

Bioethics 319/419
Medical Science & Technology in Society
Cross-listed undergraduate and graduate seminar

SYLLABUS

Instructor: Julia Knopes, Ph.D.
Research Associate, CWRU Department of Bioethics
Email: julia.knopes@case.edu

COURSE DESCRIPTION

Science and Technology Studies (STS) is an interdisciplinary field of scholarship that examines how social, cultural, historical, ethical, and political forces impact scientific research and technological development: and, in turn, how our beliefs, values, and perspectives change in response to scientific and technological innovation. This course will take an STS approach to the study of human health and medicine. We will explore how advances in contemporary biomedicine have affected society and culture, and how society and culture influence medical science, technology, and clinical practice. Topics we will explore include objectivity, classification, social justice in biomedical science, cyborgs and human enhancement, and medical systems across cultures.

The course will prepare students to think critically about scientific and medical knowledge, to thoughtfully examine the relationships between science, technology and culture at large, and to consider the ways that new medical technologies shape and re-shape our understandings of illness, health, and the human body. Weekly course meetings will implement a blend of lectures, discussions, and in-class exercises.

COURSE OBJECTIVES

- (1) Introduce students to the multidisciplinary field of Science and Technology Studies, specifically through the lenses of health, illness, and contemporary biomedicine
- (2) Enable students to understand how science and technologies are situated in social, cultural, historical, and ethical contexts, including the influence of socio-cultural factors on medical practice and the development of medical technologies
- (3) Empower students to critically assess, through discussion and writing, the impact of medical science and technologies on society, culture, and the patient experience

BETH 319/419 Class Calendar

DATE	TOPIC	READINGS
UNIT 1: The Nature of Medical Knowledge		
Tues 8/24	Course Overview	None
Thu 8/26	Introduction to STS	Sismondo 2010 Chapters 1 & 2 Knopes 2019 “The Value of STS”
Tues 8/31	STS and Bioethics	McCormick 2018 “Principles of Bioethics” Pickersgill 2013 “Science, Medicine, and Ethics in Society”
Thu 9/2	Objectivity in Medicine	Montgomery 2006 Chapter 1 Lock and Kaufert 2001 “Menopause, local biologies, and cultures of aging”
Tue 9/7	Classification in Medicine Class Activity: Button Sorting Exercise	Ernsberger 2012 “BMI, Body Build, Body Fatness, and Health Risks” Kuhl et al 2011 “Patient-Centered Revisions to the DSM-5”
Thu 9/9	Sufficient Knowledge in Biomedicine	Knopes 2020 “Yields and Rabbit Holes” Knopes 2020 “When Physicians Don’t Know”
Tues 9/14	Medical Pluralism	Adams 2005 “The Challenge of Cross-Cultural Clinical Trials Research” Khalikova 2021 “Medical Pluralism”
Thu 9/16	Authoritative Knowledge	Hildebrand 2012

	Lecture followed by in-class viewing and discussion of San Diego Health video on Integrative Medicine (Under VIDEOS folder)	<p>“Scissors as Symbols”</p> <p>Sargent and Bascope 1996 “Ways of Knowing about Birth in Three Cultures”</p>
Tues 9/21	Biosociality and Biopolitics	<p>Cascio 2020 “The limits of brain-based identity discourses”</p> <p>Mulligan 2017 “Biological Citizenship”</p>
Thu 9/23	<p>EXAM 1</p> <p>Unit 1 Response due by 1pm (BEFORE CLASS START TIME)</p>	
<p>UNIT 2: Science, Medicine, and Social Justice</p>		
Tues 9/28	Social Constructions: Race and Disability	<p>Gravlee 2009 “How Race Becomes Biology”</p> <p>Shakespeare 2010 “The Social Model of Disability” in the <i>Disability Studies Reader</i></p> <p>Roberts TED Talk “The Problem with Race-Based Medicine” (Under VIDEOS folder)</p>
Thu 9/30	<p>Race and Biomedicine</p> <p>Lecture and Vox video on impact of slavery on U.S. biomedicine</p>	<p>Nurridin, Mooney & White 2020 Reckoning with Histories of Medical Racism</p> <p>Metzl and Roberts 2014 “Structural Competency Meets Structural Racism”</p>
Tues 10/5	Deinstitutionalization and the Consumer Mental Health Movement	<p>Yohanna 2013 “Deinstitutionalization of People with Mental Illness”</p> <p>Lewis 2013 “A Mad Fight: Psychiatry & Disability Activism”</p>
Thu 10/7	<p>Colonialism and Medical Science</p> <p><i>Guest Lecture</i></p>	<p>Deerinwater 2020 “The Erasure of Indigenous People in Chronic Illness” in <i>Disability Visibility</i></p>

