The course focuses on the intersection between scientific knowledge and women. We consider the historical and sociological contexts that prevented women from accessing and producing scientific knowledge. We then discuss the questions at the center of the feminist reflection on science and the different perspectives produced in the feminist epistemologies.

Description
The narrative of the human pursuit of knowledge has traditionally excluded the voices that were not in power. In this course, we will focus on scientific and technical knowledge and on women. This is a rich case that gives us instruments to recognize the importance of diversity in science. The course is organized in two parts: the first historical and sociological, the second philosophical.

First, we will consider the historical and sociological contexts that have prevented women from accessing and producing scientific knowledge. The students will be introduced to a selection of remarkable women of science, from antiquity to our days. We will discuss the ground-breaking aspects of their work and the specificities of their experience as scientists. We will highlight how gender identity, race and economical background contribute to create different experiences.

We will then discuss questions at the center of the feminist reflection on science: How biases manifest in scientific production? Does the gender of the knower make a difference? At the light of these questions, what does objectivity mean? We will discuss some of the answers these questions have been given in the field of feminist epistemology, the perspectives these answers opens for general epistemology, and the relation between these issues and current scientific research.
Learning Outcomes
No special background is required for the enrolment in this course. This course satisfies the requirements for a course in Philosophy of Science as well as Feminist Philosophy. Upon successful completion of this course, students will be able to:

- Frame the question of women in science in a historical and sociological context
- Critically examine the role of women as subjects and producers of scientific knowledge
- Consider the interplay between bias and the conceptualization of scientific objectivity as value-free and not situated
- Understand the different feminist perspectives on the spectrum of science domains and practices
- Reflect on the possible contributions of a feminist reflection to contemporary scientific production and practices
- Analyze questions in a multidisciplinary framework
- Develop in autonomy in-depth knowledge on a specific question concerning women and science and articulate it in an essay and a presentation

Resources
Readings and other course materials will be made available through the OWL course website and the library system. Authors whose texts will be discussed include Karen Barad, Sandra Harding, Donna Haraway, Helen Longino, and Londa Scheibinger. Beyond texts, in the course we will possibly discuss additional multimedia material.

Requirements
1. Weekly reading responses
   Each week the students will engage with reading and post on the OWL website a reaction, in the form of 2-3 questions (indicatively of 100 – 150 words) based on the readings and addressing topics that they would like to be discussed in the class.
2. Participation in group discussions
   A goal of this course is to give the opportunity to actively engage with the reading material and to learn from listening to classmates’ contributions. This is possible only if students take time to complete the readings course and to reflect on them prior to the class, by the Monday of each week.
3. Online forum discussions
   The online forum will be used to continue the discussions started in the class, and to make possible to address new topics or questions. Students are encourage to post questions, and contribute with their own answers.
4. Final project, to be presented with a poster
   After the first part of the course, the students will be asked to outline an ideal project concerning women and science, and to present their idea in a poster presentation at the end of the course. Students have the possibility to work in teams.
5. Final essay
   Students will demonstrate their acquired ability to reflect on the themes of the course in a final dissertation. The topic and the form of the essay will be chosen to fit the interests and the academic stage of each student. Students should demonstrate to be able to develop their chosen topic engaging with the questions posed by scholars in feminist epistemology and with their main contributions. The suggested length of the final essay is 3,000 – 4,000 words.
Course Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sept 13</td>
<td>Data on Women in Science</td>
</tr>
<tr>
<td>2</td>
<td>Sept 20</td>
<td>The Science of Difference</td>
</tr>
<tr>
<td>3</td>
<td>Sept 27</td>
<td>Prejudices and Unconscious Bias</td>
</tr>
<tr>
<td>4</td>
<td>Oct 4</td>
<td>Spaces of Science, Spaces of Women</td>
</tr>
<tr>
<td>5</td>
<td>Oct 11</td>
<td>(Thanksgiving) Feminist Science Fiction</td>
</tr>
<tr>
<td>6</td>
<td>Oct 18</td>
<td>Is there a feminist science?</td>
</tr>
<tr>
<td>7</td>
<td>Oct 25</td>
<td>Philosophy of Science (a feminist introduction)</td>
</tr>
<tr>
<td></td>
<td>Nov 1</td>
<td>Reading Week</td>
</tr>
<tr>
<td>8</td>
<td>Nov 8</td>
<td>Standpoint Epistemologies</td>
</tr>
<tr>
<td>9</td>
<td>Nov 15</td>
<td>Value Theory</td>
</tr>
<tr>
<td>10</td>
<td>Nov 22</td>
<td>Feminist Empiricism</td>
</tr>
<tr>
<td>11</td>
<td>Nov 29</td>
<td>Neo-materialism</td>
</tr>
<tr>
<td>12</td>
<td>Dec 6</td>
<td>Student Presentations</td>
</tr>
</tbody>
</table>

