

**University of Massachusetts Dartmouth**  
**BIO 108-7101: Cancer Biology- Online Summer**  
**Instructor: Dr. Cindy Ladino**  
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**Course Description:** Fundamentals of cancer biology. Examines scientific causes of cancer. Additional analysis includes studying the emotional, financial, social and psychological effects on patients, family and caregivers in "real-world" applications. This course is intended for the nonbiology major and meets the University Studies Curriculum Cluster 2B requirements.

### **Learning Outcomes**

Course-Specific Learning Outcomes: After completing the course, students will be able to:

1. Understand and use specialized vocabulary specific to the chosen topic.
2. Explain basic biological concepts relevant to the topic.
3. Apply those biological concepts to understand observations of the natural world.
4. Discuss how the topic interacts with human concerns.

University Studies Learning Outcomes: Cluster 2B Science in the Engaged Community. After completing the course, students will be able to:

1. Analyze and evaluate the use of scientific information in the context of social, economic, environmental or political issues.
2. Apply scientific theories and knowledge to real-world problems.
3. Effectively communicate scientific information in writing

**Required Text :** Kleinsmith. Lewis J., *Principles of Cancer Biology*, Pearson Books/ Benjamin Cummings Press. 2006. ISBN #: 0-8053-4003-3.

### **Course Schedule (subject to change):**

<u><b>Week</b></u>	<u><b>Topic</b></u>	<u><b>Reading Assignment</b></u>
1	Course Introduction What is Cancer? <b>Watch Video: The Truth About Cancer</b> Profile of a Cancer Cell  How Cancers Spread <b>Watch Video: Cancer Warrior</b> <b>Project #1: Poster Session (due date on myCourses site)</b>	Syllabus Chapter 1  Chapter 2 (pp 17-22, 36-41) Chapter 3
2	Causes of Cancer Chemicals and Cancer Radiation and Cancer	Chapter 4 Chapter 5 Chapter 6

		Chapter 2 (pp 30-36)
		Chapter 10 (pp 186-190)
3	Infectious Agents	Chapter 7
	Oncogenes	Chapter 9
	<b>Watch Video: Ghost in Your Genes</b>	
	Tumor Suppressor Genes	Chapter 10
		Chapter 2 (pp 22-30)
	<b>Watch Video: HHMI Cancer Series: Bert Vogelstein Lecture 1: Introduction and Genes (Parts 1 and 2)</b>	
4	Cancer Screening, Diagnosis, Treatment	Chapter 11
	Preventing Cancer	Chapter 12
	<b>Watch Video HHMI Cancer Series: Bert Vogelstein Lecture 2: Treatment (Parts 1 and 2)</b>	

**Final Project # 2 Due: Last Day of classes**

**Quiz Information:**

**Quiz 1 Chapters 1, 2 and Video: The Truth About Cancer**

**Quiz 2 Chapters 3, 4 and Video: Cancer Warrior**

**Quiz 3 Chapters 5, 6, 2 (pp.30-36), 10 (pp186-190)**

**Quiz 4 Chapters 7, 9 and Video: Ghost in Our Genes**

**Quiz 5 Chapters 10 and 2 (pp 22-30) and Video: HHMI Cancer Series, Bert Vogelstein Lecture 1: Introduction and Genes (parts 1 and 2)**

**Quiz 6 Chapters 11, 12 and Video: HHMI Cancer Series, Bert Vogelstein Lecture 2 Treatment (parts 1 and 2)**

**Grading:**

The Registrar's Office will mail final grades to students. You may check your final grades by accessing COIN. Grades will not be mailed, e-mailed or phoned-in to students. Posting of final grades is prohibited by university and departmental policy.

(2) Projects @ 25 points each .....	50 points (50%)
Quizzes.....	50 points (50%)
	100 points (100%)

Quizzes will be given as scheduled and consist of multiple-choice questions on information from the textbook chapters, the assigned videos(s) and lectures. The lowest quiz grade will be dropped. **Students are not allowed to use their books, lecture notes or fellow students when taking the quiz. This constitutes cheating. You must have a secure Internet connection before starting the quizzes. The quizzes cannot be saved and then resumed at a later time. The last page of this syllabus provides information concerning the projects. All submitted assignments must be of the highest quality: specific and detailed. Late assignments will not be**

accepted without documentation and permission from the Assistant Dean of Students Shelly Metivier-Scott and may be subject to a late fee of 2 pts/day.

**Grading Scale:**

A+ 97-100, A 93-96, A- 90-92, B+ 87-89, B 83-86, B- 80-82, C+ 77-79, C 73-76, C- 70-72, D+ 67-69, D 63-66, D- 60-62, F < 60

**Course Withdrawal:**

There is no penalty for withdrawal, other than a “W” on your transcript, as long as it is done by the last date for student-generated withdrawal. A “W” will not affect your GPA (grade point average) but it may affect your SPI (student progress index) which may have consequences on your financial eligibility or academic standing. Verbal withdrawals cannot be accepted. If you choose to withdraw, please fill out the necessary withdrawal form by the appropriate deadline. Students who do not officially withdraw from the course, but instead simply stop attending class will receive a letter grade for the course.

