontana, L. (2009). The scientific basis of caloric restriction leading to longer life. *Current Opinion in Gastroenterology*, 25, 144-150.

| Session: Date | Readings/Assignments |
|----------------------|--|
| 1: Sept. 5 | Overview of Course Perspectives on Aging; Is Aging a Disease?: Saxon et al. (2010) Ch. 1 Successful Aging : Baltes & Baltes (1990), Riley (1998), Rowe & Kahn (1997), Kahn (2003) Exercise: "Will you live to be 100?" |
| 2: Sept. 8 | Biological Theories of Aging: Saxon et al. (2010) Ch. 2 (p. 9-13) |
| 3: Sept. 10 | Documentary & Discussion: <i>How to Live Forever</i> |
| 4: Sept. 12 | Attempts to Extend the Length of Life: Olshansky et al. (2002) Discussion: Can Aging be Reversed? National Institute on Aging (2010); Gertner (2009) Caloric Restriction, Human Growth Hormones, Anti-Aging Supplemental: Fontana & Klein (2007), Fontana (2009) |
| 5: Sept. 15 | Age Related Changes and Disorders in the Musculoskeletal System: Saxon et al. (2010) Ch. 4 |
| 6: Sept. 17 | Age Related Changes and Disorders in the Musculoskeletal System: Saxon et al. (2010) Ch. 4 (con't) |
| 7: Sept. 19 | Age Related Changes and Disorders in the Nervous System: Saxon et al. (2010) Ch. 5 |
| 8: Sept. 22 | Delirium: Saxon et al. (2010) Ch. 6 |
| 9: Sept. 24 | Dementia: Saxon et al. (2010) Ch. 6 |
| 10: Sept. 26 | Study day (do not come to class) |
| 11: Sept. 29 | Midterm Exam 1 |
| 12: Oct. 1 | Age Related Changes and Disorders in the Respiratory System: Saxon et al. (2010) Ch. 9 |
| 13: Oct. 3 | Age-Related Changes and Disorders in the Integumentary System: Saxon et al. (2010) Ch. 3 |
| 14: Oct. 5 | Age Related Changes and Disorders in the Gastrointestinal System: Saxon et al. (2010) Ch. 10 |
| 15: Oct. 8 | Age Related Changes and Disorders in the Urinary System: Saxon et al. (2010) Ch. 11 |
| 16: Oct. 10 | Age Related Changes and Disorders in the Sensory Systems : Saxon et al. (2010) Ch. 7 |
| 17: Oct. 13 | Midterm Exam 2 |
| 18: Oct. 15 | Age Related Changes and Disorders in the Cardiovascular : Saxon et al. (2010) Ch. 8 |
| 19: Oct. 17 | No Class: Canadian Association on Gerontology |
| 20: Oct. 20 | Age Related Changes and Disorders in the Cardiovascular : Saxon et al. (2010) Ch. 8 (continued) |
| 21: Oct. 22 | Age Related Changes and Disorders in the Endocrine System: Saxon et al. (2010) Ch. 13 |

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| 22: Oct. 24 | Online session |
| 23: Oct. 27 | Age Related Changes and Disorders in the Reproductive System : Saxon et al. (2010) Ch. 12 |
| 24: Oct. 29 | Age Related Changes and Disorders in the Reproductive System : Saxon et al. (2010) Ch. 12 (continued) |
| 25: Oct. 31 | ----- FALL BREAK ----- |
| 26: Nov. 3 | Age Related Changes and Disorders in the Immune System: Saxon et al. (2010) Ch. 14 |
| 27: Nov. 5 | Gerontological Society of America (GSA) conference: no class |
| 28: Nov. 7 | GSA: no class |
| 29: Nov. 10 | Midterm Exam 3 |
| 30: Nov. 12 | Interface between Physical and Mental Health , Aldwin & Gilmer, Ch. 9 |
| 31: Nov. 14 | Interface between Physical and Mental Health , Aldwin & Gilmer, Ch. 9 (cont) |
| 32: Nov. 17 | Aging with Lifelong Disabilities , Saxon et al. (2010) Ch. 15 |
| 33: Nov. 19 | Nutrition Saxon et al. (2010) Ch. 19 |
| 34: Nov. 21 | Nutrition , Saxon et al. (2010) Ch. 19 (cont) |
| 35: Nov. 24 | Health Promotion and Exercise: Saxon et al. (2010) Ch. 17 |
| 36: Nov. 26 | Medication Use: Ferrini & Ferrini (2008), Ch. 8 |
| 37: Nov. 28 | Online session |
| 38: Dec. 1 | Medication Use (con't): Ferrini & Ferrini (2008), Ch. 8 |
| 39: Dec. 3 | Blue Zones: Buettner (2005) |

