

Soci 419.05, Technoscience and Biomedicalization, Winter 2017

Instructor: Dr. Ariel Ducey

Office Hours: Thursdays, 2:00 – 3:00 and by appointment

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## Course Overview

This course considers the concepts “technoscience” and “biomedicalization” and what they allow us to see that is new in contemporary practices of medicine and health care. To lay the groundwork, we will examine various approaches social scientists have taken to the study of science and medicine, and in particular scientific and medical knowledge. These approaches will then be used to help in positioning the authors and arguments in subsequent sections of the course. We will consider the dynamics of knowledge and non-knowledge in genetics, conceptualizations of the relationship between economic interests and medical knowledge, the nature and consequences of data and informatics in health care and medicine, and shifts in the experience of time and affect that accompany technoscience and biomedicalization. Along the way, we will have the opportunity to discuss the following themes and issues (among others):

- What it can mean to say science or medicine is “socially constructed” and the value of that phrase
- The reasons many social scientists have advocated a more critical appraisal of scientific and medical knowledge and practices
- The difference between traditional histories of science and medicine, and those by scholars in the sociology of scientific knowledge (SSK) and science and technology studies (STS)
- How distinctions are made between healthy/ill, normal/abnormal
- The implications of some recent developments in health care and medicine for personal identity and subject positions
- The impact of economic interests on how genetic research and pharmaceuticals are taken up in contemporary medicine
- The implications of contemporary biomedicine and technoscience for various forms of inequality and suffering

## Readings

- 1) There are two books for this course which you should acquire:
  - a) Kuhn, Thomas. *The Structure of Scientific Revolutions*. University of Chicago Press.
  - b) Katz Rothman, Barbara. *The Book of Life*, Beacon Press, 2001. [Also available in hardcover as *Genetic Maps and Human Imaginations*, Norton, 1998].
- 2) All other readings will be available through D2L, in accordance with University of Calgary copyright procedures.

Readings will average 50-75 pages a week; less in some weeks, more in others. Carefully examine the course schedule and plan your reading schedule accordingly. Readings must be

completed *before* the class for which they are assigned. You must bring the assigned reading with you to class.

I may add or omit some readings during the semester as needed, or make some adjustments to the order and schedule. Any changes in the course schedule will be announced in class and on D2L. In the event of absence, class members are responsible for finding out about such changes from classmates.

## Course Requirements

### 1. Reading summaries

Students are responsible for summarizing five readings over the course of the semester. Three of the readings will be (randomly) assigned to you, and you may select the other two. These summaries should be typed, double-spaced, and no longer than 300 words. The summaries should be exactly that—they should succinctly capture the author's argument in your own words, with a few well-chosen quotes for support. At the end of the semester, the summary for which you received the lowest grade will be dropped (students are required to complete four summaries to pass the course).

In order to receive a grade for the summary, students must include, in a separate paragraph or section, a personal reflection on the reading: what was your experience doing this reading? What did you find most thought-provoking or challenging? What would you like to see discussed in class? This personal reflection does not have to be long but it should be done conscientiously. The personal reflection is not part of the grade for the summary.

I may discuss and/or distribute the summary sheets in class (with your names and the personal reflection removed), so that we may use them as the basis for respectful but open discussion of what makes a good summary as well as for refining our understanding of the readings.

The summaries do not need to include formal citations or notes. However, students must use quotes when copying someone's exact words, *and* provide page numbers for quotes or references to specific points and ideas in the reading. Always include your name and date on the summary.

The summaries must be submitted in the appropriate D2L dropbox **no later than 12 p.m. the day before the reading is to be covered in class.**

### 2. Quizzes

Five short quizzes will be given in class (they should require no more than 20 minutes of class time). The purpose of these quizzes is to make sure that students are keeping up with the reading and to find out if there are any areas that I need to review in class or emphasize. If you are keeping up with the reading and attending class, the quizzes should not be difficult for you. If you have been keeping up with reading and attending class and you find the quizzes *are* difficult, you should see me to discuss the course and general strategies for approaching the course materials.

