BB 220
CANCER: SOCIETY’S MALIGNANT SHADOW

2022 WINTER

INSTRUCTOR AND COURSE DETAILS

LECTURES/DISCUSSION: T/Th 10:00 – 11:20 AM in LINC 314*

CREDIT HOURS: 3 (This course combines approximately 90 hours of instruction, activities, and assignments for 3 credits.)

PRE-REQUISITES: None

INSTRUCTOR: Dr. Kate Shay (Dept. of Biochemistry and Biophysics)

E-MAIL: kate.shay@oregonstate.edu

OFFICE HOURS: I will be available to answer questions at the end of class, or you are welcome to make an appointment with me.

COMMUNICATION: I will reply to course-related questions within 24 hours except weekends and holidays.

*Covid-19/illness/quarantine accommodations can be made to include you via Zoom – let me know in advance.

COURSE DESCRIPTION

Explores the social context of our modern understanding of the group of diseases called cancer. Stimulates critical thinking about how trends in prevention, diagnosis, treatment, and care are influenced by the way we view social categories such as race, gender, and socioeconomic class. Demonstrates that access to medical advances is informed by societal beliefs regarding the role of government and other authoritative institutions. (Bacc core course – DPD)

COURSE PHILOSOPHY

I am committed to the principle of universal learning and an inclusive classroom. This means that our classroom, our virtual spaces, our practices, and our interactions be as inclusive as possible. Mutual respect, civility, and the ability to listen and observe others carefully are crucial to universal learning. Active, thoughtful, and respectful participation in all aspects of the course will make our time together as productive and engaging as possible. If you have a particular need (whether that be COVID-related or any other mayhem), please arrange a meeting with me so I can best help you learn in this course. I will treat as private and confidential any information that you share where legally possible.

COURSE FORMAT – CORVALLIS CAMPUS
We will start each class with a short presentation from the instructor or a student group to delve into the topic. The rest of our class time will be spent discussing the relevant readings or videos, and working on group activities. The class will focus on practicing critical thinking skills. It will require you to develop and articulate your own ideas and interpretations on topics explored in the class.

**BACCALAUREATE CORE MEASURABLE STUDENT LEARNING OUTCOMES**

This course fulfills the Baccalaureate Core requirement for the **Difference, Power, and Discrimination** category. It does this by drawing connections between the patterns of cancer screening, diagnosis, and treatment in our society and inequities based on race, ethnicity, gender, and socioeconomic class. It challenges the notion of individual responsibility for cancer outcomes by promoting critical thinking about the roles of government, science, and community.

**Rationale:** The unequal distribution of social, economic, and political power in the United States and in other countries is sustained through a variety of individual beliefs and institutional practices. These beliefs and practices have tended to obscure the origins and operations of social discrimination such that this unequal power distribution is often viewed as the natural order. The DPD requirement engages students in the intellectual examination of the complexity of the structures, systems, and ideologies that sustain discrimination and the unequal distribution of power and resources in society. Such examination will enhance meaningful democratic participation in our diverse university community and our increasingly multicultural U.S. society.

**Upon completion of the course, students will be able to...**

1. Explain how difference is socially constructed.
2. Using historical and contemporary examples, describe how perceived differences, combined with unequal distribution of power across economic, social, and political institutions, result in discrimination.
3. Analyze ways in which the interactions of social categories, such as race, ethnicity, social class, gender, religion, sexual orientation, disability, and age, are related to difference, power, and discrimination in the United States.

**COURSE-SPECIFIC MEASURABLE STUDENT LEARNING OUTCOMES**

4. Appraise how the diagnosis and treatment of cancer changed with social movements and scientific thought.
5. Analyze the multiple perspectives over time on causes of cancer, and how these ideas gave rise to the scientific advances of the 20th and 21st centuries, citing examples of discoveries that moved the field forward.
6. Illustrate how inequitable cancer diagnosis, treatment, and care is attributed to the conflict between prioritizing societal over individual good.

