

**WESTERN UNIVERSITY
DEPARTMENT OF PHILOSOPHY
Undergraduate Course Outline 2019-20**

Philosophy 2300F: Philosophy of Science

Fall Term 2019

Tue, 9:30–11:30, Thu, 9:30–10:30

TC 205

Instructor: Wayne C. Myrvold

Office: Stevenson Hall 4143

**Office Hours: Tue, Thu, 12:30–13:30, or by
appointment**

wmyrvold@uwo.cal

DESCRIPTION

REQUIREMENTS

Attendance and active participation in class discussions,

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

EVALUATION OF ACADEMIC PERFORMANCE

At least three days prior to the deadline for withdrawal from a course without academic penalty, students will receive assessment of work accounting for at least 15% of their final grade. For 3000- or 4000-level courses in which such a graded assessment is impracticable, the instructor(s) must obtain an exemption from this policy from the Dean and this exemption must be noted on the corresponding course syllabus. In rare instances and at the Dean's discretion, other courses could receive a similar exemption, which also must be noted in the course syllabus.

COURSE ASSIGNMENT

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.

ACADEMIC OFFENCES

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf

Topics and readings

Subject to revision, with ample notice. In particular, we may choose to spend more time than scheduled on certain items, with re-adjustment elsewhere.

Week 0 Sept. 5

Introduction: What is philosophy of science?

I. Case Study: The Copernican Revolution

Week 1. Sept. 10, 12

Background to the Copernican revolution.

1. Singham, "The Copernican Myths"

Week 2: Sept. 17, 19

1. Excerpt from Galileo Galilei, *Dialogue Concerning the Two Chief World Systems*. tr. Stillman Drake (Berkeley: University of California Press, 1967).

II. Scientific Methodology

Week 3: Sept. 24, 26

Hypothetico-Deductivism; statistical hypothesis testing

1. Instructor's notes.

Recommended:

1. Excerpt from Ronald A. Fisher, *The Design of Experiments*

Week 4: Oct. 1, 3

Statistical hypothesis testing, continued.

Thursday, Oct. 3: Assignment 1 due.

Week 5: Oct. 8,10

Probabilistic, or Bayesian approaches

1. Instructor's notes.

Week 6: Oct. 15, 17

The crisis of reproducibility

1. John P.A. Ioannidis, "Why Most Published Research Findings are False"
2. Open Science Collaboration, "Estimating the Size of the Reproducibility Crisis" [search Findings](#) [h Findings](#)

III. Case study: the Darwinian Revolution

Week 7: Oct. 22

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1. Excerpts from Darwin, *Origin of Species*
2. Excerpts from Jerry A. Coyne, *Why Evolution is True*.

Week 8:

3.