Evaluation

Below is the evaluation breakdown for the course. Any deviations will be communicated.

<table>
<thead>
<tr>
<th>Assessment Format</th>
<th>Weighting</th>
<th>Due Date</th>
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</thead>
<tbody>
<tr>
<td>Weekly reading responses</td>
<td>10%</td>
<td>Sunday before a class</td>
</tr>
<tr>
<td>Online forum discussions</td>
<td>20%</td>
<td>Each week</td>
</tr>
<tr>
<td>Final project</td>
<td>30%</td>
<td>Dec 6</td>
</tr>
<tr>
<td>Final essay</td>
<td>40%</td>
<td>Dec 17</td>
</tr>
</tbody>
</table>

Written assignments will be submitted to Turnitin (statement in policies below)
After an assessment is returned, students should wait 24 hours to digest feedback before contacting their evaluator; to ensure a timely response, reach out within 7 days

Click [here](#) for a detailed and comprehensive set of policies and regulations concerning examinations and grading. The table below outlines the University-wide grade descriptors.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>90-100</td>
<td>One could scarcely expect better from a student at this level</td>
</tr>
<tr>
<td>A</td>
<td>80-89</td>
<td>Superior work which is clearly above average</td>
</tr>
<tr>
<td>B</td>
<td>70-79</td>
<td>Good work, meeting all requirements, and eminently satisfactory</td>
</tr>
<tr>
<td>C</td>
<td>60-69</td>
<td>Competent work, meeting requirements</td>
</tr>
<tr>
<td>D</td>
<td>50-59</td>
<td>Fair work, minimally acceptable</td>
</tr>
<tr>
<td>F</td>
<td>below 50</td>
<td>Fail</td>
</tr>
</tbody>
</table>

Online participation and engagements

Students are expected to participate and engage with content as much as possible. The course is in presence, with classroom discussions, supplemented by online material and an online participation. The participation in the online forums with peers and instructors is an integral part of the course and part of the evaluation will be based on it.
Course website
The course has an online website that can be accessed through the OWL platform. It’s the student’s responsibility to regularly check the OWL website for course material and the discussion forum. The main functions we will use on OWL site are:
- Course Readings: where you will be redirected to all course readings
- Dropbox: to share material with the instructor and with other students
- Forums: where weekly online discussions will take place throughout the course
- Messages: use the OWL email system to contact the instructor and your classmates
- Resources: for most of the supplemental materials

Communication
- Students should check the OWL site every 24 – 48 hours
- A weekly update will be provided on the OWL announcements
- Emails will be monitored daily; students should expect a response in 48 hours
- This course will use the OWL forum for discussions
- Students should post all course-related questions on the discussion forum so that everyone can access the answers
- The discussion forums will be monitored daily by the instructor or the teaching assistants

Office Hours
- Students must sign up for an appointment using Sign Up on OWL
- Students may request group office hours
- Students can request Office hours to be held remotely using Zoom

Audit
Students wishing to audit the course should consult with the instructor prior to or during the first week of classes.

