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**Office hours:** M/W, 1:30–3:00pm, Arnold 112

PHILOSOPHY OF SCIENCE  
PHIL 310, SPRING 2023  
12:30–1:20pm M/W/F, Hodges Hall 322

**Course description:** We'll ask two overarching questions. 1) What, exactly, has science told us about the evolution of minds? 2) How, exactly, does science reliably tell us anything, anyway?

**Books:** You don't need to buy any books. All required readings will be available as PDFs posted to eCampus or, in the cases of Khalidi's *Natural Categories and Human Kinds* and Figdor's *Pieces of Mind*, as eBooks through the WVU library.

**Grading breakdown**

Dennett test: 20%  
Dennett question: 5%  
Midterm check-in: 20%  
First argument sketch: 5%  
Second argument sketch: 5%  
Figdor question: 5%  
Thesis paper outline: 15%  
Thesis paper: 25%

**Grade scale**

A: 90–100%  
B: 80–89%  
C: 70–79%  
D: 60–69%  
F: 0–59%

**Brief schedule**

Week 1: Why trust science?

**The evolution of minds**

Week 2: What makes humans so special?

Week 3: From competence to comprehension

*Dennett test on 1/27*

Week 4: Cultural evolution

Week 5: Consciousness

*Dennett question due 2/9*

**Truth and objectivity**

Week 6: Science and pseudoscience

Week 7: Paradoxes of confirmation

Week 8: Revolution!

*Midterm check-in due 2/28*

Week 9: Is reality socially constructed?

**Kinds and categories**

Week 10: Essentialism

*Argument sketch due 3/23*

Week 11: Scientific kinds

*Argument sketch due 3/30*

Week 12: Naturalism and humanity

**Is science changing our concept of mind?**

Week 13: What if humans aren't so special after all?

*Figdor question due 4/16*

Week 14: Do bacteria literally have preferences?

Week 15: What—and whom—is science for?

*Outline due 4/23*

*Paper due 5/3*

**Course materials**

This course has two online hubs:

- Our eCampus page, where you will find pdfs of all required readings, places to submit your assignments, and your grades.
- Our Discord server, where you will find announcements and interact with me and your classmates outside of the classroom.

Please email me ASAP if you have any trouble accessing any course materials.

**Detailed assignment breakdown****Dennett test (20%)**

In class on 1/27, you will take a test on Chapters 2, 3, 4, 5 and 7 of Daniel Dennett's *From Bacteria to Bach and Back*. A study guide will be distributed by 1/23.

**Two questions (10%)**

Daniel Dennett will visit our class in person on 2/10, and Carrie Figdor will visit our class via Zoom on 4/17. By 5pm on the evenings before their visits (2/9 and 4/16, respectively), you will turn in a thoughtful question that you are prepared to ask them during their class visit.

**Midterm check-in (20%)**

By 5pm on 2/28, you will turn in three pro-and-con lists which give reasons for and against believing an interesting claim in the philosophy of science, as well as a participation log detailing your engagement in class (and on Discord).

**Two argument sketches (10%)**

A sketch, in premise-conclusion form, of an original argument in the philosophy of science, which may or may not build off of one of your pro-and-con lists, will be due by 5pm on 3/23. After a consultation with me about your first sketch, a second sketch (which can be brand new or a revised version of the first) will be due by 5pm on 3/30.

**Thesis paper outline (15%)**

An outline of your thesis paper will be due by 5pm on 4/23. Your outline must center on an original argument sketch, which may or may not be one of the two already graded.

**Thesis paper (25%)**

Your 1,000–3,000-word paper will be due by 5pm on 5/3. It will be graded both on its intrinsic quality and on how much of an improvement it is over the thesis paper outline.

**Extra credit question (worth up to 4 bonus points)**

Daniel Dennett will give a talk at WVU on the evening of 2/10. If you attend and then email me a thoughtful question about the talk, you will earn 2 points of extra credit. If you actually ask Dennett your thoughtful question, you will earn an additional 2 points.

**Detailed reading schedule**

*(please read the assigned texts before the class period they are listed under)*

1/9: Scorpion suicide and the two varieties of philosophy of science

**Reading:** Oreskes, *Why Trust Science?* (optional)

1/11: What makes evidence scientific?

**Reading:** Santana, "Why not all evidence is scientific evidence" (1–12)

1/13: How come there are scientists?

**Reading:** Dennett, *From Bacteria to Bach and Back* Chapter 1

1/16: *no class: MLK day*

1/18: The evolution of "why"

