

APPLICATION FOR NEW COURSE

1. Submitted by College of Public Health Date _____

Department/Division offering course Gerontology

2. Proposed designation and Bulletin description of this course

a. Prefix and Number GRN 653 b. Title* Laboratory Research in Gerontology

*NOTE: If the title is longer than 24 characters (including spaces), write
A sensible title (not exceeding 24 characters) for use on transcripts _____

c. Lecture/Discussion hours per week 0 d. Laboratory hours per week 15

e. Studio hours per week 0 f. Credits 3

g. Course description

Students will be exposed to current biomedical techniques by conducting supervised research in a laboratory setting.

h. Prerequisites (if any)

Permission of instructor

i. May be repeated to a maximum of 1 times (if applicable)

4. To be cross-listed as

Prefix and Number

Signature, Chairman, cross-listing department

5. Effective Date Fall 2007 (semester and year)

6. Course to be offered Fall Spring Summer

7. Will the course be offered each year? Yes No
(Explain if not annually)

8. Why is this course needed?

Needed to provide hands-on experience in a research setting that is directly applicable to a candidates research goals.

9. a. By whom will the course be taught? Rodney Guttman, PhD

b. Are facilities for teaching the course now available? Yes No
If not, what plans have been made for providing them?

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10. What enrollment may be reasonably anticipated? 3 per semester
-
11. Will this course serve students in the Department primarily? Yes No
Will it be of service to a significant number of students outside the Department? Yes No
If so, explain.
-
- Will the course serve as a University Studies Program course? Yes No
If yes, under what Area? _____
12. Check the category most applicable to this course
- traditional; offered in corresponding departments elsewhere;
 - relatively new, now being widely established
 - not yet to be found in many (or any) other universities
13. Is this course applicable to the requirements for at least one degree or certificate at the University of Kentucky? Yes No
14. Is this course part of a proposed new program: Yes No
If yes, which?
-
15. Will adding this course change the degree requirements in one or more programs? * Yes No
If yes, explain the change(s) below
-
16. Attach a list of the major teaching objectives of the proposed course and outline and/or reference list to be used.
17. If the course is a 100-200 level course, please submit evidence (e.g., correspondence) that the Community College System has been consulted. Check here if 100-200.
18. 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.
19. Within the Department, who should be contacted for further information about the proposed course?
Name John Watkins Phone Extension 7-1450 x80240

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

20. Signatures to report approvals:

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 University Senate

Reported by Office of the Senate Council

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

SYLLABUS – Laboratory Research in Gerontology
GRN 653

INSTRUCTOR: Rodney Guttman, Ph.D.
University of Kentucky
Center on Aging
800 S Limestone Street
Room 305 Sanders-Brown
Lexington KY 40536

(phone) 859-257-1412 x275
(fax) 859-257-9479
(email) rodneyg@uky.edu

REQUIRED TEXT: D. A. Skoog, D. M. West, F. J. Holler, and S. R. Crouch: *Analytical Chemistry: An Introduction*, 7 Edition, Saunders College Publishing, 1999.

Course Description

This course will expose students to a variety of modern techniques used in biomedical research with an emphasis on those experimental paradigms related to aging and age-related disorders.

Learning Objectives

After completing this course, students should have gained:

- A general knowledge various biochemical methods
- An understanding of how to select the appropriate analytical method
- An ability to safely use various research equipment

Course Outline

- I. Introduction (week 1) – Tools of the trade (Discussion and overview of the various biomedical research tools)**
- II. General safety and animal handling (week 2)**
- III. Building of Lab skills (weeks – 3-15)**
 - A. Sample preparation and gel electrophoresis – Western blotting**
 - B. Aseptic techniques and cell culture**
 - C. Animal handling and primary cell culture**
 - D. Molecular biology – PCR/ site-directed mutagenesis, restriction enzymes**
 - E. Microscopy**
 - F. Protein purification**
 - G. Pharmacology and enzyme kinetics**
 - H. Imaging and analysis**
 - I. Using human tissue**

NOTES ON GRADING

Graduate performance in this class will be evaluated from the following:

Five to Six exercises @ 7-12% each..... 50%
One final paper @ 50% 50% = 100%

Final grades will be based on a ten-point scale, i.e., 90-100%=A, 80-89%=B, etc. Both exams, will be comprised of short answer and calculation/evaluation questions, and perhaps a few brief essays. The final will be comprehensive. The exercises, to be assigned in class, will provide the opportunity to work with real data, and will involve fundamental calculations and almost always some written evaluation and discussion of your findings. These assignments will vary in length and rigor, and will generally be due from two days to a week following the meeting in which they are assigned.

EXERCISES

Accuracy in calculations is important, and you should make a habit of checking your results for any errors. Bad numbers are the easiest way to lose points on exercises. Effective communication is also important. In this vein, you should ensure that every exercise handed in is neat in appearance, well organized, and complete. Any text within exercises should be typed. All exercises **MUST** be handed in on time. No exceptions if you want full credit. A ten point reduction will be assessed if an assignment is handed in between 5:00pm of the due date and 5:00pm of the next class day. Beyond that, no submissions will be accepted. **MEET YOUR DEADLINES.**

Admission to a graduate program suggests a desire to develop scholarly abilities beyond those found among the general undergraduate level. The final paper, required of all graduate students in the class, is intended to help such development. This paper should demonstrate an effective combination of analytical skills (including the collection, organization, and analysis of data using appropriate methods) and critical thinking skills (including a critical survey of appropriate scholarly literature and effective employment of theory). Students should meet individually with me during the first three weeks of class to discuss and focus the paper topic. A detailed outline/prospectus of the paper is due by the mid-term date, and the final copy of the paper is due during the last week of class. Students are encouraged to submit drafts of their work at any time for my review and commentary, and to meet with me at any time to discuss any element of the paper.

GENERAL POLICY

- You will be required to have a Hepatitis B vaccination
- You will be required to pass chemical , animal handling and biosafety courses made available through the University
- Please keep up with the class readings and attendance; I do not assign incompletes.
- If for some reason you cannot make it to class, call me ahead of time so that arrangements can be made. **BE RESPONSIBLE!**
- Make-up tests or exercises will be allowed only if I am contacted before the class meeting that is to be missed, or if I am contacted within 1 week following the absence in cases defined as "excused" in Section V (*SR&R*).
- I encourage free discussion, and welcome your experiences, thoughts, and impressions.
- You should review the sections on academic dishonesty and plagiarism provided in your handbook *Student Rights and Responsibilities*..
- In addition to scheduled office hours, I welcome you to contact me at any other time if you have questions, if you need help, or if you simply want to talk.
- Finally, if you have a disability or 'situation' that may somehow affect your class performance, please schedule a meeting with me so that accommodations can be made.