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<tr>
<th>Outcome</th>
<th>How this outcome will be addressed</th>
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<tr>
<td>BC 1</td>
<td>Students will complete readings and view media regarding how the historical methods for racial classification obfuscated cancer statistics; how a modern understanding of genetics overturned the idea of cancer as a race- or gender-specific disease; and how data can be used to control what groups have access to cancer screening/treatment.</td>
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<td>BC 2</td>
<td>Students will complete readings and view media regarding how the development of informed consent practices attempted to remedy unequal power distribution and discrimination; whose job it is to ensure equal cancer screening/treatment access; and the role of social activism, individuals, governments, and corporations in taking responsibility for implementing anti-discrimination practices.</td>
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<td>BC 3</td>
<td>Students will complete readings and view media regarding how certain cancers were the result of power imbalance due to race, ethnicity, social class, gender; how other cancers were attributed to race and gender differences, how women’s bodies and choices were controlled by the threat of developing cancer; how real and imagined cancer clusters relate to social categories; and how individuals with less-protected status are more vulnerable to the dangers of personal genetic data being used in cancer screening/treatment.</td>
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<td>4</td>
<td>Students will complete readings and view media regarding how advances in scientific knowledge and social change from war, immigration, and the Civil Rights Movement intersected to uncover biases in cancer diagnosis and treatment.</td>
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<td>5</td>
<td>Students will complete readings and view media regarding how real and purported causes of cancer such as diet, environmental pollution, viral infection, and childbearing contributed to our modern understanding of who is afflicted with cancer.</td>
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<td>6</td>
<td>Students will complete readings and view media regarding how the priorities of industry, government, and other bodies fail to line up with the value of equitable cancer diagnosis, treatment, and care.</td>
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**LEARNING RESOURCES (REQUIRED)**

- Articles, videos, and other media – free to access – links on Canvas

**COURSE SCHEDULE OF TOPICS**

**Week One - Early Epidemiology and Deductive Reasoning**

**Readings:**
Milestones in Cancer Research: https://www.cancer.gov/research/progress/250-years-milestones

Selected reading from Cancer: The Emperor of All Maladies by Siddartha Mukherjee, pp. 37-50. (See Canvas)


Unit-specific learning goals:
1. Contrast the scientific processes used: 1) How late 18th century efforts at determining cancer causes differentiated between scrotal cancer and sexually transmitted disease, 2) How 20th century epidemiology was used to determine the cause of cervical cancer.
2. Hypothesize socio-medical reasons for the mistaken view that Black people in the U.S. and worldwide were invulnerable to cancer.

Week Two - The Technological Development of Chemotherapy and Radiation

Video:

Readings:
• “From mustard gas to medicines: the history of modern cancer chemotherapy.” Jones GB. Chem Herit. 1998 Spring;15(2):8-9, 40-2. (Link on Canvas)
• “U.S. Science Wars Against and Unknown Enemy: Cancer” Life Magazine, March 1, 1937; pp 11-17. (Link on Canvas) Content Warning: graphic medical photos
• Selected reading from the chapter "Nuclear Winter" from Medical Apartheid by Harriet Washington, pp. 217-243. (See Canvas)

Unit-specific learning goal:
1. Discuss how early 20th century technological advances contributed to the development of targeted treatments, at a time when the causes of cancer were unknown and treatments were one-size-fits-all.
2. Critique the practices of testing these early treatments in vulnerable persons.

Week Three - For the Greater Good: Developing Informed Consent

Readings:
• The Immortal Life of Henrietta Lacks, chapters 1, 3, 4, and 12

Unit-specific learning goals:
1. Explain how the value of “for the good of society” outweighed the rights of the individual, particularly the Black individual, as applied to scientific advances in mid-20th century cancer treatment.

2. Describe how the value of individual rights changed the ways authoritarian figures/institutions viewed informed consent.

Week Four - The Myths of Right Living and Biological Vulnerability

Readings:

- From Chapter 2 in The Unequal Burden of Cancer: An Assessment of NIH Research and Programs for Ethnic Minorities and the Medically Underserved; Tables 2.6, 2.7, 2.8, 2.9, 2.10. (See Canvas)
- Selected pages from How to Argue with a Racist by Adam Rutherford, pp. 56-76. (See Canvas)

Unit-specific learning goals:

1. Contrast the idea that cancer is primarily a White disease with the actual mortality rates for Black patients.
2. Explain how methods of racial classification in the 1950s and 1960s obscured the burden of cancer in Black Americans, and how the Civil Rights movement helped uncover this.
3. Using scientific information, critically examine the notion that genetics & genomics reveal racial categories.

