



## PHIL-4720H-A: Advanced Topics in Philosophy of Science 2019WI - Peterborough Campus

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### Instructor:

Instructor: Amanda Bryant

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Phone Number: 705-748-1011 x7118

Office: CC G15

Office Hours: Monday, 11am-12pm

### Meeting Times:

MON 2:00-4:50pm, LEC S118.1

Please check the on-line [Timetable](#) to confirm times and locations.

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### Department:

Academic Administrative Assistant: Kathy Axcell

Email Address: [philosophy@trentu.ca](mailto:philosophy@trentu.ca)

Phone Number: 705-748-1011, x7166

Office: Eaton College S118.1

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### Description:

Scientific realism is the view that current science is roughly true. That is, reality works about the way that science says it works, and contains most of the things that science says it contains. There are reasons to accept realism — among them being that science is fantastically explanatorily and predictively successful. But there are reasons to reject realism, too — among them being that the history of science shows us that successful theories are frequently false. Realism is a divisive issue in the philosophy of science. We will examine a number of arguments on both sides and a number of sophisticated refinements that have been made to realist and anti-realist theses.

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### Learning Outcomes:

I have developed the course to address several learning outcomes. By the end of the course a successful student should:

- understand and be able to explain and evaluate semantic, epistemic, metaphysical, convergent, and other varieties of realism, as well as instrumentalism, constructive empiricism, and a variety of structural realisms
  - understand and be able to explain and evaluate the main arguments for realist and anti-realist views
  - have a deeper understanding of the sorts of attitudes we can and should adopt toward science
  - have improved skills in reading, writing, and arguing about complex and abstract ideas
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## Texts:

All readings will be available on Blackboard.

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## Assessments, Assignments and Tests:

### 1. Type of Assignment: **Participation**

Description: attendance, in-class discussion, in-class low stakes writing assignments

### 2. Type of Assignment: **First Presentation**

Description: an oral presentation of at least 30 minutes, summarizing and raising questions or criticisms about the reading

### 3. Type of Assignment: **First Essay**

Description: a 10-12 page written paper on one of several topics to be distributed in advance of the due date

### 4. Type of Assignment: **Second Presentation**

Description: an oral presentation of at least 30 minutes, summarizing and raising questions or criticisms about the reading

### 5. Type of Assignment: **Second Essay**

Description: a 10-12 page written paper on one of several topics to be distributed in advance of the due date

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## Grading:

1. Participation: 15%

Due: **Ongoing**

2. First Presentation: 15%

Due: **Ongoing until MAR 01**

3. First Essay: 20%

Due: **MAR 01**

4. Second Presentation: 20%

Due: **Ongoing**

5. Second Essay: 30%

Due: **APR 05**

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## Grade Total by Withdrawal Date:

Students will know at least 25% of their final mark by the final date of March 8th to withdraw from winter term courses.

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## Schedule:

Note: This schedule is subject to change. If required, changes will be announced on Blackboard and in class.  
Note: BB stands for Blackboard and AR stands for *The Art of Reasoning*.

### WEEK 1 - Introduction

Stathis Psillos, "Introduction", (*SR*)  
Michael Devitt, "Scientific Realism" (in *Putting Metaphysics First*)

### WEEK 2 - No Miracles Argument\*

Alan Musgrave, "The Ultimate Argument for Scientific Realism"  
Stathis Psillos, "Thinking about the Ultimate Argument for Realism"

**\*Due to professional travel, class this week will consist of online activities**

### WEEK 3 - No Miracles Argument

Jan Sprenger, "The Probabilistic No Miracles Argument"  
P. D. Magnus & Craig Callender, "Realist Ennui and the Base Rate Fallacy"

### WEEK 4 - No Miracles Argument

Leah Henderson, "The No Miracles Argument and the Base Rate Fallacy"  
Kyle Stanford, "An Antirealist Explanation of the Success of Science"

### WEEK 5 - Pessimistic Meta-Induction

Larry Laudan, "A Confutation of Convergent Realism"  
Stathis Psillos, "Resisting the Pessimistic Induction" (Ch. 5 of *SR*)

