

UNIVERSITY OF KENTUCKY
APPLICATION FOR CHANGE IN EXISTING COURSE: MAJOR & MINOR

1. Submitted by College of Public Health Date _____
Department/Division offering course Gerontology
2. Changes proposed:
(a) Present prefix & number GRN 612 Proposed prefix & number GRN 612
(b) Present Title Biology of Aging
New Title Biology of Aging
(c) If course title is changed and exceeds 24 characters (Including spaces), include a sensible title (not to exceed 24 characters) for use on transcripts:

(d) Present credits: 3 Proposed credits: 3
(e) Current lecture: laboratory ratio 3:0 Proposed: 3:0
(f) Effective Date of Change: (Semester & Year) Fall, 2007
3. To be Cross-listed as: ANA/BIO/PGY 612. _____
Prefix and Number Signature: Department Chair
4. Proposed change in Bulletin description:
(a) Present description (including prerequisite(s):
A multidisciplinary discussion of how the process of aging affects biological systems. Coverage will be quite broad and includes topics such as subcellular and cellular aging, genetics, immunology, anatomy and physiology, animal model of aging, etc. Prereq: Enrollment in a graduate program of a biomedical science department or consent of instructor. (Same as ANA/BIO/PGY 612.)
(b) New description:
A multidisciplinary discussion of how the process of aging affects biological systems. Coverage will be quite broad and includes topics such as subcellular and cellular aging, genetics, immunology, anatomy and physiology, animal model of aging, etc. Prereq: Enrollment in the doctoral program in Gerontology or a biomedical science department or consent of instructor. (Same as ANA/BIO/PGY 612.)
(c) Prerequisite(s) for course as changed: Enrollment in the doctoral program in Gerontology or a biomedical science department or consent of instructor.
5. What has prompted this proposal?
Slight modification in prerequisites to reflect course role in Gerontology core requirements
6. If there are to be significant changes in the content or teaching objectives of this course, indicate changes:
none
7. What other departments could be affected by the proposed change?
none
8. Is this course applicable to the requirements for at least one degree or certificate at the University of Kentucky? Yes No
9. Will changing this course change the degree requirements in one or more programs? * Yes No
If yes, please attach an explanation of the change.*
10. Is this course currently included in the University Studies Program? Yes No
If yes, please attach correspondence indicating concurrence of the University Studies Committee.
11. If the course is a 100-200 level course, please submit evidence (e.g., correspondence) that the Community College System has been consulted.

*NOTE: Approval of this change will constitute approval of the program change unless other program modifications are proposed.

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12. If the course is 400G or 500 level, include syllabi or course statement showing differentiation for undergraduate and graduate students in assignments, grading criteria, and grading scales. Check here if 400G-500.
12. Is this a minor change? Yes No
 (NOTE: See the description on this form of what constitutes a minor change. Minor changes are sent directly from the Dean of the College to the Chair of the Senate Council. If the latter deems the change not to be minor, it will be sent to the appropriate Council for normal processing.)
13. Within the Department, who should be consulted for further information on the proposed course change?

Name: John F. Watkins Phone Extension: 7-1450, ext. 80240

Signatures of Approval:

2-20-08
 DATE of Approval by Department Faculty

GRAHAM D. ROWLES / Graham D Rowles
 printed name Reported by Department Chair signature

2-20-08
 DATE of Approval by College Faculty

Linda A. Alexander / Linda A Alexander
 printed name Reported by College Dean signature
 Assoc Dean for Academic Affairs

*DATE of Approval by Undergraduate Council

 printed name Reported by Undergraduate Council Chair signature

*DATE of Approval by Graduate Council

 printed name Reported by Graduate Council Chair signature

2/21/08
 *DATE of Approval by Health Care Colleges Council (HCCC)

Heidi Anderson / Heidi Anderson
 printed name Reported by Health Care Colleges Council Chair signature

*DATE of Approval by Senate Council

 Reported by Office of the Senate Council

*DATE of Approval by the University Senate

 Reported by the Office of the Senate Council

*If applicable, as provided by the *University Senate Rules*. (<http://www.uky.edu/USC/New/RulesandRegulationsMain.htm>)

Excerpt from *University Senate Rules*:

SR 3.3.0.G.2: Definition. A request may be considered a minor change if it meets one of the following criteria:

- a. change in number within the same hundred series;
- b. editorial change in the course title or description which does not imply change in content or emphasis;
- c. a change in prerequisite(s) which does not imply change in content or emphasis, or which is made necessary by the elimination or significant alteration of the prerequisite(s);
- d. a cross-listing of a course under conditions set forth in *SR 3.3.0.E*;
- e. correction of typographical errors.