		Velarde 2018 “Indigenous Perspectives of Disability” in <i>Disability Studies Quarterly</i>
Tues 10/12	Transgender Healthcare & Ethical Considerations	Sallans 2016 “Lessons from a Transgender Patient” Crall and Jackson 2016 “Should Psychiatrists Prescribe Gender-Affirming Hormone Therapy to Transgender Adolescents?”
Thu 10/14	In class viewing and discussion of PBS Frontline on universal healthcare (Under FILES → Videos)	ProCon 2019 Right to Healthcare
Tues 10/19	NO CLASS - FALL BREAK	
Thu 10/21	Feminism and Science	Harding 1995 “Strong objectivity” Martin 1991 “The Egg and the Sperm”
Tues 10/26	Identity and Clinical Practice	Tweedy 2015 “The Case for Black Doctors” Robertson 2017 “The Irrelevance Narrative”
Thu 10/28	EXAM 2 Unit 2 Response due by 1pm (BEFORE CLASS START TIME)	
UNIT 3: Technologies and the Human Body		
Tues 11/2	Technological Progress Narratives	Beck 2015 “Antibiotic Resistance Is Everyone's Problem” Reiser 2009 “How the Stethoscope Transformed Medicine”
Thu 11/4	Materialism	Johnson 2008 “Simulating Medical Patients and Practices”

		Mol and Law 2004 “Embodied Action, Enacted Bodies”
Tues 11/9	Gerontechnologies <i>Guest Lecture</i>	Readings TBA
Thu 11/11	Human Enhancement 1: Cyborgs Lecture followed by in-class viewing and discussion of <i>TED Talk: We Are All Cyborgs Now</i> (Under VIDEOS folder)	Hogle 2005 “Enhancement Technologies and the Body” Kapustij and Frankel 2015 “Enhancing Humans”
Tues 11/16	Human Enhancement 2: Pharmaceuticals	Martin 2006 “The Pharmaceutical Person” Ray 2016 “Not Just ‘Study Drugs’”
Thu 11/18	Reproductive Technologies	Collard, Chantal and Kashmeri 2011 “Embryo adoption” Inhorn 2008 “He won’t be my son”
Tues 11/23	Disability and Technology	Saxton 2016 “Disability Rights and Selective Abortion” in Disability Studies Reader Tucker 1998 “Deaf Culture, Cochlear Implants, and Elective Disability”
Thu 11/25	NO CLASS - THANKSGIVING BREAK	
Tues 11/30	Closing Discussions	Douglas 2017 TED Talk (Under VIDEOS folder)
Thu 12/2	EXAM 3 Unit 3 Response due by 1pm (BEFORE CLASS START TIME)	
Thu 12/9 by	Graduate Students: Technology Analysis Projects Due	

REQUIRED TEXTS

There are no required texts for this class. All readings will be available as PDFs in the Files folder on Canvas.

