

PHYS 4370/PHIL 4515: Philosophy of Physics (winter)

Calendar description: This course explores methodological, conceptual, meta-physical, and epistemological questions that arise in modern physics. Possible topics include scientific revolutions, experimentation, laws of nature, space, time, matter, causality, indeterminism, non-locality, thought experiments, and theoretical unification.

Contents

Overview	1
Prerequisites	1
Dependent courses	2
Student outcomes	2
Curriculum	2
Suggested Texts	2
Notes to the Instructor	2

Overview

This course and the introductory course, [PHYS 1370](#) (Scientific Method) are intended to serve as “book-ends” to the Physics and Philosophy double major/honours programmes. This discussion-based course is meant to be a reflective course tying in the various ideas acquired from both disciplines over the previous seven semesters. Its prerequisites are to ensure that students have a simultaneous grasp on the important ideas in both philosophy and “natural philosophy”, and should give this course a unique perspective on both disciplines.

Prerequisites

[PHYS 2400](#) Electricity and Magnetism

[PHYS 3500](#) Quantum Mechanics I

PHIL prerequisites as outlined in paragraph 8 in the Philosophy entry of the Academic Calendar.

Dependent courses

Student Outcomes

Curriculum

Suggested texts

Notes to the instructor