Evaluation

Class attendance is mandatory. There will be two midterm examinations and a final examination. The midterm exams will include multiple choice and true/false questions. The final exam will include multiple choice, true/false questions and short answer questions. Each midterm examination accounts for 30% of your final grade; the final examination accounts for 40%. The content of examinations will be facilitated through lecture material and assigned readings.

Midterm examination #1 = 20% (Sept. 29, 2014)

Midterm examination #2 = 20% (Oct. 13, 2014) (not cumulative)

Midterm examination #3 = 20% (Nov. 10, 2014) (not cumulative)

Final Examination = 40% (not cumulative, and to be scheduled between December 6 to 17, 2014)

Note: Examinations must be taken on the day and time they are scheduled unless other arrangements are made due to health reasons that can be fully documented according to the requirement of the School of Health Sciences program and the Western University. If an examination is missed without appropriate documentation as required, no make-up examination will be offered and the student will forfeit that portion of the exam weighting. All approvals for make-up exams must be processed through the School of Health Studies; once approved, they will notify the instructor as to whether a make-up exam is to be scheduled.

Statement on Use of Electronic Devices

No electronic devices will be allowed during tests and examinations. For final exams, use of communication equipment (e.g., cell phones) is prohibited.

ADDITIONAL STATEMENTS

Student Code of Conduct

The purpose of the Code of Student Conduct is to define the general standard of conduct expected of students registered at The University of Western Ontario, provide examples of behaviour that constitutes a breach of this standard of conduct, provide examples of sanctions that may be imposed, and set out the disciplinary procedures that the University will follow. For more information, visit <http://www.uwo.ca/univsec/board/code.pdf>.

English Proficiency for the Assignment of Grades

Visit the website <http://www.uwo.ca/univsec/handbook/exam/english.pdf>.

Accommodation for Medical Illness or Non-Medical Absences

http://www.uwo.ca/univsec/handbook/appeals/accommodation_medical.pdf

The University recognizes that a student's ability to meet his/her academic responsibilities may, on occasion, be impaired by medical illness. Illness may be acute (short term), or it may be chronic (long term), or chronic with acute episodes. The University further recognizes that medical situations are deeply personal and respects the need for privacy and confidentiality in these matters. However, in order to ensure fairness and consistency for all students, academic accommodation for work representing 10% or more of the student's overall grade in the course shall be granted only in those cases where there is documentation indicating that the student was seriously affected by illness and could not reasonably be expected to meet his/her academic responsibilities.

A UWO Student Medical Certificate (SMC) is required where a student is seeking academic accommodation. This documentation should be obtained at the time of the initial consultation with the physician or walk-in clinic. An SMC can be downloaded under the Medical Documentation heading of the following website:

<https://studentservices.uwo.ca/secure/index.cfm>.

Documentation is required for non-medical absences where the course work missed is more than 10% of the overall grade. Students may contact their Faculty Academic Counselling Office for what documentation is needed.

Whenever possible, students who require academic accommodation should provide notification and documentation in advance of due dates, examinations, etc. Students must follow up with their professors and their Academic Counselling office in a timely manner. Documentation for any request for accommodation shall be submitted, as soon as possible, to the appropriate Academic Counselling Office of the student's Faculty of registration. For BHSc students, you may go to the School of Health Studies Office in HSB room 222.

Scholastic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following website: http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_undergrad.pdf .

Additionally,

1. All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).
2. Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

Support Services

There are various support services around campus and these include, but are not limited to:

1. Student Development Centre -- <http://www.sdc.uwo.ca/ssd/>
 - a. **SDC's Learning Skills Services**, Rm 4100 WSS, www.sdc.uwo.ca/learning;
LS counsellors are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.
2. Student Health -- <http://www.shs.uwo.ca/student/studenthealthservices.html>
3. Registrar's Office -- <http://www.registrar.uwo.ca/>
4. Ombuds Office -- <http://www.uwo.ca/ombuds/>