Science, Technology & Society

Tuesdays 10.00–11.30, Thursdays 8.30–10.00, Dupuis Hall 217

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Office hours & TA info posted on onQ

Course description

In this course, you will learn about selected aspects of the politics of science and technology. The course is organized in two parts. The first part is an introduction into the ways in which scholars have looked at science and technology not as something which is ‘removed’ or ‘outside’ of society, but as thoroughly social endeavors. As such, they are open to scrutiny through empirical investigation, and to social and political claims of accountability. Some of the questions we will ask in the first part are: Under which conditions does it make sense to understand scientific knowledge as ‘socially constructed’? What are the mechanisms by which scientific facts acquire the status of powerful and authoritative truths? How have lay people challenged the authoritative knowledge and activities of experts, and what are the implications? The second part will then examine the politics of science and technology through a number of selected examples. The ways in which scientists make facts matters, and this is most obvious in the areas of sex/gender, race/ethnicity, and sexuality. Accordingly, some of the questions we will ask in this part are: How did genomics change the ways in which scientists think about race/ethnicity, and how do they deal with political claims for inclusion in their research? How do lay people appropriate genetic ancestry testing to stake political claims? How have social assumptions about gender shaped the ways in which scientists make biological facts? How have assumptions about gender and sexuality shaped medical technologies? We end the course with a discussion of race and gender in science textbooks, and critical questions about science education.
Learning objectives

Through this course, you should gain:

• an appreciation of the socially constructed and contested nature of science and technology in society;
• knowledge and understanding: the ability to identify and describe key questions and concerns about (a) the ways in which social assumptions (i.e. about race, gender, and sexuality) shape scientific knowledge, and (b) the ways in which science and technology influence the politics of race, gender, and sexuality;
• reading and writing skills (this is a very reading intensive course).

Organization

The first part of the course (weeks 1–5) will be taught through two lectures per week. The second part of the course (weeks 6–13) will be taught through one lecture and one tutorial per week. There will be three tutorial groups led by me and the TAs. I will post info on tutorial groups and meeting place & times on onQ once enrolment is closed.

Expectations & assignments

In order to pass this course, you will need to complete the assignments listed below. I will give more detailed instructions on each written assignment in class before each relevant deadline.

• Weekly reading reflections. This is a reading intensive course, and accordingly your engagement with the course readings will constitute 30% of your grade. Each lecture I will set aside time for you to react to the readings in written form, based on a question I will give you. I expect you to demonstrate that you have read the text, that you have understood the basics of the author’s argument, and that you can generate some questions about the argument’s conceptual or practical implications. You may miss two reading reflections without penalty.
• Tutorial participation. Once we move into the second part of the course you will have the opportunity to collaboratively explore and discuss the readings with your class mates in tutorials. I expect you to engage in meaningful discussion in tutorials based on your thoughtful reading of the texts. Coming to tutorials prepared – bringing your notes and questions – will be crucial to do so successfully.
• Two take-home assignments. For each of these assignments I will give you material which you will analyze drawing on concepts and ideas from this course. I will evaluate how well you’re able to apply what you learn through both the readings and the lectures to the material (so, because lectures and readings only partially overlap, make sure you take notes effectively). You will have ten days to complete each assignment. Both assignments have to be submitted electronically via onQ.
• A book review of one of the following books (900-1100 words excl. references, double-spaced):

These books explore one or more of the themes of this course, and by the end of this course you should be able to understand and assess the book you choose with the knowledge you learn here. The purpose of a book review is not (only) to summarize the content of the book, but to situate its merit and to critically evaluate the author’s purpose, claims, methods, and evidence. I will evaluate how well you are able to comment on (a) how convincing the author presents their claims, as well as on (b) the book’s import to our understandings of the politics of biomedical knowledge in society.

Readings and resources

It is your responsibility to obtain a copy of the book you choose to review. All other readings, as well as this syllabus, lecture slides, and TA information will be available through onQ. Note that this material is copyrighted and is for the sole use of students registered in the course. Do not distribute or disseminate this material to anyone other than students registered in the course. Failure to abide by these conditions is a breach of copyright, and may also constitute a breach of academic integrity under the University Senate’s Academic Integrity Policy Statement.

Grading, submission & deadlines

All written assignments have to be submitted through onQ. I can only grant you extensions in exceptional cases and if you supply proof (i.e. a QSAS accommodation, doctor’s note). Note that in all other cases I will take 5% off your grade per day. Grading and due dates are as follows:
<table>
<thead>
<tr>
<th>Grade component</th>
<th>Due dates</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Reading reflections</td>
<td>weeks 3–12</td>
<td>20%</td>
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<tr>
<td>Tutorial participation</td>
<td>weeks 6–12</td>
<td>10%</td>
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<tr>
<td>Take-home assignment 1</td>
<td>week 6</td>
<td>25%</td>
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<tr>
<td>Take-home assignment 2</td>
<td>week 9</td>
<td>25%</td>
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<tr>
<td>Book review</td>
<td>week 14</td>
<td>20%</td>
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For your final grade, your numerical course average then will be converted to a letter grade according to the Queen’s Official Grade Conversion Scale.

