

 FLORIDA ATLANTIC UNIVERSITY	NEW COURSE PROPOSAL Undergraduate Programs		UUPC Approval <u>0/9/2023</u> UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner Posted _____ Catalog _____
	Department Philosophy College Honors <i>(To obtain a course number, contact erudolph@fau.edu)</i>		
Prefix PHI Number 4400	<i>(L = Lab Course; C = Combined Lecture/Lab; add if appropriate)</i> Lab Code	Type of Course <input style="border: 1px solid red;" type="text" value="Lecture"/>	Course Title Honors Philosophy of Science
Credits <i>(See Definition of a Credit Hour)</i> 3	Grading <i>(Select One Option)</i> Regular <input checked="" type="radio"/> Sat/UnSat <input type="radio"/>	Course Description <i>(Syllabus must be attached; see Template and Guidelines)</i> An examination of the central concepts of the theory of knowledge within the context of scientific investigation; the nature and structure of scientific knowledge, the nature of formal reasoning, the role of observation, the function of models, the nature of perception, scientific explanation, scientific truth, probabilistic and inductive inference and the nature of causal laws.	
Effective Date <i>(TERM & YEAR)</i> Spring 2024	Prerequisites, with minimum grade* None		Corequisites None
		Registration Controls <i>(Major, College, Level)</i> Honors	
*Default minimum passing grade is D-. Prereqs., Coreqs. & Reg. Controls are enforced for all sections of course			
WAC/Gordon Rule Course <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <small>WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to proposal. See WAC Guidelines.</small>		Intellectual Foundations Program (General Education) Requirement <i>(Select One Option)</i> None <small>General Education criteria must be indicated in the syllabus and approval attached to the proposal. See Intellectual Foundations Guidelines.</small>	
Minimum qualifications to teach course PhD in Philosophy			
Faculty Contact/Email/Phone Nicholas Baima, nbaima@fau.edu, 319-504-2404		List/Attach comments from departments affected by new course Baima is chair of Philosophy at FAU Boca.	
Approved by Department Chair <u>Miguel Ángel Vázquez</u> College Curriculum Chair <u>Rachel Corr</u> College Dean <u>[Signature]</u> UUPC Chair <u>Korey Sorge</u> Undergraduate Studies Dean <u>Dan Meeroff</u> UFS President _____ Provost _____			Date 9/29/23 9/29/23 10/2/23 10/9/2023 10/9/2023 _____ _____

Email this form and syllabus to mjenning@fau.edu seven business days before the UUPC meeting.



PHI 4400
HONORS PHILOSOPHY OF SCIENCE

TR 2:00 – 3:20 PM

SR 268

3 credits

Spring 2023

Prof: Dr. Sarah Malanowski

Office hours: TR 1-2

Office: SR 251

Email: smalanowski@fau.edu



Course Description

Course Catalogue Description

An examination of the central concepts of the theory of knowledge within the context of scientific investigation; the nature and structure of scientific knowledge, the nature of formal reasoning, the role of observation, the function of models, the nature of perception, scientific explanation, scientific truth, probabilistic and inductive inference and the nature of causal laws.

Specific Semester Description

In this course we will explore some of the main issues in contemporary philosophy of science, such as what is the difference between science and nonscience? What is the nature and goal of scientific explanation? How do we arrive at and justify scientific knowledge? And, how do the goals and values of scientists affect science and scientific claims?

You will be asked to think critically about basic philosophical issues and formulate arguments for all sides of the topics that we cover. This course will help you to develop your skills in critical thinking and your ability to present arguments in both spoken and written form.

Pre-Req/Co-Req

None

Required text/readings

All readings for the course will be uploaded to Canvas and can be found in the Files section. They will also be linked on the weekly discussion post. Please have a copy of the readings available to you each class.

Course Objectives/Student Learning Outcomes

The two primary objectives for this course are (1) to give you a basic understanding of some of the core issues in philosophy of science and (2) to give you a basis from which you can formulate your own philosophically informed opinion on these matters. This course has a number of secondary objectives as well, such as: to

improve your critical thinking skills, to improve your reading analysis skills, to improve your ability to write clearly and succinctly, and to improve your ability to communicate effectively about difficult and complex issues.

This class will be made up of lecture and discussion. Because I will expect you to be able to discuss the readings, you should come to class having carefully read the assigned readings.

Course Evaluation Method

2 take home essay tests: 17.5% each, 35% total (assigned 3/2 and 5/2)

2 Group presentations: 15% each, 30% total. Presentation 1 (week of 2/14-2/16); Presentation 2 (week of 4/18-4/20)

8 Critical reading responses: 20% total

You need to do a total of 8 for the semester, and you cannot do more than one per week.

There are 10 weeks where you can do a response, and thus you can skip two response assignments without affecting your grade. These will be posted to the Canvas discussion section.

The responses must be on the philosophical articles assigned for the week (rather than the case studies). The readings that you can respond to are indicated with an asterisk (*) on the reading schedule below, and I will indicate which articles you can respond to on the week's discussion board. They must be turned in prior to class on Thursday.

Part of your reading response should involve summarizing the author's argument—the reasoning that they employ to reach their conclusion. However, reading responses should not only be summaries of a reading; instead they should bring up an objection to, a question for, or an extension of an author's view. An excellent reading response will give a brief summary of the overall argument made in the article, a more substantial summary of the specific point/argument you are responding to, and then give your critical response to the point. (Examples: I think x is wrong because...A counter example to the claim that the author makes is....I find x's argument can be supported by this thing I learned in another class). There are multiple readings per week and you only need to respond to one, but comparing the points across the readings can also serve as a critical component of the response.