COURSE REQUIREMENTS

(1) Participation: Participation is an important component of the course, but the instructor knows that not all students engage in classes in the same way, Therefore, participation in this class includes:

- verbal participation during class
 - At least **one time per session** if a student's primary engagement is verbal
AND/OR
- written participation outside of class
 - emailing the instructor comments or questions
 - posting on class discussion board
 - Students can engage with a combination of verbal and written participation
 - If a student's primary engagement is written, they should contribute **at least four times** with 250-word minimum discussion board posts or comments/questions to the instructor **per unit**
 - Some ideas for discussion board posts include:
 - Reflections tying together themes from within a unit, or tying themes together from multiple units
 - Reflection on a recent news article or current event relating to themes in the unit (please include a hyperlink with the source)
 - A discussion of something that surprised, confused, or interested the student from the course materials or lectures
 - A discussion about ethical debates relating to particular medical technologies or within biomedical science
 - A discussion about how the themes and topics in this course relate to what the student has learned in other courses across the university

Please refer to the grading rubric for participation on Canvas under FILES → COURSE DOCUMENTS for more information.

(2) Unit Responses: At the end of each unit, students will write a 2-3 page, double-spaced response to a prompt related to the themes of that unit. The responses will be due **before class on the day of each exam**. Unit responses will be submitted through Canvas under the ASSIGNMENTS tab. More details can be found in the

assignment information sheet and rubric on Canvas under FILES → COURSE DOCUMENTS. **Please follow the formatting guidelines on the assignment sheet** or points will be deducted.

(3) Exams: There are three exams for the course: one at the end of each unit. Each exam is worth 100 pts, and will consist of a series of multiple choice and short answer questions. All course content (lectures, readings, class activities) will be covered on the exam. There is a study guide for exams available on Canvas under FILES → COURSE DOCUMENTS.

(4) Technology Analysis Project: *GRADUATE STUDENTS ONLY*. Students will write a double-spaced 8-10 page review of the literature on the social and ethical dimensions of one medical technology or scientific innovation of their choice. Students will also relate their chosen technology or innovation to themes in the class. More details on this project can be found in the assignment sheet on Canvas under FILES → COURSE DOCUMENTS. Projects will be submitted through the ASSIGNMENTS tab on Canvas by the deadline posted on the syllabus.

GRADE BREAKDOWN

Participation	100 pts
Unit Responses	75 pts (25 pts each x 3 units)
Exam 1	100 pts
Exam 2	100 pts
Exam 3	100 pts
TOTAL =	475 pts
GRADUATE STUDENTS	+100 pts for Technology Analysis Project

COURSE POLICIES

(1) Class absence policy: Students are permitted to miss 3 class sessions without a prior written excuse. If a student has more than three **unexcused absences**, they may receive a lower overall participation score per the grading rubric. Please let the instructor know if you will be absent so that you can get the latest information about the missed session.

(2) Late submission policy: Students will receive a 5-point deduction from an assignment for every day that it is late. If a student is in a situation that would prevent them from submitting an assignment on time, they are expected to discuss this with the instructor in advance.

DISABILITY ACCOMMODATIONS

In accordance with federal law, if you have a documented disability, you may be eligible to request accommodations from CWRU Disability Resources. In order to be considered for accommodations you must present a memo from Disability Resources. Please keep in mind that accommodations are not retroactive. You may contact Disability Resources at 216-368-5230 or go to <https://students.case.edu/academic/disability/getstarted/>.

ACADEMIC INTEGRITY POLICY

All students are expected to adhere to Case's Academic Integrity Policy, accessible at <http://studentaffairs.case.edu/groups/aiboard/policy.html>. Cheating, plagiarism, misrepresentation, and obstruction, in any form, on any assignment, will not be tolerated in this class.

Plagiarism includes the presentation, without proper attribution, of another's words or ideas from printed or electronic sources. It is also plagiarism to submit, without the instructor's consent, an assignment in one class previously submitted in another. Misrepresentation includes forgery of official academic documents, the presentation of altered or falsified documents or testimony to a university office or official, writing assignments for another student, or lying about personal circumstances to postpone assignments (including essays and the midterm.) Obstruction occurs when a student engages in unreasonable conduct that interferes with another's ability to conduct scholarly activity. Destroying a student's computer file, stealing a student's notebook, and stealing a book on reserve in the library are examples of obstruction.

A FINAL REMINDER

If you need any help, or have questions, be proactive. Your instructor is here to listen, assist, and guide you. The syllabus is also an important resource, so please read it thoroughly so you are familiar with the expectations for this class.