Week Five - How Feminism, Immigration, and Eugenics Changed Cancer Diagnosis

Readings:

- “Migration Patterns and Breast Cancer Risk in Asian-American Women” December 1993 JNCI Journal of the National Cancer Institute 85(22):1819-27. (Link on Canvas)

Unit-specific learning goals:

1. Explain how the perceived higher cancer susceptibility in women has been attributed to parity, thereby encouraging women to bear more or fewer children, depending on their race, ethnicity, and socioeconomic status.
2. Assess how immigration and social change affecting Asian-American women caused controversy over the assumed cause(s) of cancer.

Week Six - The Politics of Personal Responsibility

Video:


Readings:
Week Seven - It Comes from Within: Modern Understanding of Gene Expression Illuminates Cancer Cause

Videos:

Readings:
- *Pandora’s DNA*, chapter 3, “Gene Hunters”
- *The Immortal Life of Henrietta Lacks*, chapters 13-14

Unit-specific learning goals:
1. Explain how a genetic view of cancer development changes our view of the moral implications of being diagnosed with cancer.
2. Contrast the previous view of cancer as a disease of “right living” with the discovery that some cancers actually are products of “contagion,” in that viral infection can change gene expression.

Week Eight - Environmentalism, Industrialization, and Cancer Causation

Podcast:
- “Double Blasted” podcast episode, WNYC’s Radiolab (Transcript also available) *Content Warning: Civilian description of wartime violence*

Readings:

Unit-specific learning goal:
1. Contrast the notion that cancer clusters affect prosperous communities with the evidence that they disproportionately affect those that are marginalized or are of lower socioeconomic status.

**Week Nine - Fight for Your Right: Who Gets Access to Screening?**

**Readings:**
- *Pandora’s DNA*, chapter 6, “Watchful Waiting”

**Unit-specific learning goals:**
1. Describe how preventative screens (mammogram, PSA, etc.) failed to provide positive outcomes for Black patients.
2. Strategize a solution to the issue of diagnostic techniques and drugs being calibrated mainly for White patients.

**Week Ten - Who Owns My DNA?: The Era of Scientific Patents**

**Readings:**
- *Pandora’s DNA*, chapter 4, “Myriad’s Monopoly” and chapter 5, “Positive”
- *The Immortal Life of Henrietta Lacks*, “Afterword”

**Unit-specific learning goals:**
1. Formulate an argument for and an argument against the patenting of cancer genes.
2. What are the risks of personalized medicine to individuals in marginalized groups?

**Final Project**
To demonstrate that you have met the learning outcomes for this course, you’ll submit a final project (detailed information on Canvas).
1. Research Proposal due Week 4
2. Research Notes due Week 6
3. Rough Draft due Week 9
4. Final Paper due Week 10

**EVALUATION OF STUDENT PERFORMANCE**
The course grade is based upon the following. Each component is described below.

- **Class Professionalism & Participation in Discussions** 10% 100 points
- **Leadership Day** 5% 25 points
- **Formative: Five-minute Papers** 15% 75 points
- **Formative: Group Activities** 25% 125 points
- **Summative: Final Paper (includes benchmarks)** 35% 175 points

**Total** 100% 500 points

**LETTER GRADE**
### WRITING HELP

#### HELPFUL SKILLS, SYNTAX, GRAMMAR, ETC.

Do you need help with the basics of your writing? Contact the Undergrad Research & Writing Studio. Studio consultants are able to give support on everything from research papers and lab write-ups to resumes and digital media projects. You’ll receive feedback and step-by-step strategies to help you overcome writer’s block and develop your skills as a writer and a scholar. In addition, they also offer specialized support for English Language Learners through individual consultations with the English Language Learning Coordinator. Come visit online at writingcenter.oregonstate.edu/undergrad-writing-studio.

#### HELP WITH WHETHER YOU ARE MEETING THE ASSIGNMENT GOALS

Connect with me and we’ll evaluate your progress together.

### ADDITIONAL COURSE POLICIES

#### LATE WORK

Late work incurs a 10% penalty per day and will not be accepted more than 5 days late.

#### INCOMPLETES

Incomplete (I) grades will be granted in emergency cases, if the student has turned in at least half of the coursework and has a passing grade at the time of the request. If you are having any difficulty that might prevent you completing the coursework, please don’t wait until the end of the term; let me know right away. In addition, COVID-19-related incompletes may be granted at any point, in accordance with University policy.

