

Biology 41000 – Spring 2008 -- Cell Development and Cellular Senescence

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COURSE #: Biology 41000

CATEGORY: Elective

TERM OFFERED: Spring 2007

PRE-REQUISITES: Bio 229, Bio 206

ACADEMIC LOAD: 3 cr

CATALOG DESCRIPTION

This course is an upper level undergraduate elective course which covers current topics related to the molecular biology of cell development including cell death or apoptosis and cellular aging. It is comprised of a series of lectures that cover pertinent topics, such as oxidative stress, genetic and stochastic factors in aging.

COURSE LEARNING OUTCOMES

Please describe below all learning outcomes of the course, and indicate the letter(s) of the corresponding Departmental Learning Outcome(s) (see list at bottom) in the column at right.

	Contributes to	Departmental Learning Outcome(s):
1. Genetic and stochastic theories of aging		A,B, D,E
2. The relationships between DNA damage and aging		A,B, D,E
3. The inter-relationship between cellular aging and organismic aging		A,B, D,E
4. Stress responses and aging		A,B, D,E
5. Homeostasis and its requirement for longevity		A,B, D,E
6. Genetic syndromes of aging		A,B, D,E
7. Signal transduction and cell cycle control and their mechanistic functions during aging		A,B, D,E
8. Use of library resource		B,C
9. Writing using hypothesis and critical reading of scientific literature		A,B,C,D,E
10. Speaking and oral presentations		B,C,D

COURSE ASSESSMENT TOOLS

- 1-2 oral presentations (50%)
- Term paper (answer one question, give a hypothesis that can be tested to answer the question, devise an experimental design to test the hypothesis and give reasons why or why not the experimental procedures may provide a definitive answer [propose alternative strategies, potential pitfalls]) The paper should be up to 10 pages with a minimum of 10 recent primary literature journal sources. (50%)

**Final Exam is a take home exam.

The final grade consists of oral presentation (50%) and final exam (50%).

<u>Date</u>	<u>Topic</u>
1/29	Overview of course, Theories of Aging
1/31	Aging Syndromes
2/5	Genomic Instability
2/7	Introduction to Cellular Senescence
2/12	College closed-Lincoln's Birthday
2/14	Cell Cycle Control and Cancer, Genetic Controls of Aging
2/19	Oxidative Damage
2/21	Stress Responses
2/26	paper presentation (Dr. Hubbard)
2/28	Apoptosis and Aging
3/4	Caloric Restriction
3/6	student oral presentations
3/11	Aging and Cancer
3/14	student oral presentations
3/18	Stem Cells and Aging
3/20	student oral presentations
3/25	Immuno senescence
3/27	student oral presentations
4/1	student oral presentations
4/3	student oral presentations
4/8	student oral presentations
4/10	student oral presentations
4/15	student oral presentations
4/17	student oral presentations
4/22	Spring Recess
4/24	Spring Recess
4/29	student oral presentations
5/1	student oral presentations
5/6	student oral presentations
5/8	student oral presentations
5/13	student oral presentations (last day of class)

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Academic Integrity

The CUNY Policy on plagiarism says the following about plagiarism (the CUNY Policy can be found in Appendix B.3 of the CCNY Undergraduate Bulletin 2007 -2009):

“Plagiarism is the act of presenting another person’s ideas, research or writings as your own. The following are some examples of plagiarism, but by no means is it an exhaustive list:

1. Copying another person’s actual words without the use of quotation marks and footnotes attributing the words to their source.
2. Presenting another person’s ideas or theories in your own words without acknowledging the source.
3. Using information that is not common knowledge without acknowledging the source.
4. Failing to acknowledge collaborators on homework and laboratory assignments.
5. Internet plagiarism includes submitting downloaded term papers or parts of term papers, paraphrasing or copying information from the internet without citing the source, and “cutting and pasting” from various sources without proper attribution.

The City College Faculty Senate has approved a procedure for addressing violations of academic integrity, which can also be found in Appendix B.3 of the CCNY Undergraduate Bulletin.”

Be aware that if we suspect plagiarism **we will follow this procedure, no exceptions made;** i.e. we will report you to the Academic Integrity Official. Disciplinary sanctions range from failing the class to expulsion from the college