

## **Philosophy of Science**

**PHIL 3300**

**TF 1:00-2:20, ACE 239**

**Christopher P. Noble, Ph.D.**

**Office: PME 125, [cnoble@ncf.edu](mailto:cnoble@ncf.edu)**

**Office Hours: Mondays 2-4, Wednesdays 10-11, and by appointment.**

### **Course Description:**

This course introduces students to the philosophy of science, or the philosophical reflection on the nature of scientific practice. The course will survey a range of topics in the general philosophy of science, including the historical emergence of modern science, the status and nature of the scientific method, and the reality of the objects of scientific study. It will also focus on questions particular to more specific areas of scientific inquiry such as biology and consider the larger social, political, and institutional factors that impact the practice, growth, implementation, and dissemination of scientific knowledge.

### **Course Objectives and Learning Outcomes:**

Develop an understanding of major developments and approaches in the Philosophy of Science.  
Hone ability to analyze philosophical arguments and conduct original research in the history and philosophy of science.

Students may apply independent knowledge of scientific disciplines in their coursework.

### **Course Evaluation Criteria**

Expectations for a “satisfactory” evaluation include regular attendance (no more than 3 absences during the semester), exhibition of an understanding of course material, participation in class discussion, and on-time completion of assignments.

### **Assignments:**

You will be asked to submit discussion questions based on the readings prior to class, as well as occasional short written reflections. You are also expected to lead a portion of our discussion on one of the assigned readings.

1 short paper (4–5 pages) thoroughly analyzing an argument or textual passage.

1 longer research paper (8–10 pages) that engages secondary literature and defends an interpretation of a particular philosopher or text. Students will develop their projects on the basis of feedback from both peers and the instructor.

### **Disability Services:**

New College of Florida is committed to creating a learning environment that meets the needs of its student body. Students are welcome to privately discuss any concerns related to barriers to both fully participating and learning in this course. I highly encourage students with accommodations to meet with me as soon as possible.

If you have a disability, or think you may have a disability, you may contact the office of Student Disability Services (SDS) in order to request official accommodation(s).

Students may contact SDS in-person (HCL3), at 941-487-4496 OR [disabilityservices@ncf.edu](mailto:disabilityservices@ncf.edu).

Additional information regarding SDS can be accessed here: <https://www.ncf.edu/student-disability-services/>

**Academic Dishonesty Policy:**

Students are expected to be familiar with the college's academic dishonesty policy, as described in the General Catalog. Any violation of this policy may result in academic sanctions, up to and including dismissal from the college.

**Required Books:**

Kuhn, Thomas. *The Structure of Scientific Revolutions* 4<sup>th</sup> Edition

Godfrey-Smith, Peter. *Theory and Reality: an Introduction to the Philosophy of Science*.

Additional course materials will be posted in PDF form on the course Canvas page.

**Units and Schedule of Readings (Tentative)**

Tuesday 2/1 Introductions, Syllabus Review.

**Classical Beginnings: Aristotelian Natural Philosophy**

Friday 2/4: Peter Godfrey-Smith, *Introduction to Theory and Reality* (pp. 1–25); Aristotle: Selections from *Physics* II; *Posterior Analytics*. (Canvas).

**The Modern Scientific “Revolution”**

Tuesday 2/8: Francis Bacon, *Novum Organon* Bk 1. (Canvas).

Friday 2/11: René Descartes, Selections from *Principia Philosophiae*, *Treatise on Light* (Canvas).

Tuesday 2/15: Robert Boyle, “On the Grounds and Excellency of the Corpuscular Hypothesis” (Canvas).

Friday 2/18: Margaret Cavendish, Selections from “Observations on Experimental Philosophy”

**The Newton-Leibniz Controversy and Principles of Natural Philosophy**

Tuesday 2/22: Newton: “General Scholium” Selections from the correspondence between Gottfried Leibniz and Samuel Clarke. (Canvas).

Friday 2/25: Selections from the correspondence between Gottfried Leibniz and Samuel Clarke. (Canvas).

Tuesday 3/1: Emilie Du Châtelet: selections from *Foundations of Physics* (Canvas);

Friday 3/4: David Hume: selections from *An Enquiry Concerning Human Understanding* (Canvas).

**Methodological Reflections**

Tuesday 3/8: William Whewell “Of Certain Characteristics of Scientific Induction” (Canvas).

Friday 3/11: Godfrey-Smith Chapters 2-3

Tuesday 3/15: Carl Hempel: “Scientific Inquiry: Invention and Test” (Canvas)

Friday 3/18: Karl Popper: “Conjecture and Refutation” (Canvas). Supplemental Godfrey-Smith Ch. 4 (pp. 57–74). (Canvas)

**Midterm Due Friday 3/18**  
**3/21–3/25: Spring Break**

Tuesday 3/28: Thomas Kuhn: *The Structure of Scientific Revolutions*. Supplemental Godfrey-Smith Chs. 5–6

Friday 4/1: Thomas Kuhn: *The Structure of Scientific Revolutions*.

Tuesday 4/5: Thomas Kuhn: *The Structure of Scientific Revolutions*.

Friday 4/8: **No Class**

Tuesday 4/12: Godfrey-Smith Chapter 7 “Lakatos, Laudan, Feyerabend, and Frameworks”

Friday 4/15: Realism and Anti-Realism: Van Fraassen; Hacking (Canvas)

Tuesday 4/19: Topic TBD in Philosophy of Biology

Friday 4/22: Topic TBD in Philosophy of Biology

Tuesday 4/26 BACC Days, no class

Friday 4/29: Helen Longino: Selections from *Science as Social Knowledge* (Canvas)

Tuesday 5/3 Donna Haraway: “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective” (Canvas); Kyle Whyte: “Critical Investigations of Resilience: A Brief Introduction to Indigenous Environmental Studies and Sciences” (Canvas)

Friday 5/6 Liam Kofi Bright and Remco Heeson: “Is Peer Review a Good Idea?” (Canvas)

Tuesday 5/10 Open/TBD

**Final Paper Due Tuesday of Exam Week (5/17) (Potential Graduates will have an earlier deadline.**



