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?

We will use COVID-19 as a new and compelling test case in the role of scientific experts in national and international pandemic responses.

### 1.3 Timetable

**Class Schedule**

<table>
<thead>
<tr>
<th>Mon</th>
<th>Wed</th>
<th>Seminars</th>
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<tbody>
<tr>
<td>Week 1 09/14 <em>Introduction to the Problem of Expertise: Legitimation and Extension</em></td>
<td>09/16 <em>Public Attitude about Scientific Experts</em></td>
<td>No seminars this week</td>
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Readings:
Nichols, “Death of Expertise.”


Greenberg and Everts, “Pandemic Puts Public Trust to the Test.”

Week 09/21 *Are We All Scientific* 09/23 *Three Waves of Science* Seminars begin on
### Week 3
#### 09/28 Scientific Experts
**Readings:**
- Collins, chapter 2

#### 09/30 When Experts Disagree
**Readings:**
- Jenkins, "Was I Wrong About Coronavirus? Even the Experts Can't Tell Me."

### Week 4
#### 10/05 What Makes You an Expert?
**Readings:**
- Collins, chapter 3.

#### 10/07 Meet the Expert: Harry Collins
**Interview with Collins on Inquiring Minds podcast:** "Why Googling Doesn't Make you a Scientific Expert."

*there is no additional lecture on this material.

### Seminar challenge #1:
How should experts convey uncertainty to the public?

### Quiz #1

### Short essay #1
is due prior to the start of your seminar on September 28.
**Test.** On-line test will NOT be timed, but it must be completed by **Friday October 9th, 5:00pm**

**Week 5**

10/12 FALL BREAK

**Week 6**

10/14

*Why Do Reasonable People Doubt Science?*

NO CLASSES OR SEMINARS

Readings:
Achenbach, “Why Do Many Reasonable People Doubt Science?”

Kahan, “Fixing the Communications Failure.”

10/19

*Trusting the Advice of Peers instead of Experts*

Readings:

10/21

*Whose Expertise? Whose Knowledge?*

Readings:
McGregor, “Coming Full Circle: Indigenous Knowledge, Environment, and our Future”

**Seminar challenge #2:**
How should we talk to each other?

**Quiz 2**
Week 7
10/26 Challenging Experts and Expertise

Readings:
O'Connor, "Coca-Cola Funds Scientists Who Shift Blame for Obesity Away from Bad Diets."
Proctor, "Manufacturing Ignorance"
Domoske, "50 Years Ago, Sugar Industry Quietly Paid Scientists to Point Blame At Fat."
Oreskes and Conway, “Doubt is Our Product” in Merchants of Doubt

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

10/28 Conflicts of Interest: Can we Trust Scientific Research?

Readings:
Lexchin, “Are Health Canada and Big Pharma Too Close for Comfort?”
Thompson, “Understanding Financial Conflicts of Interest”

Quiz 3

Short essay #2 due prior to the start of your seminar on Monday, October 26

Week 8
11/2 Scientific Dissent

Readings:
De Melo-Martin and Intemann, “Scientific Dissent and Public Policy.”

11/4 Scientific Are There Reasonable Limits on Scientific Dissent?

Seminar Challenge #3: Why is Kusch unconvinced by the argument that science is not believable when


it has a political agenda?

Week 9

11/9 Whistle Blowers  
Readings:  
Collins, chapter 4 & conclusion  
Quiz 4

11/11 Heretics in Science  
Readings:  
Clark, “Are Great Scientists Always Heretics?”  
Ridley “Scientific Heresy”  
[VIDEO] “Rupert Sheldrake: Heretic of Science.”

