Fascinating psychological and biological questions cluster around the phenomenon of development and aging. Indeed, various lines of research are helping us to understand the aging process.

In this seminar course we will explore the neurobiological changes that occur during the process of aging and the relationship between these neurobiological changes and the cognitive changes that are experienced in the aged. We will examine both normal age-related changes and the cognitive changes that occur in age related disease states. Some of the questions we will discuss in this course include the following. Does every species age in the same way as the human? Is there a fundamental process of “aging” common to all organisms? How does the aging process deviate from the “normal” to cause aging-related disorders in long-lived species? Can one prevent and/or modify the aging process? What role do nature and nurture play in this process? Can we learn something from various human lifestyles, diets, cultures, environments and even from other species in order to enhance healthy aging? Indeed, the quest to maintain a healthy, long life by mankind has been going on from time immemorial. Past and current research has focused on beginning to answer some of these questions. As we progress through this course we will observe that advances in aging research are contributed by worldwide researchers who cut across many disciplines.

Text: There is no text book for this course. Instead you will read various journal articles on topics related to aging.

Grading Scheme:

25% Leading In-Class Assigned Readings
15% Short Response Papers
20% Class Participation
10% Proposal
30% Final Paper

Leading In-Class Assigned Reading Discussions

Each week a group of students will be responsible for presenting the articles to the class and to facilitate discussion of these articles. Each group should work together to come up with a good way to highlight the important issues discussed in the articles and to engage
the rest of the class in a thoughtful and critical discussion of those issues. You will be graded on your ability to summarize/highlight the important issues in the articles, your presentation skills, your understanding of the readings, and your ability to lead and engage your peers in a group discussion. Your grade will be based on the group performance and your individual contributions.

**Participation:**

You are expected to read assigned papers before each class and attend regularly. You will be graded on your active participation in our discussions.

**Short Reports:**

Students will be required to submit 3 response papers from a possible 6 papers over the term with each paper valued at 5% of your final mark. Response papers should be a maximum of 2 pages, double spaced with no cover page and due no later than the start of the lecture. Late response papers will not be accepted.

The two main purposes of the response papers are to encourage you to 1) read the work in depth in advance of the class and (2) think about it. A good response paper will demonstrate that you have read and thought about the readings in the course. Your response paper should not be a summary of the assigned article, but rather the emphasis of the paper should be on some thought, idea, or criticism you have with respect to the material you read. You should identify some issue, and discuss that issue in light of the readings and/or the current research in the field. For example, you may choose to examine a problem with the assigned reading that could have been better addressed, try and extend the research based on current findings (what would be the next step), comment on how the paper integrates the findings with current developments in theories on the topic, or comment on the interpretation of the data analysis and statistical outcomes. Your goal is to clearly state your issue, and then express your thoughts on this issue. Try to stay focused on one or two issues and cover these in depth, rather than trying to cover too many issues briefly.

**Proposal and Literature Review:**

Each student will write a review paper on a topic approved by the instructor. Approval for the final paper topic must be completed by Feb 3. A proposal will be required on Feb 24, which should include a detailed outline of the topic you will be focusing on and include a near-complete list of references. Each student will be required to meet with me individually on this date to discuss their progress. Your proposal will contribute 10% to your final grade.

The final paper will be no longer than 12 pages excluding the abstract, cover page, and reference pages. You are encouraged to be as concise as possible in this final paper while adequately covering the topic. APA format is required. Late papers will be accepted but docked 10% per day unless a medical note is provided. Please use only the medical form
available from UTSC online. Final papers are due at the start of class on Mar 31, 2010. You are required to bring a paper copy to class and also submit a copy through Turnitin. Details on Turnitin follow and will be discussed at the first class.

Turnitin:

First, some background information on this program. Turnitin.com is a tool that assists in detecting textual similarities between compared works i.e.: it is an electronic resource that assists in the detection and deterrence of plagiarism.

Students agree that by taking this course all required papers may be subject to submission for textual similarity review to Turnitin.com for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site.

As indicated on the turnitin home page, all work submitted to Turnitin is checked against three databases of content:

- A current and archived copy of the publicly accessible Internet (more than 4.5 billion pages updated at a rate of 30-40 million pages per day);
- Millions of published works (from ABI/Inform, Periodical Abstracts, Business Dateline, ProQuest, the Gutenberg Collection of literary classics, and tens of thousands of electronic books);
- Millions of student papers submitted to Turnitin since 1996.

Students will submit all written reports to the turnitin.com site (www.turnitin.com). Detailed instructions on setting up your account can be found on this page. You must set up your own account and will need the following information: Course name, NROD67 Class ID #, 3025692; Class Enrolment Password, aging.

http://www.turnitin.com

Tentative Course Schedule

<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
<th>READINGS</th>
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<tbody>
<tr>
<td>Jan 6</td>
<td>Course Introduction</td>
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<td>Jan 13</td>
<td>Neurobiology of Healthy Aging</td>
<td>Erickson 2003</td>
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<td>Hinman 2007</td>
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<td>Small 2001</td>
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<td>Jan 20</td>
<td>Models of Aging</td>
<td>Roth 2004</td>
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<td>Toescu 2005</td>
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Jan 27  Models continued  Gallagher 1999  
Ball 2002  RESPONSE 1  
Feb 3  Nutrition and Aging  Kumar 2009  
Bartus 1982  Schliebs 2006  
Final Paper Topic must be approved no later than today  
Joseph 2009  
Sinclair 2005  Stanner 2004  Piper 2008  Oomens 2009 RESPONSE 2  
Feb 10  Class cancelled  
Feb 17  Reading Week- No classes  
Feb 24  Final Paper Outline Due  
Individual appointments scheduled  
Mar 3  Vascular Cognitive Impairments  
Behavioral Dementia Perspectives  
Jellinger 2005  
Ruby 2009 RESPONSE 3  
De Belasi 2009  
Mar 10  Oxidative Stress/Chronic Stress  
Martin 2006  
Yao 2007 RESPONSE 4  
Gems 2008  
Lupien 2005  
Mar 17  AD  
De la Torre 2004  
Swerdlow 2007  Richards 2009 RESPONSE 5  
Barberger-Gateau 2007  
Mar 24  MCI  
Petersen 2001  
Albert 2006  
Siwak-Tapp 2008 RESPONSE 6  
Mar 31  Enrichment  
Final Paper Due  
Siwak-Tapp 2008  
Milgram 2005  
Edwards 2009  

Readings:  


Oomens CA et al. (2009). Resveratrol preserves cerebrovascular density and cognitive functioning in aging mice. Frontiers in aging


Swerdlow RH (2007). Is aging part of Alzheimer’s disease, or is Alzheimer’s disease part of aging?

