

Cancer Biology
Course BIOL 4090 Section 001
M/W/F 1:00-1:50 PM
Room: WO1201

Instructors:

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I. Course Description

This course covers our current understanding of carcinogenesis and cellular and molecular features of malignancy, such as the process of oncogenic transformation, the phenotype of cancer cells, and the role of the immune response in cancer. We will also describe methods used to diagnose and treat cancers. Class sessions will be most beneficial to students who have a fundamental knowledge of cell and molecular biology. It is assumed that students taking this course understand basic concepts in college-level biology.

To pass this course, students must attend the lectures. There is no textbook appropriate for this course but the following website will provide access to a useful webtext:

<http://www.ncbi.nlm.nih.gov/books/bv.fcgi?call=bv.View..ShowTOC&rid=cmed.TOC&depth=2>

. For those students more comfortable with a standard textbook, we recommend “The Biology of Cancer” by Robert A. Weinberg. Published by Garland Science, 2007, ISBN 0-8153-4076-1.

While this text may prove useful, the exams will cover the material from lectures.

II. Student Evaluation (Grading)

- There will be three 50 minute midterm examinations and one two-hour final examination. Each midterm examination will count 20% of the final grade. The final examination will count 40%.
- Each midterm examination will consist of no more than 50 questions. The final examination will be made up of no more than 100 questions. While many questions will be multiple choice, there will be some true/false, fill-in-the blanks, short answer, and essay questions. If essay questions are included, the total numbers of questions may be reduced appropriately.
- The first midterm examination will be based on materials discussed prior to the examination. The second midterm examination will focus on materials discussed between the first and second midterm examinations. 70% of the final examination will cover materials discussed after the second examination whereas the remaining 30% will cover materials from the beginning of the semester to the second examination.

- Students arriving more than 10 minutes late for an exam will be unable to take the exam.
- The grade distributions may vary between exams but the distribution for a particular exam will be announced for each exam after it has been graded.
- Final grades will be assigned using the University of Toledo's 12 point grading system of A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F. See tentative grading scale to follow.
- All three examinations will be based on materials from lectures, so attend class and carefully take notes. If you must miss a class session, be sure to get notes from other students.
- If an exam is missed, we must be notified within 48 hours and documentation of the reason for missing the exam must be provided.
- Make-up examinations will be primarily essay exams. Therefore, it is possible that they may be more difficult than the exam taken by the rest of the class. It would be to your advantage to take the exam with the rest of your class.

Important Dates:

Aug. 28, 2008	Instructor signature required to register
Sept. 8, 2008	Last day to add/drop
Sept. 22, 2008	EXAM I
Oct. 13, 2008	EXAM II
Oct. 31, 2008	Last day to withdraw
Nov. 10, 2008	EXAM III
Dec. 17, 2008	Final Exam

Topics

Introduction to the course (Vestal)

Cancer Statistics (Dong)

Review of Molecular Biology Relevant to Cancer (Dong)

Introduction to Cancer (Dong)

Cell cycle (Taylor)

Cell proliferation/differentiation (Dong)

Apoptosis (Dong)

Telomeres and senescence (Dong)

Tumor suppressors (Dong)

Oncogenes (Vestal)

Growth factor signaling (Dong)

Chromosome rearrangements (Dong)

Invasion and metastasis (Vestal)

Tumor angiogenesis (Vestal)

Physical and chemical carcinogens (Vestal)

Hormones and cancer (Vestal)

Tumor viruses and infectious agents (Vestal)

Chemotherapy (Dong)

Endocrine therapy (Dong)

Basic Immunology (Vestal)

Tumor Immunology (Vestal)

Biotherapy (Vestal)

