1 Course Details

1.1 Calendar Description

This course explores the ways in which academic knowledge can be transferred, translated and mobilized to the world and used to remedy social problems. Through historical and/or current case studies and using the knowledge acquired in their two minors, students will learn to assess and defend conflicting points of view both in written and oral formats. Through group exercises, students will learn to work collaboratively and envisage themselves as engaged citizens.

Pre-Requisites: ASCI*1120
Equates: ASCI*2000
Restrictions: Registration in the BAS degree program.

1.2 Course Description

Members of the public routinely rely on scientific knowledge to inform everyday decisions, including the choice whether to support or protest scientifically-informed public policy decisions that impact our lives. Due to limited research time and specialized training, we rely on expert advice. When the channels of knowledge transfer, translation, and mobilization work well, trustworthy scientific experts conduct the relevant research soundly, apply it appropriately to the social issue in question, and receptive users of this information (members of the public, policy makers) act on these findings. When trust is in place, our “uses of knowledge” should go smoothly. But the current political landscape’s many sites of conflicting knowledge claims indicate that expert/non-expert relations are not so secure. This course will focus on the challenges of scientific expertise in democratic societies, investigating such questions as:

What distinguishes expert knowledge from other types of knowledge?
How do non-experts identify experts and when is it appropriate to defer to them?

When experts disagree, how do we determine which one to believe?

Does reliance on expert authority undermine democratic values?

### 1.3 Timetable

Monday Wednesday 3:30-4:20pm

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<th>Class Schedule</th>
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<tr>
<td><strong>Mon</strong></td>
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<td>Week 1</td>
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<td>Readings:</td>
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<td>Week 2</td>
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<td>Readings:</td>
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Collins, “Introduction: The Growing Crisis of Expertise”
Podcast: Collins on Inquiring Minds
Selinger and Whyte, “Philosophy of Expertise”

Recommended:
Collins and Evans, “Third Wave of Science Studies,” pp. 235-237

Week 09/24 Three Waves of Science Studies
09/26 Scientific Experts
Readings:
Collins, chapter 1
Collins and Evans, “Third Wave,” pp. 239-242

Week 10/01 When Experts Disagree
10/03 Writing Workshop

Week 10/08 Thanksgiving

10/08 Thanksgiving

University closed.

10/10 What Makes You An Expert?

Readings:

Collins, chapter 3

Monday and Tuesday seminar participants may attend other seminars scheduled later in the week. Please notify the TA of that seminar.

Week 10/15 Challenging Experts and Expertise

10/15 Challenging Experts and Expertise

Essays Due Saturday October 12

Submit essays in Courselink Dropbox by 10:00am

10/17 Conflicts of Interest: Can we Trust Scientific
Readings: O'Connor, "Coca-Cola Funds Scientists Who Shift Blame for Obesity Away from Bad Diets"


Readings: Proctor, “Manufacturing Ignorance”

Readings: Thompson, "Understanding Financial Conflicts of Interest”

Readings: Oreskes and Conway, “Doubt is Our Product” in Merchants of Doubt

Nyhan, “Limits of the ‘Tobacco Strategy’ on Climate Change”

Week 10/22 Scientific Dissent

10/24 Heretics in Science

Readings: DeMelo-Martin and Intemann, “Scientific Dissent and Public Policy”

Readings: Clark, “Are Great Scientists always Heretics?”

In-Seminar Challenge: How can we defeat merchants of
Week 8 10/29 Whistle Blowers 10/31

Readings: Collins, chapter 4 & conclusion

In-class exam

Week 9 11/05 Are There Reasonable Limits on Scientific Dissent? 11/07 Public Accountability for Science

Readings: Delborne, “Dissent and Suppression of Science”

Readings: Jasanoff, “Testing Time for Climate Science.”

In-Seminar Challenge:

Why doesn’t widespread scientific consensus motivate political and policy change?

Week 10 11/12 Why Do Reasonable People Doubt Science? 11/14 Ethics of Expertise
Readings:
Achenbach, “Why Do Many Reasonable People Doubt Science?”
Kahan, “Fixing the Communications Failure”

Readings:
Hardwig, “Towards an Ethics of Expertise”

Week 11/19 EXPERTS AND THE PUBLICS: CASE STUDIES
11/19 EXPERTS AND THE PUBLICS: CASE STUDIES

i. Chernobyl and the Cumbrian sheep farmers
Collins and Pinch, “The Science of the Lambs: Chernobyl and the Cumbrian Sheep Farmers”

ii. Environmental disaster at Love Canal

Week 11/26 EXPERTS AND THE PUBLICS: CASE STUDIES
11/28 CASE STUDIES:

iii. The BSE/“Mad Cow Disease” Crisis
Millstone and Van Zwanenberg, “Politics of Expert Advice: Lessons from"

iv. Vaccine Hesitancy and Public Misunderstanding of Science

Readings:
Goldenberg, "..."
the Early History of the BSE Saga

FST Journal Vol 17, no 2 (July Vaccine 2001): Special Issue on BSE Inquiry.

-esp. Phillips, “Lessons Learned from the Inquiry”;

Heap and Root, “Current Knowledge of TSEs”

Recommended:

http://www.bsereview.org.uk/

Carrington, “BSE Fiasco” New Scientist

1.4 Final Exam
Monday December 10, 2018 7-9pm

2 Instructional Support

3 Learning Resources

All other readings are available on Courseslink

4 Learning Outcomes

4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. Explain ways in which academic knowledge can be transferred, translated and mobilized to the world and used to remedy social problems (depth and breadth of understanding)
2. Assess and defend conflicting points of view both in written and oral formats
3. Develop collaborative learning through group discussion (in class and in seminar)
4. Develop engaged citizenship
5. Formulate arguments independently and collaboratively on whether a barrier to the use of knowledge, such as commercialization of research, exists and if it is a useful or necessary one.
6. Synthesize and present specialized knowledge, arguments and analyses accurately and appropriately for fellow scholars and the general public using in depth research and writing of editorials.
7. Recognize that knowledge is context specific, reflect on its limitations, and acknowledge how these limitations influence analyses, interpretation, and worldviews.

5 Teaching and Learning Activities

Lectures: Monday, Wednesday 3:30-4:20pm

6 Assessments

6.1 Assessment Details

Essay (25%)
Due Saturday October 12, 2018 11:00am in Dropbox

In-Seminar Challenge #1 (5%)
Date: week #2 seminars

Midterm Exam (20%)
Date: N/A

Final Examination (35%)
Date: Mon, Dec 10, 7:00 PM - , 9:00 PM

In-seminar Challenge #2 (10%)
Date: seminars in week 6

In-Seminar Challenge #3 (10%)
Date: seminars in week 7

7 University Statements

7.1 Email Communication
As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

7.2 When You Cannot Meet a Course Requirement
When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals
https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml

Graduate Calendar - Grounds for Academic Consideration
https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions
https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml

7.3 Drop Date
Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses
https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml
7.4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

7.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance and not later than the 40th Class Day.

For Guelph students, information can be found on the SAS website https://www.uoguelph.ca/sas

For Ridgetown students, information can be found on the Ridgetown SAS website https://www.ridgetownc.com/services/accessibilityservices.cfm

7.6 Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity, and it is the responsibility of all members of the University community—faculty, staff, and students—to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff, and students have the responsibility of supporting an environment that encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be
construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct
https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml

Graduate Calendar - Academic Misconduct
https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml

7.7 Recording of Materials

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

7.8 Resources

The Academic Calendars are the source of information about the University of Guelph’s procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars
https://www.uoguelph.ca/academics/calendars