#### STATEMENT REGARDING STUDENTS WITH DISABILITIES

Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at http://ds.oregonstate.edu. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

#### EXPECTATIONS FOR STUDENT CONDUCT IN THE CLASSROOM

Student conduct is governed by the university’s policies, as explained in the Office of Student Conduct: Information and Regulations [here](https://beav.es/codeofconduct).

Students are expected to conduct themselves in the course (e.g., on discussion boards, email, in-class) in compliance with the university’s regulations regarding civility. Civility is an essential ingredient for academic discourse. All communications for this course should be conducted constructively, civilly, and respectfully.
Differences in beliefs, opinions, and approaches are to be expected. In all you say and do for this course, be professional. Please bring any communications you believe to be in violation of this class policy to the attention of your instructor.

Active interaction with peers and your instructor is essential to success in this course, paying particular attention to the following:

- Unless indicated otherwise, please complete the readings and view other instructional materials for each week before participating in the discussions.
- Be respectful of others and their opinions, valuing diversity in backgrounds, abilities, and experiences.
- Challenging the ideas held by others is an integral aspect of critical thinking and the academic process. Please word your responses carefully, and recognize that others are expected to challenge your ideas. A positive atmosphere of healthy debate is encouraged.

**ACADEMIC INTEGRITY**

Students are expected to comply with all regulations pertaining to academic honesty. For further information, visit Avoiding Academic Dishonesty, or contact the office of Student Conduct and Mediation at 541-737-3656.

**OAR 576-015-0020 (2) Academic or Scholarly Dishonesty:**

a) Academic or Scholarly Dishonesty is defined as an act of deception in which a Student seeks to claim credit for the work or effort of another person, or uses unauthorized materials or fabricated information in any academic work or research, either through the Student’s own efforts or the efforts of another.

b) It includes:

(i) CHEATING - use or attempted use of unauthorized materials, information or study aids, or an act of deceit by which a Student attempts to misrepresent mastery of academic effort or information. This includes but is not limited to unauthorized copying or collaboration on a test or assignment, using prohibited materials and texts, any misuse of an electronic device, or using any deceptive means to gain academic credit.

(ii) FABRICATION - falsification or invention of any information including but not limited to falsifying research, inventing or exaggerating data, or listing incorrect or fictitious references.

(iii) ASSISTING - helping another commit an act of academic dishonesty. This includes but is not limited to paying or bribing someone to acquire a test or assignment, changing someone’s grades or academic records, taking a test/doing an assignment for someone else by any means, including misuse of an electronic device. It is a violation of Oregon state law to create and offer to sell part or all of an educational assignment to another person (ORS 165.114).

(iv) TAMPERING - altering or interfering with evaluation instruments or documents.

(v) PLAGIARISM - representing the words or ideas of another person or presenting someone else’s words, ideas, artistry or data as one’s own, or using one’s own previously submitted work. Plagiarism includes but is not limited to copying another person’s work (including unpublished material) without appropriate referencing, presenting someone else’s opinions and theories as one’s own, or working jointly on a project and then submitting it as one’s own.

c) Academic Dishonesty cases are handled initially by the academic units, following the process outlined in the University’s Academic Dishonesty Report Form, and will also be referred to SCCS for action under these rules.

**OSU STUDENT EVALUATION OF TEACHING**
Course evaluation results are extremely important and are used to help me improve this course and the learning experience of future students. Results from the multiple choice questions are tabulated anonymously and go directly to instructors and department heads. Student comments on the open-ended questions are compiled and confidentially forwarded to each instructor, per OSU procedures. The online Student Evaluation of Teaching form will be available toward the end of each term, and you will be sent instructions via ONID by the Office of Academic Programs, Assessment, and Accreditation. You will log in to “Student Online Services” to respond to the online questionnaire. The results on the form are anonymous and are not tabulated until after grades are posted.

**Reach Out for Success:** University students encounter setbacks from time to time. If you encounter difficulties and need assistance, it’s important to reach out. Consider discussing the situation with an instructor or academic advisor. Learn about resources that assist with wellness and academic success at [oregonstate.edu/ReachOut](http://oregonstate.edu/ReachOut). If you are in immediate crisis, please contact the Crisis Text Line by texting OREGON to 741-741 or call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255).