The Biology of Aging

Global Course Objectives

The general objectives of this course are to: 1) Obtain a knowledge of the salient age related changes in physiological functions of humans from the cellular to the total organism level. This will include pathophysiological manifestations where applicable. 2) Apply that knowledge toward a holistic understanding of the aging process and relationships within public health.

Course Description

The course will be organized utilizing a systems approach to presentations, class discussions, class readings, and on-line discussions. All in-class presentations will include preparatory readings, and students are expected to play active roles by asking questions and by participating in classroom discussions. This class is primarily focused on the Biology of Aging, but the student will be required to generally recognize and discuss the outcomes of these biological changes in terms of the effects on the individual, particularly in terms of physical function, but also in terms of psychosocial effects all within the context of public health.

In-class instruction will be supplemented through the use of the on-line course management software, Blackboard. The University of Kentucky supports the use of Blackboard, and you can access it at <http://elearning.uky.edu/>. Most of you already have an account and should have no trouble getting into the system, but you may need to follow the instructions for obtaining an “account” which results in a user name and password. Then you have to sign into this class, GRN/ANA/PGY 612: Biology of Aging (the section is 001). Utilize Blackboard to access announcements and assignments, participate in on-line discussions, take exams, complete the required tutorial, and retrieve some recommended readings and interesting web site links. You can also access your grades on Blackboard. You should check in on Blackboard at least every other day. It is an easy-to-use system and you should enjoy the additional opportunities it will give you to participate in this class.

Primary Course Instructors

Rodney Guttman, Ph.D. (course director)
Department of Gerontology and Physiology
305 Sanders-Brown Center on Aging, 0230
phone 257-1412 X 275; email: rodneyg@uky.edu

Anne Harrison, PT, PhD
Department of Rehabilitation Sciences
204 J, Charles T. Wethington Bldg.
900 South Limestone, 0200
phone: 323-1100 X 80596; email: alharr01@uky.edu

Daniel Richardson (course director emeritus), PhD
Department of Physiology
MN 510 UKMC , 0298
e-mail: drichar@uky.edu

Required Text: Digiovanna, AG. 2000, *Human Aging: Biological Perspectives*, McGraw-Hill, Boston. \$69.00 Can be purchased at the Medical Center Bookstore on Limestone (next to Dutch Mill).

A CD ROM text supplement, *An Introduction to Human Physiology*, that will provide a basic physiology background in many of the systems being covered. I will loan you with one of these, but a few people may have to share with one another.

Recommended Text: Timiras. Paola. (2002) *Physiological Basis of Aging and Geriatrics*, CRC Press. ISBN: 0849309484, \$149.00 (which is why it is recommended rather than required)

Reference Materials: Assigned readings and/or reference materials will be in the form of text chapters, journal articles, multimedia CD, and on-line resources. ***Readings and assignments must be completed prior to the class for which they are assigned.*** Instructors will cover a lot of ground, and failure to complete the readings will hinder your in-class comprehension abilities. Readings will either be provided, placed on reserve in the UKMC library, given as references for you to access through the library, or will be able to be accessed through the Blackboard software system.

Expectations: This is a professional level course and both students and appropriate instructors will be expected to attend all classes, arrive on time so that we can begin at 9:00, and be prepared to participate in discussions on the topics of the day. Preparation requires completion of assigned readings.

If, for any reason, it is necessary for a student to be absent, it is expected that she/he will inform the instructor ahead of time. Again, since this is a graduate level course, reasons need not be given for being absent, but notification is important and consistent with professional behavior.

