



## Philosophy of Science Course Descriptor

Course Title	Philosophy of Science	Faculty	Philosophy
Course Code	NCHPH756	Course Leader	Dr. Ioannis Votsis
Credit Points	15	Teaching Period	Either
FHEQ Level	7	Date Approved	
Compulsory/ Optional	Optional		
Pre-requisites	None		
Co-requisites	None		

### COURSE SUMMARY

This course investigates the epistemological, methodological and ontological dimensions of science. Students will study the relation between perception, evidence and theory in the context of scientific research. They will explore different inferential accounts of this relation, paying particular attention to how evidence is used, and how it ought to be used, to confirm or disconfirm theories. Lessons from the history of science will provide checks and balances to these accounts as well as to accounts of the exact limits of scientific knowledge. Finally, students will reflect on some related topics in the metaphysics of science such as what are laws of nature and what constitutes a good scientific explanation.

### COURSE AIMS

The aim of this course is:

- To develop students' skills in understanding and evaluating the primary accounts of scientific theory and evidence.
- To promote students' ability to interpret, analyse and compare key texts in the philosophy of science.
- To enable students to form, elaborate and defend their own views in the philosophy of science.

### LEARNING OUTCOMES

On successful completion of the course, students will be able to:

## **KNOWLEDGE AND UNDERSTANDING**

- K1d Demonstrate wide-ranging knowledge of, and recognition of systematic connections between questions and debates in the philosophy of science.
- K2d Show detailed critical engagement with the texts and theories of key figures such as Kuhn, Popper and van Fraassen.
- K3d Show a fine grasp of logical structure and truth-preserving patterns of inference in the context of the philosophy of science.

## **SUBJECT-SPECIFIC SKILLS**

- S1d Make original use of advanced scholarly techniques to clarify and situate philosophy of science ideas and arguments belonging to a variety of periods and traditions.
- S2d Engage with unfamiliar material at the forefront of the discipline, selecting and analysing information, questioning assumptions, and critically evaluating competing methodologies, sources of data and arguments.

## **TRANSFERABLE AND PROFESSIONAL SKILLS**

- T1d Take initiative and personal responsibility; work independently, effectively, and to deadlines.
- T2d Respond systematically and creatively to complex, wide-ranging, and unpredictable data, theories, and arguments.
- T3d Display self-direction to produce original, sophisticated, clear, and persuasive presentations (written and oral).

## **TEACHING AND LEARNING**

Teaching and learning strategies for this course will include:

- 15 hours of lectures
- One 1-hour one-to-one tutorial

Course information and supplementary materials are available on the College's Virtual Learning Environment (VLE).

Students are required to attend and participate in all timetabled sessions for this course, . Students are also expected to manage their directed learning and independent study in support of the course.

## **EMPLOYABILITY SKILLS**

The study of philosophy cultivates skills that are employable across a range of sectors. These include the abilities to:

- Work independently, creatively, and to deadlines
- Conduct research and explore relevant existing knowledge
- Analyse, contextualise, and interpret complex ideas and materials
- Synthesise and evaluate information against a backdrop of uncertainty

- Solve problems through logical reasoning
- Present findings and opinions in a clear, structured manner, whether orally or in writing
- Engage in collaborative and constructive discussion

## ASSESSMENT

### FORMATIVE

Students will be formatively assessed during the course by means of one or more set assignments. These do not count towards the end of year results, but will provide students with developmental feedback, both written and oral.

### SUMMATIVE

Assessment will be in one form:

AE:	Assessment Activity	Weighting (%)	Online submission	Duration	Length
1	Written assignment	100%	Yes	N/A	4000 words

The written assignment will be assessed in accordance with the assessment aims set out in the Programme Specification.

## FEEDBACK

Students will receive feedback in a variety of ways, written and oral, within one-to-one tutorials, in discussion phases of lectures, and on formatively and summatively assessed assignments. Students will also individually attend Collections, at which they receive constructive and developmental feedback on their performance.

Feedback is provided on summative assessment and is made available to the student either via email, the VLE or another appropriate method.

## INDICATIVE READING

Note: Comprehensive and current reading lists for courses are produced annually in the Course Syllabus or other documentation provided to students; the indicative reading list provided below is used as part of the approval/modification process only.

### BOOKS

Curd, M., J.A. Cover and C. Pincock (eds.) (2012) *Philosophy of Science: The Central Issues*, second edition, New York: W.W. Norton & Company.

Curd, M. and S. Psillos (eds.) (2008), *The Routledge Companion to Philosophy of Science*, New York, NY: Routledge.

Kuhn, T. ([1962]2012) *The Structure of Scientific Revolutions*, Chicago: University of Chicago Press.

O'Hear, A. (1989) *An Introduction to the Philosophy of Science*, Oxford: Oxford University Press.

Popper, K. ([1934]2005) *The Logic of Scientific Discovery*, London: Routledge.

Schurz, G. (2013) *Philosophy of Science: A Unified Approach*, New York: Routledge.

Skyrms, B. (1999) *Choice and Chance*, fourth edition, Belmont, CA: Wadsworth.

**INDICATIVE TOPICS**

- Observation and Theory
  - Induction and Falsificationism
  - Hypothetico-Deductivism
  - Probability and Bayesianism
  - Scientific Revolutions
  - Scientific Realism and Anti-Realism
  - Theories of Explanation
  - Causation
  - Laws of Nature
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<b>Title: NCHPH756 Philosophy of Science Course Descriptor</b>					
<b>Approved by: Academic Board</b>					
<b>Location: Academic Handbook/Programme specifications and Handbooks/ Postgraduate Programme Specifications/MA Philosophy &amp; AI Programme Specification/Philosophy Course Descriptors</b>					
Version number	Date approved	Date published	Owner	Proposed next review date	Modification (As per AQF4) & category number
2.0	April 2022	April 2022	Brian Ball	April 2025	Category 3: Changes to Course Learning Outcomes
1.0	June 2020	June 2020	Brian Ball	April 2025	