University of Massachusetts Dartmouth
BIO 1XX: Cancer Biology
Instructor: Dr. Cindy Ladino
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Office Hours: TBA
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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 non-biology 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.


Course Schedule (subject to change):

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<th>Week</th>
<th>Topic</th>
<th>Reading Assignment</th>
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<tr>
<td>1</td>
<td>What is Cancer?</td>
<td>Chapter 1</td>
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<td>2</td>
<td>Profile of a Cancer Cell</td>
<td>Chapter 2</td>
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<td>3</td>
<td>Quiz 1 Chapters 1, 2 and Movie: The Truth About Cancer</td>
<td>Chapter 3</td>
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<td>How Cancers Spread</td>
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<td>5</td>
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<td>Chemicals and Cancer</td>
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<td>6</td>
<td>Project I: Poster Session</td>
<td>Chapter 6</td>
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<td>Radiation and Cancer</td>
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<td>7</td>
<td>Quiz 3 Chapters 5, 6</td>
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</tbody>
</table>
Infectious Agents Chapter 7
Oncogenes Chapter 9

Guest Speaker: Brian Erickson, M.D.

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

Tumor Suppressor Genes Chapter 10
Class Debate/Discussion: Henrietta Lacks

Project II Due: Case Study (Not A Day At the Beach)
Movie: HHMI Cancer Series

Quiz 5 Chapters 10 and Movie: HHMI Cancer Series

Cancer Screening, Diagnosis, Treatment Chapter 11
Preventing Cancer Chapter 12
Class Debate/Discussion: GE Smoking Cessation Program

Quiz 6 Chapters 11, 12 and
Movie: Charlie Rose

Final Project (III) Due: Powerpoint, Research Paper

**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.

(3) Projects @ 25 points each ............75 points (75%)
9 Quizzes........................................ 25 points (25%)
100 points (100%)

Movies are available on reserve in the library. You are required to view these movies in preparation for quizzes. Quizzes will be given as scheduled and consist of short-answer, multiple choice and true/false questions on information from the textbook chapters, the assigned movie(s) and lecture. There are no make-ups for the quizzes. One quiz grade will be dropped. The last page of this syllabus provides information concerning the projects. All submitted assignments must be of the highest quality: specific and detailed. You must be present and on time for class to receive credit for all projects and quizzes. E-mailed assignment submissions will not be accepted. Late assignments will not be accepted without an official note (should be on letterhead) as follows and may be subject to a late fee of 2 pts/day. Absences will not be excused without official notification.

Sick Absence: doctor’s note or UMD Health Center note
Athletics: Note from Coach
Other Reason: Note from Office of Student Services or the Dean of Students Office

**Extra Credit Assignments:**

During the semester extra credit assignments will be offered. You may or may not receive notification as to when these assignments will be given. There are no make-ups for these assignments.
Grading Scale:

Attendance Policy:
  Only students officially registered for this course may attend classes. Please arrive on time for class. If you are late or leave early without the instructor’s permission, you will not receive credit for any in-class assignment due on that day and your course grade may be lowered. Once the class begins, please be prepared to remain for the entire class session. You must be present in class for the entire session to receive credit for projects.
  You are considered “officially registered” for this course if your name/ID appears on the official UMD roster. All students are responsible for following the official UMD academic calendar. Due to holiday observations throughout the semester, please note that the day this class meets is subject to change.
  Absence from class does not at any time, under any condition or circumstance either excuse or release a student from the satisfactory completion of any course obligation/assignment and/or the consequences of any announcements made by the instructor, nor does it absolve the absentee from the responsibility to make-up and/or remain current with any and all subject matter missed during the time of absence. Absences may be excused with instructor’s permission and may require official UMD notification.

Cell Phone/Pager Policy:
  The use of cell phones in any manner is strictly prohibited at all times during class. Please be sure your cell phones are in the “off” or “vibrate” mode when class is in session. Texting while class is in session is not allowed. Use of earbuds and headphones is prohibited.

Computerized, Electronic and/or Audiovisual Devices:
  The use of any electronic devices, including computers, is not allowed in class without permission. This includes Kindles, iPods etc.

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 simple 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 see 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
Math and Business Center: x8716 in Group I- 010
Science and Engineering Center: x8718 in Group II- 271B

Academic Negligence:
We maintain a zero-tolerance policy towards academic negligence in any form. Academic negligence is demonstrated by failure to do assigned work, excessive absences, repeated lateness to class, academic dishonesty, or distracting or disruptive classroom behavior. 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 while in the classroom. 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. Please note that “distracting or disruptive behavior” includes the use of cell phones, talking at inappropriate times in class, arriving late to class and leaving class early without the instructor’s permission. Consequences of these actions will proceed as follows:
a. After one warning in class, you will be asked to speak with me after class.
b. Repeated action will result in having the student removed from the class with a possible grade reduction.
c. If the student refuses to leave or if the action continues, the Academic Dean will be notified and this may result in the student receiving a “W” or “F” in the course.

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 meet with me at the beginning of the semester and provide the appropriate paperwork from the Center for Access and Success. The necessary paperwork is obtained when you bring proper documentation to the Center for Access and Success which is located in Pine Dale Hall, Room 7136: phone: 508-999-8711.

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: Students must be present and on time for class to receive credit for submitted projects. E-mailed submissions will not be accepted. Late assignments will not be accepted without official note of excuse (please refer to syllabus). Project submissions should be examples of your best work: detailed and specific.

Project I: Cancer Poster – Type of Cancer

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.

The poster session will be conducted as a professional scientific conference poster session. Students will present their posters in groups for review by the rest of the class and the instructor. The poster session will be conducted during two class periods.

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 5 scientific references in a separate section on back of poster.

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 poster 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 the next class period after the poster session.

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

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Project II: Case Study

This case study analyzes cancer (specifically, melanoma) with a real-world application. It follows a diagnosis and prognosis of melanoma in a real patient, Bill. Students play the role of oncologist and guide Bill through screening and treatment of his cancer. This is a writing-intensive project requiring students to write three extensive essays to complete this project, using at least 5 scientific references. This project satisfies University Studies Cluster 2B outcomes #2 and #3.

A. This is an **IN CLASS** project which we will complete over a 2-3 week period. There will be in class assignments and discussions. You must be in class to receive credit for this project. You must be in class to receive and submit the assignments. E-mailed assignments will not be accepted and late assignments will not be accepted without an official note of excuse (see syllabus).

B. Grading: This project is worth 25 pts and will be assessed on the following: content (10 pts), writing quality (10 points), references (5 points)

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Project III: Final Project

The goal of Project III is to showcase what students have learned in this course. The topic 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. All projects require at least 10 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.

A. The topic and mode of presentation is your choice but must be reviewed by me and **cannot be on a type of cancer**. All projects must include at least 10 scientific references. All written projects should be at least 10 double-spaced pages in length. Power point projects include submission of slides. Unfortunately, due to the large class size, oral presentations are not possible. 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 10 references.

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