Performance Evaluation: Each student's course grade will be based on a series of take home essay examination questions which may require library research, participation in Blackboard discussions, and completion of tutorials posted on Blackboard. See the following section for further information.

<u>Graded Assignments</u>	<u>Value</u>
Test 1	36
Test 2	54
Participation (Blackboard and in class discussions)	10
Total	100

Take Home Test Responses

Students are expected to work individually on Take Home Test responses.

All responses must be typed and submitted in hard copy and, if possible, in an electronic form.

The length of each response will, in part, be determined by the nature of the questions, but, in general, will be in the range of 3-4 pages **for each question**, (double spaced, or 1.5 spaced, typed pages).

The sources of all information should be properly cited using an established reference style from any biomedical or social science journal (e.g., Journal of Gerontology).

Books on Reserve in the UKMC Library

Arking, R. Biology of Aging. Sunderland, Mass, Sinauer Associates, Inc. 1998

Geriatric Medicine and Gerontology. 1998

Skeletal Muscle Structure and Function 1992

Masoro, E.J., Austad, S. eds, Handbook of Biology of Aging, 2001

Spiriduso, W. Physical Dimensions of Aging, Champaign, Illinois, Human Kinetics 2005

Digiovanna. 2000. Human Aging.

Biology of Aging
 Fall 2006, Class Schedule
 9:00 to 10:20 in 403 Wethington Building.
 Fall 2006, Class Schedule and Assignments

All assignments listed for each class are to be completed **before that class except class number 1. Refer to Blackboard for most class assignments.**

8/24/2006	Biotheries of Aging	Guttmann
8/29/2006	Biotheries of Aging	Guttmann
8/31/2006	Cell Senescence	Keller
9/5/2006	Cell Senescence	Keller
9/7/2006	Neuroanatomy of Brain Aging	Guttmann
9/12/2006	Neurochemistry of Brain Aging	Guttmann
9/14/2006	Neurodegenerative Diseases in Aging: AD	Guttmann
9/19/2006	Neurodegenerative Diseases in Aging: AD/PD	Guttmann
9/21/2006	Stem Cells and aging	Guttmann
9/26/2006	Aging in the Audiological System	S. Guttmann
9/28/2006	Neuropsychological testing	Caban-Holt
10/3/2006	Discussion/Exam given	
10/5/2006	No class	
10/10/2006	Aging of the Musculoskeletal System: Osteology/Exam Due	Harrison
10/12/2006	Aging of the Musculoskeletal System: Arthrology	Harrison
10/17/2006	Aging of the Musculoskeletal System: Myology	Shaffer
10/19/2006	Aging of the Somatosensory sytems	Shaffer
10/24/2006	Aging and Motor Control: CNS	Harrison
10/26/2006	Aging of the Integumentary System	Richardson
10/31/2006	Cardiopulmonary Aging	Richardson
11/2/2006	Cardiopulmonary Aging	Richardson
11/7/2006	Aging and Exercise	Richardson
11/9/2006	The Aging Endocrine System: Pituitary, Adrenal, Thyroid	Legan
11/14/2006	The Aging Endocrine System: Reproduction	Legan
11/16/2006	open/discussion	TBA
11/21/2006	Nutrition in Aging	Boosalis
11/23/2006	Thanksgiving - no class	
11/28/2006	Diabetes	Reynolds
11/30/2006	The Aging Immune System	Bondada
12/5/2006	The Aging Immune System/Exam Given	Bondada
12/7/2006	No class	
12/12/2006	Exam due on Wednesday.	
12/14/2006	Open Discussion/Panel You're questions answered	

READINGS:

Always check blackboard for other recommended/required readings in addition to these below.

Lecture

1/2 Biotheories of Aging

-Digiovanna, chapter 1

- Handbook of the Biology of Aging : Chapter 1,5

-Recommended: Elahi, D., Muller, D.C., Rowe, J.W. Design, conduct, and analysis of human aging research. Ch. 2 Handbook of the Biology of Aging, Schneider and Rowe, eds, San Diego, Academic Press.