### 3. Labs

There will be five “labs,” one for each section of the course. Successful participation in the labs requires you have read the assigned texts up to the day of the lab. *Always bring the assigned readings to labs.* Labs will provide opportunities to develop critical reading and writing skills and practice interpreting, manipulating, and applying course materials. They will usually involve group work. Examples of labs include: exercises that require close reading or interpretation of the assigned text; connection of audiovisual materials to the assigned reading; application of concepts or methods to current events and artifacts; and brief presentations. *The labs will sometimes require preparation before class and perhaps submission of work the night before* (instructions will be given in class and posted on D2L, the class before the lab). Labs will be evaluated on a pass/fail basis, though a “high pass” category will also be used when the nature of the lab permits.

#### 4. Exams

There are three in-class exams for this course. They will include a variety of types of questions, including true or false and short answer and short essay questions.

#### 5. Final paper

Students will be expected to write a final paper for the course of no more than 1,500 words (6 double-spaced pages). Instructions for the final paper will be posted on D2L near the mid-term. The paper will be based on course materials and readings. The final paper will be due on **April 21<sup>st</sup>**.

#### Grading

Your final grade will be calculated as follows:

- 1) Reading Summaries (five) – 5% each (lowest grade dropped)
- 2) Quizzes (five) – 3% each
- 3) Labs (five) – 3% each
- 4) In-class exams (three) – 10% each
- 5) Final paper – 20%

**The final paper and four reading summaries are mandatory course requirements.**

The following scale converts percentage grades to letter grades for this class.

A+ = 95-100	B = 75-79	C- = 55-59
A = 90-94	B- = 70-74	D+ = 50-54
A- = 85-89	C+ = 65-69	D = 45-49
B+ = 80-84	C = 60-64	F = below 45

The following description of letter grades comes from the U of Calgary Calendar:

A indicates superior performance, excellent mastery of the material.

- B indicates above average performance, good mastery of the material.
- C indicates satisfactory performance, a basic understanding of the material.
- D indicates marginal performance, minimal understanding of the material.
- F indicates unsatisfactory performance.

### Instructor Contact Information

I am available during office hours and by appointment. My office is Room 938, Social Sciences Building. My office phone number is 220-5054, and my email address is [aducey@ucalgary.ca](mailto:aducey@ucalgary.ca).

In general, I prefer that you contact me by email for administrative purposes only. For instance, you may email me to schedule an appointment outside of office hours. Students with substantive questions should come to office hours or schedule an appointment. If you have questions related to grading, readings, or wish to discuss the course in greater depth, see me during office hours or make an appointment.

### **Instructor's Policies**

- All cellphones must be muted and stored out of sight during class. If you need to have your phone where you can see it (or feel it vibrate) for an urgent reason, clear it with the instructor before class. Laptops and tablets are permitted for taking notes.
- I will post copies of any powerpoint slides on D2L, but not necessarily before class. I will not post or distribute copies of my lecture notes. If you miss class, you will need to get notes from another student.
- In accordance with University policy, all cases of plagiarism will be reported to the Dean's office. Plagiarized work gets an automatic grade of 0; this includes student work that is only partially plagiarized. The Dean's office may impose greater penalties.

### **Additional Policies**

Grade Reappraisal Within two weeks of the date the exam/assignment is returned, students seeking reappraisal of examinations or assignments must submit a written response to the instructor explaining the basis for reconsideration of one's mark. The instructor will reconsider the grade assigned and will then book a time with the student to discuss his or her work and rationale. It should be noted that a re-assessed grade may be raised, lowered, or remain the same.

### **Handing in Papers, Assignments**

1. The main Sociology Department office does not deal with any course-related matters. Please speak directly to your instructor.
2. **Protection of Privacy:** The Freedom of Information and Protection of Privacy (FOIPP) legislation does not allow students to retrieve any course material from public places. Anything that requires handing back will be returned directly

during class or office hours. If students are unable to pick up their assignments from the instructor, they provide the instructor with a stamped, self-addressed envelope to be used for the return of the assignment.

3. Final grades are not posted by the Sociology Department. They are only available online.

**Ethics Research** -- Students are advised that any research with human subjects – including any interviewing (even with friends and family), opinion polling, or unobtrusive observation – must have the approval of the Faculty Ethics Committee. In completing course requirements, students must not undertake any human subjects research without discussing their plans with the instructor, to determine if ethics approval is required.