Professionalism & Privacy
Western students are expected to follow the Student Code of Conduct. Additionally, the following expectations and professional conduct apply to this course:
- Students are expected to follow online etiquette expectations provided on OWL
- All course materials created by the instructor are copyrighted and cannot be sold/shared
- Recordings are not permitted (audio or video) without explicit permission
- Permitted recordings are not to be distributed
- Students are expected to take an academic integrity pledge before some assessments
- All recorded sessions will remain within the course site or unlisted if streamed
Reccomendations

Students enrolled in this class should understand the level of autonomy and self-discipline required to be successful.

• Invest in a planner or application to keep track of your courses. Populate all your deadlines at the start of the term and schedule time at the start of each week to get organized and manage your time.
• Make it a daily habit to log onto OWL to ensure you have seen everything posted to help you succeed in this class.
• Follow weekly checklists created on OWL or create your own to help you stay on track.
• Take notes as you go through the lesson material. Treat this course as you would a face-to-face course. Keeping handwritten notes or even notes on a regular Word document will help you learn more effectively than just reading or watching the videos.
• Connect with others. Try forming an online study group and try meeting on a weekly basis for study and peer support.
• Do not be afraid to ask questions. If you are struggling with a topic, check the online discussion boards or contact your instructor(s) and or teaching assistant(s).
• Reward yourself for successes. It seems easier to motivate ourselves knowing that there is something waiting for us at the end of the task.

In case of a new COVID emergency, the course may be moved online

In this eventuality:

A recording will be provided for asynchronous lectures.
Attendance at synchronous discussion sessions will be required.
All course material will be posted to OWL: https://owl.uwo.ca/x/anxKFW
Any changes will be indicated on the OWL site and discussed with the class.

Technical requirements

- Stable internet connection
- Laptop or computer
- Working microphone
- Working webcam

If students need assistance, they can seek support on the OWL Help page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

Google Chrome or Mozilla Firefox are the preferred browsers to optimally use OWL; upyou’re your browsers frequently. Students interested in evaluating their internet speed, please click here.
Western Academic Policies and Statements

Department of Philosophy Policies
The Department of Philosophy Policies which govern the conduct, standards, and expectations for student participation in Philosophy courses is available in the Undergraduate section of the Department of Philosophy website at http://uwo.ca/philosophy/undergraduate/policies.html. It is your responsibility to understand the policies set out by the Senate and the Department of Philosophy, and thus ignorance of these policies cannot be used as grounds of appeal.

Course Commitments
The last day of scheduled classes in any course will be the last day on which course assignments will be accepted for credit in a course. Instructors will be required to return assignments to students as promptly as possible with reasonable explanations of the instructor's assessment of the assignment.

Accommodations
Students seeking academic accommodation on medical grounds for any missed tests, exams, participation components and/or assignments worth 10% or more of their final grade must apply to the Academic Counselling office of their home Faculty and provide documentation. Academic accommodation cannot be granted by the instructor or department. Documentation shall be submitted, as soon as possible, to the Office of the Dean of the student's Faculty of registration, together with a request for relief specifying the nature of the accommodation being requested. The UWO Policy on Accommodation for Medical Illness and further information regarding this policy can be found at http://uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf.

Self-reported absence
Students who experience an unexpected illness or injury or an extenuating circumstance (48 hours or less) that is sufficiently severe to temporarily render them unable to meet academic requirements (e.g., attending lectures or labs, writing tests or midterm exams, completing and submitting assignments, participating in presentations) should self-declare using the online Self-Reported Absence portal. This option should be used in situations where the student expects to resume academic responsibilities within 48 hours or less.

The following conditions are in place for self-reporting of medical or extenuating circumstances: http://westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#SubHeading_322

Accommodation for Religious Holidays
The policy on Accommodation for Religious Holidays can be viewed here.

Accessibility Statement
Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Accessible Education (AE) at 661-2111 x 82147 for any specific question regarding an accommodation or review The policy on Accommodation for Students with Disabilities.

Correspondence Statement
The centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at their official university address is attended to in a timely manner. You can read about the privacy and security of the UWO email accounts here.

Academic Offences
“Scholastic offences are taken seriously, and students are directed here to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence.