The biology of aging; Arking. Chapters 1,2,10,11

Digiovanna, chapter 2

3/4 Cell Senescence

CD: An Introduction to Human Physiology ch 3: Human Cell

Handbook of the Biology of Aging, Ch. 6 in the 6th edition

Arking, Ch 12,13

5-8 Aging Brain

Digiovanna, Ch 2,6 – Lecture notes will contain other readings

9 Stem Cells and Aging

Handbook, ch 4

10 Aging Audiological systems

Digiovanna Ch. 7

11 Neuropsychological testing

Lecture notes; Assigned readings on BB

12 Discussion , Take home exam given

13 no class

Lecture #

14 Aging of the musculoskeletal system: Osteology

Exam Due; Digiovanna, ch. 9 for an introductory overview; chapter 5 in Arking (3rd edition) will go long way in lectures 14-24.

15 Aging of the musculoskeletal system: Arthrology

Assigned readings on BB

16 Aging of the musculoskeletal system: Myology

CD: An Introduction to Human Physiology ch. 5: Muscles
-Digiovanna, ch. 8

Assigned readings on BB

17. Aging and the Somatosensory systems

Assigned readings on BB

18. Aging and Motor Control: CNS

Assigned readings on BB

19. Aging and the Integumentary system

Digiovanna, ch. 3

Assigned readings on BB

20. Cardiopulmonary Aging

CD; An Introduction to Human Physiology, ch. 8, 9: Circulatory System

Assigned readings on BB

21. Cardiopulmonary Aging

CD: An Introduction to Human Physiology, ch. 10: Respiratory System

Assigned readings on BB

22. Aging and Exercise

Assigned readings on BB

Lecture #

23. Aging and the Endocrine system

CD: An Introduction to Human Physiology, ch. 12: Endocrine system
Digiovanna, chapter 14;
Assigned readings on BB

24. Aging and the Endocrine system

CD: An Introduction to Human Physiology ch. 13: Reproduction
Digiovanna, ch 13; ch. 21 in 6th edition of The Handbook
Assigned readings on BB

25. Discussion/open

26. Nutrition

Digiovanna, ch. 11

27. no class/Thanksgiving

28. Diabetes

CD: An Introduction to Human Physiology CD, ch. 15: Metabolism
Assigned readings on BB

29. Aging Immune system

Digiovanna, ch 15
Assigned readings on BB

30. Aging Immune system

Assigned readings on BB/Take home exam given

31. no class

32. no class

33. Take home exam due Wednesday 12/13/2006

34. Final discussion/Panel

Brothers, Sheila C

From: Reid, Michael B
Sent: Thursday, May 08, 2008 10:31 AM
To: Brothers, Sheila C
Cc: Watkins, John; Guttman, Rodney; Speck, Dexter F; Emerich, Bonnie
Subject: RE: GRN 612 Course Change

Sheila, I support the changes that Dr. Watkins has proposed for GRN 612.

- Mike

Michael B Reid, PhD
Professor and Chair
UK Physiology

From: Watkins, John
Sent: Thursday, May 08, 2008 10:28 AM
To: Gash, Don M; Steiner, Sheldon; Reid, Michael B
Cc: Guttman, Rodney
Subject: FW: GRN 612 Course Change

Dear Colleagues:

Gerontology is in the final stages of approval for a rather sweeping curriculum change along with some cleaning up of several courses that will remain on the books. One course we've "cleaned up" is GRN 612 – *Biology of Aging*. All we have done is drop several unnecessary prerequisites. You will see our change application attached.

This course is cross-listed with your department. Consequently, we need the approval of each department's chairperson. See the original email below. Would you be so kind as to send a quick email to Sheila Brothers (sbrothers@uky.edu) indicating your departmental approval of the minor GRN 612 changes? I would also appreciate receiving a copy of the email (to geg173@email.uky.edu) for our records.

Many thanks for taking a few moments of your time to help us finalize this effort.

All the best,
John

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*John F. Watkins, Ph.D.*  
*Director, Graduate Studies in Gerontology*  
*Graduate Center for Gerontology*  
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*University of Kentucky*  
*Lexington, Kentucky 40536-0200*  
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*Fax: (859)323-5747*  
*Visit our web site at:*  
<http://www.mc.uky.edu/gerontology>  
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