**Reading:** Dennett, Chapters 2 and 3

1/20: Strange inversions

**Reading:** Dennett, Chapter 4

1/23: From competence to comprehension

**Reading:** Dennett, Chapter 5

1/25: How to think about biological and cultural evolution

**Reading:** Dennett, Chapter 7

1/27: Dennett test in class

1/30: Words

**Reading:** Dennett, Chapter 9

2/1: Memes

**Reading:** Dennett, Chapter 10

2/3: Reasons

**Reading:** Dennett, Chapter 13

2/6: Consciousness

**Reading:** Dennett, Chapter 14

2/8: How we're still evolving

**Reading:** Dennett, Chapter 15

2/10: Dennett visits

2/13: Dennett wrap-up

2/15: The demarcation problem

**Reading:** Somerville, "Umbrellaology, or, Methodology in Social Science"

2/17: Falsifiability

**Reading:** Popper, "Science: Conjectures and Refutations"

2/20: Confirmation and induction

**Reading:** Hempel, *Philosophy of Natural Science* Chapter 2

2/22: Paradoxes

**Reading:** Hempel, *Philosophy of Natural Science* Chapter 3

2/24: Grue and bleen

**Reading:** Goodman, *Fact, Fiction, and Forecast* Chapter 3  
*Ways of Worldmaking* (138–140)

2/27: Paradigms

**Reading:** Kuhn, *The Structure of Scientific Revolutions* (Ch. 9)

3/1: Midterm check-in and writing workshop

3/3: Revolution!

**Reading:** Kuhn, *The Structure of Scientific Revolutions* (Ch. 10)

3/6: Social construction

**Reading:** Hacking, *The Social Construction of What?* (Ch 1.: 1–3, 21–24, 29–34)

3/8: The construction of scientific kinds

**Reading:** Hacking, *The Social Construction of What?* (Ch. 3)

3/10: Weapons research

**Reading:** Hacking, *The Social Construction of What?* (Ch. 6)

3/13–3/17: no class: spring break

3/20: Writing workshop

3/22: Essentialism

**Reading:** Khalidi, *Natural Categories and Human Kinds* Preface and Chapter 1

3/24: Argument sketch consultations

3/27: Argument sketch consultations

3/29: Kinds in scientific practice

**Reading:** Khalidi, Chapter 2

3/31: Argument sketch consultations

4/3: Argument sketch consultations

4/5: Naturalism and humanity

**Reading:** Khalidi, Chapter 6

4/7: no class: spring holiday

4/10: What if humans aren't so special after all?

**Reading:** Figdor, *Pieces of Mind* Chapters 1 and 2

4/12: Mathematically modeling minds

**Reading:** Figdor, Chapter 3

4/14: Literalism

**Reading:** Figdor, Chapter 4

4/17: Figdor visits via Zoom

4/19: Mechanistic explanation

**Reading:** Figdor, Chapter 8

4/21: The moral status of bugs

**Reading:** Figdor, Chapters 9 and 10

4/24–4/28: Outline consultations

### **Other policies, expectations, and advice**

#### **Contacting me**

You should reach out early and often about any issues you're having with the course. Sending me a message on Discord is the easiest way to ask me a quick question and get a quick answer. For more involved or sensitive questions, please use email. I'll respond to all questions posed on Discord or via email within one work day.

#### **Office hours**

I'll be available on Mondays and Wednesdays from 1:30–3:00pm, via Discord (text, audio, or video) and in my physical office (Arnold 112). That time is specifically set aside to talk to students; I highly recommend taking advantage by dropping in and asking any and all questions you have about the course.

#### **Late policy**

Please note that (with the exception of the in-class Dennett test) assignments must be uploaded to eCampus by 5pm on the due date. Late assignments will not be accepted unless an extension of the deadline has been granted. If you need to request an extension, please email me as soon as you can. In most cases, I will happily grant a 48-hour extension, no questions asked.

#### **Attendance**

Missing class will hurt your participation grade. Much more importantly, attending and engaging in class is essential to learning the material, not to mention cultivating critical thinking skills and a philosophical frame of mind (and thus getting your time and money's worth for taking this course).

#### **Accommodations**

If you have good reason to be exempt from (or subject to a modified version of) any policy on this syllabus, please let me know. We'll work something out. If you have a disability and anticipate needing any type of accommodation in order to participate in this course, please let me know and make appropriate arrangements with the Office of Accessibility Services (<https://accessibilityservices.wvu.edu/>).

**Expected learning outcomes**

Upon successful completion of this course, students will be better able to:

- 1) understand the sources of scientific understanding, and fundamental contours of philosophical debates about the evolution of mind, scientific evidence and induction, objectivity, social construction, natural kinds, and naturalism;
- 2) explain how philosophy and science relate;
- 3) develop and defend original philosophical theses;
- 4) write expository and argumentative prose clearly and concisely.

**Some tips**

Set aside at least five hours a week, outside of class, to engage in the sustained, attentive, and reflective thinking which philosophical reading demands. Come to each class having read—and reread as many times as are necessary for comprehension—the assigned text(s). Ask questions. Contribute to class discussion when you have something to say. Listen to your peers carefully and respectfully whether or not you have something to say. Come chat with me in office hours whenever you want to review (or delve deeper into) something we have read or discussed in class.

**Plagiarism**

Don't do it. Exercise academic integrity, as defined by the WVU Policy on Student Academic Integrity. Plagiarism (or abetting another student plagiarizing) will result in an automatic zero on the plagiarized assignment, as well as a formal complaint. If you have questions about what constitutes plagiarism, please ask.

**Statement of non-discrimination**

The West Virginia University community is committed to creating and fostering a positive learning and working environment based on open communication, mutual respect, and inclusion. Our discussions will be predicated on these commitments.