Student Support Services
Services provided by the USC Student Development Centre
Plagiarism Checking
All required papers may be subject to submission for textual similarity review to the commercial plagiarism
detection software under license to the University for the detection of plagiarism. All papers submitted for
such checking will be included as source documents in the reference database for the purpose of
detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the
licensing agreement, currently between The University of Western Ontario and Turnitin.com http://

Copyright and Audio/Video Recording Statement
Course material produced by faculty is copyrighted and to reproduce this material for any purposes other
than your own educational use contravenes Canadian Copyright Laws. You must always ask permission
to record another individual and you should never share or distribute recordings.

Rounding of Marks Statement
Across the Basic Medical Sciences Undergraduate Education programs, we strive to maintain high
standards that reflect the effort that both students and faculty put into the teaching and learning
experience during this course. All students will be treated equally and evaluated based only on their
actual achievement. Final grades on this course, irrespective of the number of decimal places used in
marking individual assignments and tests, will be calculated to one decimal place and rounded to the
nearest integer, e.g., 74.4 becomes 74, and 74.5 becomes 75. Marks WILL NOT be bumped to the next
grade or GPA, e.g. a 79 will NOT be bumped up to an 80, an 84 WILL NOT be bumped up to an 85, etc.
The mark attained is the mark you achieved, and the mark assigned; requests for mark “bumping” will be
denied.

Support Services
Students who are in emotional/mental distress should refer to Mental Health@Western for a complete list
of options about how to obtain help. Immediate help in the event of a crisis can be had by phoning
519.661.3030 (during class hours) or 519.433.2023 after class hours and on weekends.

The following links provide information about support services at Western University.
   Academic Counselling (Science and Basic Medical Sciences)
   Appeal Procedures
   Registrarial Services
Reading list ~ This list is tentative and subject to change.

**Week 2 - The science of difference**


**Optional/recommended**

- Representations of eggs and sperm in popular culture: Woody Allen (1972) *Everything you always wanted to know about sex (but were afraid to ask)* and Family Guy (2008) *Escaping the womb*.

**Week 3 - Prejudices and bias**


**Optional/recommended**

Week 4 - Spaces of Science, Spaces of Women


5. Popova, M. (2016). The Glass Universe: *The untold story of the trailblazing women scientists and patrons who catalogued the stars and helped prove that the universe is expanding*.

Optional/Recommended:
- Try to read as many as possible files from: *Women in Science (biographies)*
- Try to watch one of these movies: Enigma(2011) and/or Hidden Figures (2017)

Week 5 - Feminist Science Fiction

This week there is no class because it is Thanksgiving, so there will be a special "holiday reading". In our discussion it was mentioned that language shapes the narratives about science and gender, but can we use language to create the future we desire? Feminist science writers have done so!

We start by reading:


and then each of you will read a different chapter from the book collection edited by


For this reading we focus on modern writers, but you would be amazed by the long history of women writing science fiction! I would like to recommend you this fantastic resource with so many science fiction and utopians novels predating the XX century: https://digital.library.upenn.edu/women/_collections/utopias/utopias.html

Week 6 - Is there a Feminist Science?


Optional/recommended

Video of Alison Wylie: “Why Feminism Matters to Archaeology”

Week 7 - Topics in Philosophy of Science

Optional/recommended:

Week 8 - Situated Knowers, Standpoint Theory and Conceptions of Objectivity

Optional/recommended
ο Internet Encyclopedia of Philosophy (n.d.). Feminist standpoint theory.
Week 9 - Value Theories
3. Lacey, Hugh. Is Science Value Free? (Routledge, 1999), Introduction and Ch. 4. pp. 1-22, 4-87

Optional/Recommended

Week 10 - Empiricism and naturalized epistemology

Optional/Recommended
Week 11 - Neo-Materialism


4. Fricker, M., “Feminism in epistemology: Pluralism without postmodernism”


**Optional/Recommended**


- Rick Dolphijn and Iris van der Tuin (2018) *New Materialism: Interviews & Cartographies*

- Jennifer Mae Hamilton, Susan Reid, Pia van Gelder and Astrida Neimanis (2018) *Feminist, Queer, Anticolonial Propositions for Hacking the Anthropocene: Archive*