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<tr>
<th>Grade</th>
<th>Numerical Range</th>
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<tbody>
<tr>
<td>A+</td>
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<td>A</td>
<td>85-89</td>
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<td>A-</td>
<td>80-84</td>
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<tr>
<td>B+</td>
<td>77-79</td>
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<td>B</td>
<td>73-76</td>
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<td>B-</td>
<td>70-72</td>
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<tr>
<td>C+</td>
<td>67-69</td>
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<tr>
<td>C</td>
<td>63-66</td>
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<tr>
<td>C-</td>
<td>60-62</td>
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<td>D+</td>
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<td>D</td>
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<td>F</td>
<td>49 and below</td>
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**Academic Integrity**

Queen’s students, faculty, administrators and staff all have responsibilities for supporting and upholding the fundamental values of academic integrity. Academic integrity is constituted by the five core fundamental values of honesty, trust, fairness, respect and responsibility (see www.academicintegrity.org) and by the quality of courage. These values and qualities are central to the building, nurturing and sustaining of an academic
community in which all members of the community will thrive. Adherence to the values expressed through academic integrity forms a foundation for the “freedom of inquiry and exchange of ideas” essential to the intellectual life of the University.

Students are responsible for familiarizing themselves with and adhering to the regulations concerning academic integrity. General information on academic integrity is available at Integrity@Queen’s University, along with Faculty or School specific information. Departures from academic integrity include, but are not limited to, plagiarism, use of unauthorized materials, facilitation, forgery and falsification. Actions which contravene the regulation on academic integrity carry sanctions that can range from a warning, to loss of grades on an assignment, to failure of a course, to requirement to withdraw from the university.

**Accommodation for disabilities**

Queen’s University is committed to achieving full accessibility for people with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a disability and think you may need accommodations, you are strongly encouraged to contact the Queen’s Student Accessibility Services (QSAS) and register as early as possible. For more information, including important deadlines, please visit the QSAS website.

**Academic considerations for students in extenuating circumstances**

The Senate Policy on Academic Consideration for Students in Extenuating Circumstances was approved in April, 2017. Queen’s University is committed to providing academic consideration to students experiencing extenuating circumstances that are beyond their control and which have a direct and substantial impact on their ability to meet essential academic requirements. The Faculty of Arts and Science has developed a protocol to provide a consistent and equitable approach in dealing with requests for academic consideration for students facing extenuating circumstances, which can be found at: http://www.queensu.ca/artsci/accommodations.
## Course schedule & readings

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<th>Week</th>
<th>Topics</th>
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<tr>
<td>0.5</td>
<td>no class on Thu, Sep. 6</td>
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<tr>
<td>1</td>
<td>From context to content</td>
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<tr>
<td>2</td>
<td>Laboratory studies</td>
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<td>3</td>
<td>Credibility</td>
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<td>4</td>
<td>Power &amp; authority</td>
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<td>5</td>
<td>Lay knowledge, expert knowledge</td>
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<tr>
<td>6</td>
<td>De-/reconstructing race &amp; ethnicity</td>
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<tr>
<td>7</td>
<td>Mobilizing ‘genetic ancestry’</td>
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<tr>
<td>8</td>
<td>Gendering &amp; sexing the body</td>
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<tr>
<td>9</td>
<td>Sexuality</td>
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<td>10</td>
<td>Sex, gender, sexuality: the case of ‘hysteria’</td>
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<tr>
<td>11</td>
<td>Race &amp; gender in science textbooks</td>
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<tr>
<td>12</td>
<td>Critical questions about science education</td>
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### Week 1: From context to content

- Sismondo, Sergio (2010). An Introduction to Science and Technology Studies. 2nd ed. Chichester: Wiley-Blackwell, Ch. 3 “Questioning Functionalism in the Sociology of Science.”

### Week 2: Laboratory studies

**Week 3: Credibility**


**Week 4: Power & authority**


**Week 5: Lay knowledge, expert knowledge**


**Week 6: De-/reconstructing race & ethnicity**


**Week 7: Mobilizing ‘genetic ancestry’**

- Pick one of the following:

**Week 8: Gendering & sexing the body**


**Week 9: Sexuality**


**Week 10: Sex, gender, sexuality: the case of ‘hysteria’**


**Week 11: Race & gender in science textbooks**


**Week 12: Critical questions about science education**