**Academic Misconduct** -- Please refer to the website listed below for information on University of Calgary policies on Plagiarism/Cheating/Other Academic Misconduct: <http://www.ucalgary.ca/pubs/calendar/current/k-2-1.html>

### **Deferrals**

When possible, please provide advance notice if you are unable to write an exam or complete/turn-in assignments on time. All requests for deferral of a course component due to health reasons must be accompanied by written documentation as outlined in the University Calendar and should be obtained while the student has the health issue rather than after recovery. Deferrals will be allowed in the following circumstances: illness, domestic affliction or religious conviction. Travel arrangements, misreading the syllabus, and scheduling conflicts with other classes or employment are not valid reasons for requesting a deferral. Deferrals will not be granted if it is determined that just cause is not shown by the student.

If you have missed a test for a legitimate reason, the instructor can require you to write a “make up” test as close in time to the original test as possible or can choose to transfer the percentage weight to another course component. If the instructor schedules a “make up” test for you, its date and location will be at the convenience of the Department of Sociology.

**Deferred Final Exam Form:** Please note that requests to defer a Registrar scheduled final exam are dealt with through the Registrar’s Office. Further information about deadlines, and where paperwork should be taken, is available on the form, which can be found at: [http://www.ucalgary.ca/registrar/files/registrar/Sp\\_Su\\_DFE\\_App.pdf](http://www.ucalgary.ca/registrar/files/registrar/Sp_Su_DFE_App.pdf)

**Deferred Term Work Form:** Deferral of term work past the end of a term also requires a form to be filled out. It’s available at <http://www.ucalgary.ca/registrar/files/registrar/defTW.pdf>

Once an extension date has been agreed between instructor and student, the form should be taken to the Faculty of Arts Program Information Centre (SS 110) for approval by an Associate Dean (Students).

### **Student Representation**

The 2016-17 Students’ Union VP Academic is Alicia Lunz ([suvpaca@ucalgary.ca](mailto:suvpaca@ucalgary.ca)). The Faculty of Arts has four SU representatives who may be contacted at any of the

following email addresses: [arts1@ucalgary.ca](mailto:arts1@ucalgary.ca), [arts2@ucalgary.ca](mailto:arts2@ucalgary.ca), [arts3@ucalgary.ca](mailto:arts3@ucalgary.ca), and [arts4@ucalgary.ca](mailto:arts4@ucalgary.ca). You may also wish to contact the Student Ombudsperson for help with a variety of University-related matters: <http://www.ucalgary.ca/provost/students/ombuds/role>

### **Emergency Evacuations**

In the case of fire or other emergency evacuation of this classroom, please proceed to the assembly point at **the Education Block food court**. Please check these assembly point locations for all of your classes at:

<http://www.ucalgary.ca/emergencyplan/assemblypoints>

### **Safewalk**

The University of Calgary provides a “safe walk” service to any location on Campus, including the LRT, parking lots, bus zones, and campus housing. For Campus Security/Safewalk call 220-5333. Campus Security can also be contacted from any of the “Help” phones located around Campus.

### **Academic Accommodation**

Students needing an Accommodation because of a Disability or medical condition should contact Student Accessibility Services (MC 293, phone 403-220-8237) in accordance with the Procedure for Accommodations for Students with Disabilities available at [http://www.ucalgary.ca/policies/files/policies/procedure-foraccommodations-for-students-with-disabilities\\_0.pdf](http://www.ucalgary.ca/policies/files/policies/procedure-foraccommodations-for-students-with-disabilities_0.pdf). Please provide academic accommodation letters to the instructor as early in the semester as possible and no later than two weeks after the course begins.

### Course Schedule

All readings will be available through D2L (except books listed above)