### WEEK 6 - Pessimistic Meta-Induction

John Worrall, "How to Remain (Reasonably) Optimistic: Scientific Realism and the 'Luminiferous Ether'"  
Marc Lange, "Baseball, pessimistic inductions and the turnover fallacy"

### READING WEEK

### WEEK 7 - Pessimistic Meta-Induction

Kyle Stanford, "No Refuge for Realism: Selective Confirmation and the History of Science"  
Moti Mizrahi, "The Pessimistic Induction: A Bad Argument Gone Too Far"

### WEEK 8 - Underdetermination and Constructive Empiricism

Bas van Fraassen, "Arguments Concerning Scientific Realism"  
Alan Musgrave, "Realism vs. Constructive Empiricism"

### WEEK 9 - Underdetermination and Constructive Empiricism

Paul Teller, "Whither Constructive Empiricism?"  
Stathis Psillos, "Underdetermination Undermined" (Ch. 8 of *SR*)

### WEEK 10 - Underdetermination and Constructive Empiricism

Stathis Psillos, "Constructive Empiricism Scrutinised" (Ch. 9 of *SR*)  
Larry Laudan and Jarrett Leplin, "Empirical Equivalence and Underdetermination"

### WEEK 11 - Structural Realism

John Worrall, "Structural Realism: The Best of Both Worlds?"  
James Ladyman, "What is Structural Realism?"

### WEEK 12 - Structural Realism

## Course Guidelines:

### Classroom Behaviour

- Be respectful. Our classroom should be a place where everyone feels comfortable contributing to discussion.
- If you're bursting with questions and comments all the time, great! Just make sure you share the discussion. Let others speak, too.
- Give your attention to the person speaking (no side-conversations, no texting, no Facebooking, etc.).
- Be on time. If you must be late, try to enter the classroom in the least distracting manner possible.
- Cell phones, laptops, and other noise-making devices should be silenced.

### Attendance

Attendance is expected. Repeated, unexcused absences and latenesses will harm your grade. You must be present for all exams. Make-up exams will only be given to students with documented extenuating circumstances.

### 24-Hour Rule

When an assignment or exam is returned to you, please wait at least 24 hours before contacting me about your grade.

### Email

I get a lot of email, so please email me just when necessary. Make sure the answer to your question isn't already on the syllabus. If you have a question that might require a long answer, see me in my office hours. Please note that I don't discuss grades by email. If you wish to discuss a grade, please make an appointment with me.

### Safe Assignment

Assignments must be submitted electronically to the SafeAssign drop box in Blackboard. SafeAssign utilizes plagiarism-checking software. Further information about SafeAssign will be provided on the class Blackboard site.

### Late Assignments

Unless you have extenuating circumstances and my prior permission, late assignments will be subject to the following penalties:

- 1st day late: -2%
- 2nd day late: -5%
- 3rd day late: -7%
- 4th day late: -10%
- 5-7 days late: -15%
- 7 or more days late: a grade of 0 on the assignment.

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## Departmental Policies:

### Final departmental deadline for submission of work:

No term work will be accepted for evaluation in the Philosophy Department later than one week after the last day of classes. One week after the last day of classes is also the deadline for the filing of Request for

Incomplete Standing Forms to the Chair with all the relevant documentation.

Note: Most instructors will have deadlines well before this final departmental deadline. It is the student's responsibility to be familiar with instructor's deadlines and deadline policies.

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## University Policies:

### Academic Integrity

Academic dishonesty, which includes plagiarism and cheating, is an extremely serious academic offence and carries penalties varying from failure on an assignment to expulsion from the University. Definitions, penalties, and procedures for dealing with plagiarism and cheating are set out in Trent University's *Academic Integrity Policy*. You have a responsibility to educate yourself – unfamiliarity with the policy is not an excuse. You are strongly encouraged to visit Trent's Academic Integrity website to learn more:

[www.trentu.ca/academicintegrity](http://www.trentu.ca/academicintegrity).

### Access to Instruction

It is Trent University's intent to create an inclusive learning environment. If a student has a disability and documentation from a regulated health care practitioner and feels that they may need accommodations to succeed in a course, the student should contact the Student Accessibility Services Office (SAS) at the respective campus as soon as possible.

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