UGRD 10008-1

Philosophy of Science

M 10:15–11:45 & W 8:30–10:00 | B5-01-07

INSTRUCTOR:

Juliana Lima

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My Office: Kaveri Kodagu (B2-AB), 225 | Office Hours: M 12–3; W 10:15–12
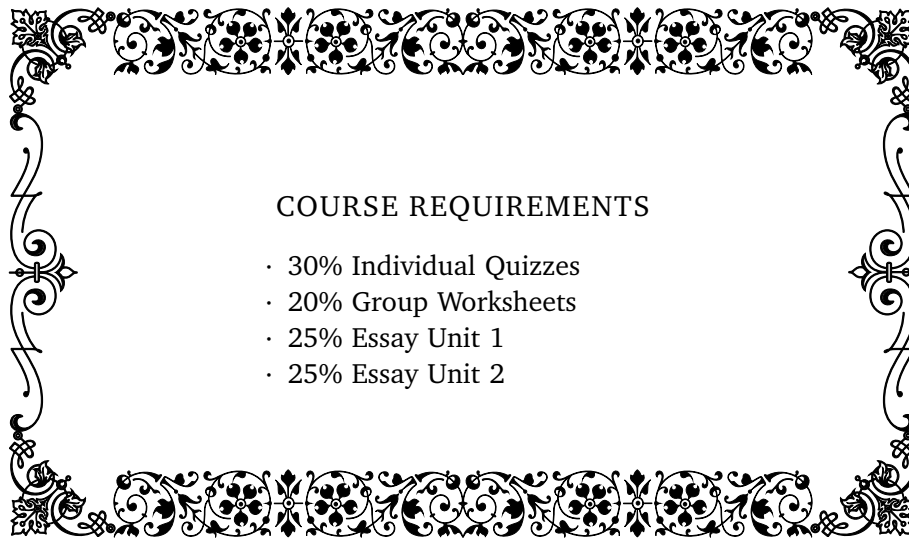
COURSE DESCRIPTION AND OBJECTIVES

In this course, students will learn different different answers to the question: what counts as evidence to a scientific theory? This will be discussed both in the realm of biology, physics, chemistry, and other so-called "hard sciences", as well as in social sciences, specifically, economics.

LEARNING OBJECTIVES

By the end of the course, students should:

· Explain and assess scientific and social scientific texts;

· Deconstruct the presuppositions of reasoning in science and social science;

· Critique the application of natural scientific techniques to social science;

· Participate in constructive discussion across disciplinary boundaries;

· Communicate with a high degree of economy and precision;

· Generate their own views about the role of science in society.

COURSE REQUIREMENTS

· 30% Individual Quizzes
· 20% Group Worksheets
· 25% Essay Unit 1
· 25% Essay Unit 2

Individual Quizzes (30%)

These are short quizzes to guide students on their progress in the course and inform the instructor if any pedagogical changes are required. They will be weekly and cumulative to check how well students are retaining the content. Each quiz is worth 4 points. Only the highest 8 scores will count. Students can get up to 30 points. They are in-class assignments that will take place on Wednesday, unless otherwise announced.

 No make up quizzes will be given, not even for medical emergencies. Students can miss a couple of quizzes and still get full points, which accounts for cases of medical emergencies.

Group Worksheets (20%)

Questions from the worksheet with answers of up to 200 words. All worksheets assigned will be graded. Each worksheet will be worth 3 points. Only the highest 7 scores will count. Students can get up to 20 points.
    Only students who are in lecture the day the worksheet is assigned will be eligible for this activity. No exceptions.

Essay Unit 1 & 2 (25%/each)

At the end of the first unit, students will write an essay of **no more than 3000 words**. The essay can be on any topic from the unit in questions. Students are required to discuss paper topics with the instructor no less than 1 week before the paper is due.
    Deadlines:

· Unit 1: last day to discuss paper topics **Wednesday, Sept 27th, during pre-scheduled office hours**; submission deadline: **Friday, Oct 13th, 11:59pm**;

· Unit 2: last day to discuss paper topics **Monday, Nov 20th, during pre-scheduled office hours**; submission deadline: **Monday, Nov 27th, 11:59pm**.

No extensions will be granted, except for documented medical emergencies. Emails asking for extensions will be ignored, unless the request has a documented medical emergency

University Wide Policies

You need to **attend at least 80% of the classes** and
submit 70% of the assignments to pass the course.
Turning up late or leaving class in before it ends is absence from class.

NOTE: Things change – the Fates are fickle. Information found on this syllabus is subject to revision as we progress through the semester: Readings and content may be added (or cut) depending on our rate of progress, and it may be necessary to amend the due date of the assignments. Revisions will be announced in lecture and posted online. It is each student's responsibility to keep informed of any changes.

If you are facing a major medical or another major difficulty that is keeping you from doing well in the class, contact me as soon as you can. I am happy to work with you to find the best course of action and, if possible, to help you complete the course successfully. But I can't help if you don't let me know about your circumstances as soon as they arise.