Date	Course Section	Readings	Class activities
Jan 10 T	Technoscience and biomedicalization	Introduction to the course	
Jan 12 Th		Rabinow, "Artificiality and Enlightenment" Clarke et al., "Biomedicalization"	Lecture & Discussion
Jan 17 T	The Social in Scientific and Medical Knowledge	Merton, "Normative structure of science"	Lecture & Discussion
Jan 19 Th		Kuhn, <i>Structure of Scientific Revolutions</i> , Chapters 1, 3, 4, 7, 8	Lecture & Discussion
Jan 24 T		Kuhn, <i>Structure of Scientific Revolutions</i> , Chapters 9-10	<b>Quiz 1</b> Lecture & Discussion
Jan 26 Th		Kuhn, <i>Structure of Scientific Revolutions</i> , Chapters 11-13	<b>Lab 1</b>
Jan 31 T		Latour & Woolgar, "The construction of a fact: the case of TRF(H)"	Lecture & Discussion
Feb 2 Th		Latour & Woolgar continued	<b>Quiz 2</b> Lecture & Discussion
Feb 7 T		Berg, "Construction of Medical Disposals"	Lecture & Discussion
Feb 9 Th			<b>In-class exam 1</b>
Feb 14 T	Knowledge and Non-knowledge in Genetics	Katz Rothman, <i>The Book of Life</i> [excerpts]	Lecture & Discussion
Feb 16 Th		Katz Rothman, continued	<b>Quiz 3</b> Lecture & Discussion
Feb 28 T		Keller, "Nature, Nurture, and the Human Genome Project" Watson, "Good Gene, Bad Gene"	Lecture & Discussion
Mar 2 Th			<b>Lab 2</b>
Mar 7 T	The Political Economy of Medical Knowledge	Harvey, on neoliberalism (TBD) Abraham & Ballinger, "The Neoliberal Regulatory State..."	Lecture & Discussion
Mar 9 Th		McKinlay, "From Promising Report...." Ross et al., "The Short Lifecycle..."	<b>Quiz 4</b> Lecture & Discussion
Mar 14 T		Cooper, "Trial by Accident"	<b>Lab 3</b>
Mar 16 Th			<b>In-class exam 2</b>
Mar 21 T	Data and Informatics in Health Care and Medicine	Diamond, "If It's Not Charted, It Didn't Happen"	Lecture & Discussion
Mar 23 Th		Bowker & Star, <i>Sorting Things Out</i> [selection]	<b>Lab 4</b>
Mar 28 T		Orr, "Biopsychiatry and the Informatics of Diagnosis"	Lecture & Discussion <b>Quiz 5</b>
Mar 30 Th	Time, Affect, Technology, Health	Rose & Novas, "Biological Citizenship"	Lecture & Discussion
April 4 T		Fortun, "Remembering Bhopal"	Lecture & Discussion
Apr 6 Th		Jain, "Living in Prognosis"	<b>Lab 5</b>
Apr 11 T			<b>In-class exam 3</b>

Reading bibliography

- Abraham, John and Rachel Ballinger. 2012. "The Neoliberal Regulatory State, Industry Interests, and the Ideological Penetration of Scientific Knowledge: Deconstructing the Redefinition of Carcinogens in Pharmaceuticals," *Science, Technology and Human Values* 37(5): 443-477.
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- Bowker, Geoffrey and Susan Leigh Star. *Sorting Things Out: Classification and Its Consequences*, MIT Press, 1999. [selection]
- Clarke, Adele E. et al. 2003. "Biomedicalization: Technoscientific Transformations of Health, Illness, and U.S. Biomedicine," *American Sociological Review* 68 (2): 161-194.
- Cooper, Melinda. 2011. "Trial by Accident." *Journal of Cultural Economy*. 4(1): 81-96.
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- Fortun, Kim. 2011. "Remembering Bhopal, Re-figuring Liability," *Interventions* 2(2): 187-198.
- Harvey, David. [excerpt on neoliberalism, TBD]
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- Rabinow, Paul. “Artificiality and enlightenment: from socio-biology to biosociality,” pp. 234-52 in *Zone 6: Incorporations*, eds. J. Crary and S. Kwinter. Cambridge, MA: MIT Press, 1992.
- Rose, Nikolas, and Carlos Novas. 2004. “Biological Citizenship,” pp. 436-63 in *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*, eds. Aihwa Ong, and Stephen Collier. Blackwell Publishing, 2004.
- Ross, Sue, Magali Robert, Ariel Ducey. “The Short Lifecycle of a Surgical Device: Literature Analysis Using McKinlay’s 7-Stage Model.” *Health Policy and Technology*, 4:168-188, 2015.
- Watson, James. “Good gene, bad gene,” pp. 195-7 in *Health and Disease: A Reader*, Basiro Davey, Alastair Gray, and Clive Seale, eds. Open University Press, 2001.