Incomplete Grades: Work Incomplete may be given only in exceptional circumstances at the instructor’s discretion and at the student’s request made no more than 48 hours after the final examination or last class. The student must be passing at the time of the request or must be sufficiently close to passing for the instructor to believe that upon completion of the work the student will pass the course. If the work is not completed within a year of the recording of the grade of I, the grade will become an F (I). “I” grades cannot be changed to “W”.

**Academic Difficulty:**

Students experiencing academic difficulty should notify me as quickly as possible for assistance. Please do not procrastinate

UMD offers students free tutoring in a variety of disciplines at the Academic Resource Center. The centers include the Writing and Reading Center, the Science and Engineering Center, and the Center for Access and Success (Pine Dale Hall, Room 7136) .

Writing and Reading Center: x8710 in Group I-220 (Liberal Arts)

Math and Business Center: x8716 in Group I- 010 (Liberal Arts)

Science and Engineering Center: x8718 in Group II- 217B (SENG 217B)

**Academic Negligence:**

We maintain a **zero-tolerance** policy towards academic negligence in any form. Academic negligence is demonstrated by **failure to do assigned work, academic dishonesty** . Any faculty member may, at any time, recommend in writing to the Dean of Academic Affairs that a student guilty of academic negligence be dropped from a course with a grade of “W” or “F”. As stated in the Academic Ethical Standards section of UMD student Handbook, academic dishonesty may result in expulsion from the University.

**A responsible, courteous and mature attitude is expected and required of all students at all times.** Students are required to abide by the Code of Conduct as stated in the college catalog. Any attempt to create an intimidating, hostile or offensive situation or subject a person to unwanted and unsolicited attention will not be permitted

**ADA Compliance:**

UMD strives to comply with the provisions of Title III of the Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 in accordance with university policy, if you have a demonstrated disability and require accommodations to obtain equal access in this course. Please e-mail me.

**Requirements for Completion of the Course:**

- \* All reading assignments are mandatory
- \* Each student must be current with all assigned readings
- \* Students must take and achieve at least a minimum passing average on projects
- \* Students are bound by the details and provisions and rules/regulations of the official UMD catalog
- \* Students must be free of academic negligence
- \* Students must be officially registered for this course by the Registrar
- \* Students are bound to the official UMD academic calendar

**Project Descriptions and Grading Rubrics : Late assignments will not be accepted without official note of excuse (please refer to syllabus) and permission from the Assistant Dean of Students, Shelly Metivier-Scott. Project submissions should be examples of your best work: detailed and specific.**

**Project #1: Cancer Poster – Type of Cancer (due date on myCourses site)**

**This writing-intensive project evaluates cancer in the context of social issues (risk factors, lifetime risks, causes, effective treatments) and applies it to the real-world problem of cancer. This project satisfies University Studies Cluster 2 B outcomes #1, #2 and #3. A template for this poster is given on the course MyCourses site. Poster can be made using the template on the myCourses site (extra slides can be added if you need more space) and should be submitted using a new thread under link Week 1 “Introduction”. Please label your project “Project #1”.**

A. Your poster should contain the following:

Name

Title

Descriptive Information in Detail : type of cancer, lifetime risk, risk factor, hereditary component, genes mutated including their normal function, treatment and how they apply to cancer (related to the real-world problem of cancer), how social issues (risk factors, lifestyle factors) relate to cancer, stages, pathology (with pictures), causes (epidemiology), at least 4 scientific references on a separate slide.

B. Grading:

Name 2 pts

Title 2 pts

Design/Neatness 3 pts

References 4 pts

Content 10 pts

Assessment 4 pts

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Total 25 pts

C. Assessment:

This is a one-page assessment of your favorite poster (after reviewing class posters during the post session). This assignment will include an analysis of this poster and a detailed explanation of what was learned from this poster. The assessment is due by the last day of class. Submit your assessment under Week 1 Introduction link on the myCourses site. Label it “Assessment”.

D. References:

Author (last, first name), Title, Book (journal or website), Date published, Pages Cited.

## **Project #2 Final Project: Due the last day of class**

**The goal of Project II is to showcase what students have learned in this course. The topic (must be a topic learned in class) and mode of presentation for this project are chosen by the students. This provides flexibility and freedom to create in-depth, interesting, and creative projects. Some examples of projects include: power point presentations, research papers, patient interviews, models, pamphlets, art projects, and videos. Videos, art projects, interviews and model projects require the submission of a two-page essay which explains the project. Research papers should be at least 10 pages in length and power point presentations should include at least 10 informative slides (excluding cover page and reference page). All projects require at least 5 scientific references. Each mode of presentation requires the student to effectively communicate information in writing. Examples of topics include: radiation therapy, chemotherapy, p53, DNA repair genes, apoptosis, angiogenesis, c-myc and oncogenes, UV radiation and DNA. This project satisfies University Studies Cluster 2B outcome #3 . Please submit this project under Introduction Week 1 link on the myCourses site and label it “Project 2 or Final Project”. Project topic should be approved by the instructor before project submission.**

A. The topic and mode of presentation is your choice (topic must concern something discussed in class) but must be reviewed by me and **cannot be on a type of cancer**. All projects must include at least 5 scientific references. All written projects should be at least 10 double-spaced pages in length. Power point projects include submission of detailed slides. If you are submitting a model or an art project, you should also include a two-page detailed report explaining your project, including at least 5 references.

B. Grading: This project is worth 25 pts. It will graded as in Project #1 (for posters/no assessment) or as in Project #2 (for all other projects). See Project I for reference format.