

Cancer Biology
Course BIOL 4090 Section 001
M/W/F 2:00 pm - 2:50 pm
Room: WO1240

Instructor:

Dr. Fan Dong

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Office Hour: T 11:00 am-12:30 pm and R 1:00-2:30 pm

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.

II. Textbook

There is no required textbook. For those students more comfortable with a standard textbook, *The Biology of Cancer-2nd Ed.* by Robert A. Weinberg is an excellent reference book, and is highly recommended (e-book options: Amazon Kindle Print Replica E-Book and The VitalBook e-book). However, material covered in the lectures will come from external sources in addition to this textbook.

III. Student Evaluation (Grading)

- To pass this course, students must attend the lectures.
- 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. The questions will be multiple choice, 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. 60-70% of the final examination will cover materials discussed after the third examination whereas the remaining 30-40% will cover materials from the beginning of the semester to the third examination.
- Students arriving more than 10 minutes late for an exam will be unable to take the exam.

- 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 the 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, I 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.

IV. Important Dates:

Monday September 22	EXAM I
Monday October 20	EXAM II
Friday November 14	EXAM III
Thursday December 18	Final Exam

Cancer Biology Schedule from Fall 2014

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

M Nov. 10	Physical and chemical carcinogens
W Nov. 12	Hormones and cancer
F Nov. 14	Exam III
M Nov. 17	Tumor viruses
W Nov. 19	Tumor viruses
F Nov. 21	Chemotherapy
M Nov. 24	Chemotherapy
W Nov. 26	No class
F Nov. 28	No class (Thanksgiving)
M Dec 1	Endocrine therapy
W Dec 3	Endocrine therapy
F Dec 5	Basic immunology
M Dec. 8	Tumor immunology
W Dec. 10	Tumor immunology/Biotherapy
F Dec. 12	Complete topics and review for final
R Dec. 18	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.