Cancer Biology Schedule from Fall 2008

M Aug. 25	Introduction to the course/ <i>Cancer statistics</i>
W Aug. 27	<i>Reviewer of molecular biology relevant to cancer</i>
F Aug. 29	<i>Introduction to cancer</i>
M Sept. 1	No class
W Sept. 3	<i>Cancer Pathology</i>
F Sept. 5	<i>Cell cycle</i>
M Sept. 8	<i>Cell cycle</i>
W Sept. 10	<i>Cell proliferation versus differentiation</i>
F Sept. 12	<i>Apoptosis</i>
M Sept. 15	<i>Apoptosis</i>
W Sept. 17	<i>Apoptosis</i>
F Sept. 19	Exam I
M Sept. 22	<i>Telomeres and senescence</i>
W Sept. 24	<i>Tumor suppressors</i>
F Sept. 26	<i>Tumor suppressors</i>
M Sept. 29	Oncogenes
W Oct. 1	Oncogenes
F Oct. 3	Oncogenes
M Oct. 6	<i>Growth factor signaling</i>
W Oct. 8	<i>Growth factor signaling</i>
F Oct. 10	<i>Growth factor signaling</i>
M Oct. 13	Exam II
W Oct. 15	<i>Chromosome rearrangements</i>
F Oct. 17	<i>Chromosome rearrangements</i>
M Oct. 20	No class
W Oct. 22	Invasion and metastasis
F Oct. 24	Invasion and metastasis
M Oct. 27	Tumor angiogenesis
W Oct. 29	Tumor angiogenesis
F Oct. 31	Physical and chemical carcinogens
M Nov. 3	Physical and chemical carcinogens
W Nov. 5	Hormones and cancer
F Nov. 7	Hormones and cancer

M Nov. 10	Exam III
W Nov. 12	Tumor viruses
F Nov. 14	Tumor viruses
M Nov. 17	<i>Chemotherapy</i>
W Nov. 19	<i>Chemotherapy</i>
F Nov. 21	<i>Endocrine therapy</i>
M Nov. 24	<i>Endocrine therapy</i>
W Nov. 26	No class
F Nov. 28	No class
M Dec. 1	Basic immunology
W Dec. 3	Tumor immunology
F Dec. 5	Tumor immunology
M Dec. 4	Biotherapy
W Dec. 6	Biotherapy
F Dec. 8	Complete topics and review for final
W Dec. 17	Final exam 12:30 – 2:30 pm

TENTATIVE GRADING SCALE

A:	100-92
A-:	91-90
B+:	89-88
B:	87-82
B-:	81-80
C+:	79-78
C:	77-72
C-:	71-70
D+:	69-68
D:	67-62
D-:	61-60
F:	<60

STATEMENT OF ACADEMIC DISHONESTY

Department of Biological Sciences

Academic dishonesty by students enrolled in undergraduate and graduate courses and programs offered by the Department of Biological Sciences will not be tolerated. Academic dishonesty includes but is not limited to:

1. Obtaining assistance from another individual during an examination.
2. Giving assistance to another individual during an examination.
3. The unauthorized use of study material or textbooks during an examination.
4. Changing answers on an examination after it has been returned and then submitting it for regrading.
5. Plagiarizing written assignments. Plagiarizing includes but is not limited to : a) Copying laboratory reports from previous years, b) copying or paraphrasing reports, term papers, or these prepared by other students, c) unauthorized collaboration in the preparation of reports, term papers, or theses, and d) use of another author's materials without appropriate acknowledgement through quotation and citation.
6. Attempting to bribe or otherwise induce an instructor to alter either a grade or examination score.
7. Obtaining or attempting to obtain a copy of an examination prior to its administration.

In accordance with policies presented in The Student Handbook and The University Catalog, Instructors have the responsibility and right to report cases of alleged dishonesty to departmental, college, and university administrative units. Students involved in academic dishonesty may expect to receive a grade of F on specific assignments as well as in the course where the assignment was made. In addition, disciplinary action may be recommended through appropriate college and university disciplinary committees. Please consult your instructor for instructions on the implementation of this policy.