Week 10

11/16 Public Accountability for Science  
Readings:  
Jasanoff, “Testing Time for Climate Science”  
Oreskes, “The Scientific Consensus on Climate Change”

11/18 The Role of the Public in Science  
Readings:  
Douglas, “Inserting the Public into Science”

Quiz 5

Week 11

11/23 EXPERTS AND THE PUBLICS: CASE STUDIES  
i. Chernobyl and the Cumbrian sheep farmers  
Stilgoe, "How to Think about the Risks of Mobile Phones and WiFi”

11/25 EXPERTS AND THE PUBLICS: CASE STUDIES  
ii. Wifi and EMF

Short essay #3 due before the start of your seminar on Monday November 9
Collins and Pinch, “The Science of the Lambs: Chernobyl and the Cumbrian Sheep Farmers”

Week 11/30 EXPERTS AND THE PUBLICS: CASE STUDIES

iii. The BSE/“Mad Cow Disease” Crisis

Readings:

-Ainsworth and Carrington, “BSE Disaster: the history.”
-Carrington, “Fatal Flaws.”
-Carrington, “BSE Fiasco.”
-FST Journal Vol 17, no 2 (July 2001): Special Issue on BSE Inquiry.

12/2 EXPERTS AND THE PUBLICS: CASE STUDIES

iv. Vaccine Hesitancy and Public Misunderstanding of Science

Readings:

-Goldenberg, “Public Misunderstanding of Science? Reframing Vaccine Hesitancy.”

12/4 Final Reflection due today by 6:00pm

Final Essay is due Sunday December 6 by 5:00pm

TBA
Background information about BSE available at:

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

1.4 Final Exam
There is no final exam

2 Instructional Support

2.1 Instructional Support Team
Instructor: Maya Goldenberg
Email: asci2050@uoguelph.ca

2.2 Teaching Assistants
Teaching Assistant: Jordan Ho
Email: jho09@uoguelph.ca
Teaching Assistant: Sophia Neumann
Email: sneumann@uoguelph.ca

3 Learning Resources


All other readings are available on Courselink
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

Seminar Challenge/ Short Essay #1 (10%)

Date: Mon, Sep 21 - Mon, Sep 28

Discussions take place in seminars on September 21st, and essays are due before the start of seminars on September 28th. Submit in Dropbox folder “Short Essay #1”.

Seminar Challenge/Short Essay #2 (10%)

Due: Mon, Oct 19 - Mon, Oct 26

Discussions take place in seminars on October 19th, and essays are due before the start of seminars on October 26th. Anyone who misses the discussion in seminar are still responsible to submit written work on time. Submit essays in Dropbox folder “Short Essay #2”.

Seminar Challenge/ Short Essay #3 (10%)
Discussions take place in seminars on November 2nd, and essays are due before the start of seminars on November 9th. Anyone who misses the discussions in seminar are still responsible to submit written work on time. Submit essays in Dropbox folder "Short Essay #3".

Quiz 1 (1%)
  Date: Mon, Sep 23
  Quiz 1 must be completed before moving onto the next lecture module

Quiz 2 (1%)
  Date: Wed, Oct 21
  Quiz 2 must be completed before moving to the next lecture module

Quiz 3 (1%)
  Date: Wed, Oct 28
  Quiz 3 must be completed before moving to the next lecture module

Quiz 4 (1%)
  Date: Mon, Nov 9

Quiz 5 (1%)
  Date: Mon, Nov 16
  Quiz must be completed before moving to the next lecture module

Test (10%)
  Due: Fri, Oct 9, 5:00 PM

Discussion Board (10%)
  Date: Semester-long evaluation

Final Essay (30%)
  Due: Sun, Dec 6, 5:00 PM

Reflection (10%)
  Due: Fri, Dec 4, 6:00 PM

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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

Graduate Calendar - Registration Changes
https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-regchg.shtml

Associate Diploma Calendar - Dropping Courses
https://www.uoguelph.ca/registrar/calendars/diploma/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

7.9 Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings and academic schedules. Any such changes will be announced via CourseLink and/or class email. All University-wide decisions will be posted on the COVID-19 website (https://news.uoguelph.ca/2019-novel-coronavirus-information/) and circulated by email.

7.10 Illness

The University will not normally require verification of illness (doctor’s notes) for fall 2020 or winter 2021 semester courses. However, requests for Academic Consideration may still require medical documentation as appropriate.