Don't wait until after the last week of classes to let me
know about your circumstances. At that point there is nothing I can do to accommodate you.

MATERIALS

· All course materials, information, assignments, etc. will be available on Moodle.
· All communications will be made through your school email address and Moodle. Please make sure you have turned on notification alert on Account Notification Settings to get an email when you receive messages.

GRADING

The standard university grading scale will apply: 0-39% U, 40-44% E, 45-54% D, 55-54% C, 65-74% B, 75-84% A-, 85-94% A, 95-100% O

ACADEMIC INTEGRITY

You are expected to uphold the highest standards of academic integrity. Your work must be your own. Submitting work which you have not composed yourself, or using another person's ideas without due credit, or failing to mark another person's words with appropriate quotation marks all constitute plagiarism. The instructor reserves the right to assess penalties for violations of academic integrity, which may include giving a failing grade for an assignment, for the entire course, or referral to a University disciplinary committee.

Undisclosed use of writing and editing aids is considered a violation of academic integrity, and will be reported to the academic honor council. If you use ChatGPT or any similar editing/writing softwares, you are required to disclose in the assignment (such as in a footnote) which tools you used and how you used them. Your grade may be negatively affected depending on how you use these aids. If you have any questions about how to use these tools responsibly, talk to your instructor.

STRUCTURE OF THE COURSE

The course will be a mix of lectures, seminars, and group work, depending on the topic and the most appropriate pedagogical strategy.

TENTATIVE SCHEDULE OF ACTIVITIES

Unit 1 – Epistemology of Science

Week 1 Aug 14   Overview of the course
Reading: Okasha,S. - *Philosophy of Science - A Very Short Introduction*, Chap 1, pp 1–17.
Godfrey-Smith,P. *Theory and Reality*, Chap 1, pp. 1–18 – skip sections 1.3 & 1.4.

Aug 16   Confirmation and the problem of Induction
Readings: Godfrey-Smith,P. *Theory and Reality*, Ch. 3, pp. 39–40.
Okasha,S. *Philosophy of Science - A Very Short Introduction*, Chap 2, pp 18–28.

Week 2 Aug 21–23   Confirmation and the problem of Induction (cont'ed)

Week 3   Aug 28–30   Confirmation and hypothetico-deductivism
Readings: Hempel,C.G. *Philosophy of Natural Science*, Chap 2 & 3, pp. 1–32.

Week 4   Sept 4–6   Confirmation and hypothetico-deductivism (cont'ed)

Week 5   Sept 11–13   Falsificationism
Readings: Godfrey-Smith,P. *Theory and Reality*, Ch. 4. pp. 57–71.

Week 6   Sept 18–20   Bayesianism
Reading: Godfrey-Smith,P. *Theory and Reality*, Ch. 14. pp. 202–18.

Week 7   Sept 25   Bayesianism (cont'ed)
Sept 27   Last day to schedule office hours to discuss your essay unit 1.

Midsemester Break

Week 8   Oct 9–11   Inference to the Best Explanation
Readings: Lipton, P. *Inference to the best explanation*, Chs. 2 & 4. Okasha,S. *Philosophy of Science - A Very Short Introduction*, Chap 2, pp 29–33.

Week 9   Oct 16–18   Inference to the Best Explanation (cont'ed)

Unit 2 – Philosophy of Economics

Week 10 Oct 23–25   The Explanation Paradox
Readings: Reiss,J. "The explanation paradox", *Journal of Economic Methodology* 19.1 (2012): 43-62.
Okasha,S. *Philosophy of Science - A Very Short Introduction*, Chap 3, pp 48–52.
Optional Reading: Godfrey-Smith,P. *Theory and Reality*, Ch. 13, pp. 190–201.

Week 11 Oct 30   The Explanation Paradox (cont'ed)
Nov 1   The F twist
Readings: Friedman,M. "The methodology of positive economics" in Hausman,D.M. *The Philosophy of Economics - An Anthology*, pp. 145–78.

Week 12 Nov 6–8   The F twist (cont'ed)
Readings: Simon,H. "Testability and Approximation" in Hausman,D.M. *The Philosophy of Economics - An Anthology*, pp. 179–82.
Hausman,D.M. "Why Look Under the Hood" in Hausman,D.M. *The Philosophy of Economics - An Anthology*, pp. 183–7.

Week 13 Nov 13–15   Experimental Economics
Readings: Kahneman,D. *Thinking Fast and Slow*, Chap 8, pp. 77–83.

Week 14 Nov 20–22   Experimental Economics
Readings: Smith, Vernon L. "Economics in the Laboratory." *The Journal of Economic Perspectives* 8, no. 1 (1994): 113–31.
Readings: Mill,J.S. *System of Logic*, Book III, Chap 8.
Last day to schedule office hours to discuss your essay unit 2.

Week 15 Nov 27   Assessment week
Paper 2 is due by 11:59pm

The End!