Reading responses should demonstrate that you have read the chosen article carefully, put effort into understanding the author's reasoning, and thought critically about the author's reasoning and claims. Although you are not graded on word count, accomplishing this would be difficult to do in less than 300 words—you should aim for *at least* 300-400 words. But simply writing 300 words does not guarantee a full score.

Grade points	Excellent 9-10	Good 8	Acceptable 6-7	Fail 0-5
Post criteria	Demonstrates substantial understanding of the reading; makes	Demonstrates understanding of the reading, but may be somewhat	Demonstrates only superficial understanding of the reading (makes	Little to no effort made to understand material, may be

	a clear and insightful critical claim about the reading either by raising an objection, talking about the relationship between the week's readings, raising a probing question, connecting it to other issues or cases, etc.	superficial or may have some errors, makes a clear critical claim that may be somewhat superficial	it clear the reading has only been skimmed or only the abstract has been read), writing might be somewhat unclear and critical claims made are superficial (example: "I agree with the argument because it is good").	off topic, inappropriate, or reflect little to no understanding of the reading material, no critical claims made. <i>*Note that you will receive a 0 on the weeks you decide to skip—these will be dropped so long as you have done 8 responses total by the end of the semester.</i>
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In class activities/active participation/attendance: 15%

Throughout the semester, you can expect things to be assigned during class. These in class assignments will often be done in groups, and provide an opportunity for you to work through and talk about the material. These in class assignments must be done on the day they are assigned in class. They cannot be made up (even if you are absent for any reason including illness, cat got out, zombie apocalypse, etc.). You will be able to miss 2 without affecting your grade, and they will be graded on a simple check/check minus/0 scheme.

You are expected to attend class, and I will be taking attendance. You are also expected to contribute to class discussion. This grade is a reflection of that. You may miss two classes for any reason (including for sickness) without penalty. I don't need to know why you are gone. After you have missed 2 days, if you miss additional days, you will need documented medical reason.

Course Grading Scale

A: 100-94; A-: 93-90; B+: 89-87; B 86-84; B-: 83-80; C+: 79-77; C: 76-74; C-: 73-70; D+: 69-67; 66-64: D; 63-60: D-; 59 and Below: F

Policy on Makeup Tests, Late Work, and Incompletes

Please let me know in advance if you for see having a problem making a deadline to discuss the possibility of an extension. Late work turned in without an extension is subject to penalty depending on the reason for lateness and how late it is. Reading responses must be turned in on time and cannot be made up.

Grades of Incomplete (“I”) are reserved for students who are passing a course but have not completed all the required work because of exceptional circumstances. If your college has elaborated on this policy, state so here.

Classroom Etiquette Policy

Please be on time, and do not leave early. Try to go to the restroom/get a snack/take selfies in the hallway before or after class—I will notice if you take a break in class every day. Don’t do distracting things on your phone/laptop; everyone else can see what you’re doing. Try to appear alert and attentive, even if you do not feel that way. It’s only an hour and twenty minutes.

Attendance Policy

Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student’s responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student’s final course grade as a direct result of such absence.

I will be taking attendance at the beginning of class. You may miss up to 2 classes before it begins to affect your participation grade.

Counseling and Psychological Services (CAPS) Center

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU’s Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

Disability Policy

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU’s campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at www.fau.edu/sas/.

Code of Academic Integrity

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see [University Regulation 4.001](#).

The first instance of plagiarism will result in a 0 on that assignment with no possibility to make up the grade. Further instances of plagiarism will result in course failure and being reported for violation of the code of academic integrity.

Plagiarism includes:

- Copying passages from a source that you did not write yourself without using quotation marks and including a citation
- Closely paraphrasing from a source that you did not write yourself (i.e. if you change a few words it is still plagiarism)
- Turning in work you have turned in for any course other than this one
- Paying someone to write a paper for you
- Paying someone to “help” you write a paper and you don’t actually write it yourself
- Asking internet forums for answers to questions and then copy and pasting those answers into work that you turn in

Required Texts/Readings

Readings will be posted to Canvas. They will be linked on the weekly discussion post assignment and can also be found in Canvas.

Honors Statement

This course differs substantially from the non-Honors version. First, and most importantly, the course is an agreement between the student and instructor that they will work together collaboratively to ensure a significantly enriched learning experience in a manner consistent with other Honors-designated courses at FAU. This means the course will produce substantive work that reflects interdisciplinarity and connections among academic fields, research and direct access to sources of knowledge pertinent to the field, leadership, creative and critical thinking, and engagement with the world outside the university. Secondly, the writing component of the course will be much more demanding, and will prepare students for upper-division college writing and for work on the Honors Thesis. Students will be exposed to vocabulary of a specifically theoretical nature, and will be expected to comprehend new concepts and to deploy these new terms in their own critical thinking and writing. In addition, we will begin professionalizing our own readings and analyses of these texts. Students will be expected to familiarize themselves with the history and the ongoing critical and scholarly conversation about these works, and will give in-class presentations about critical history and about the living scholars in the field as it now stands. Students will also engage with the theoretical tools used by today’s reading community to study literature. Finally, the course will develop critical attitudes and analytic skills that will teach the student to think for him-or-herself.

Course Topical Outline

Tentative schedule: Readings may change (read: will almost certainly change) throughout the semester. I will post changes via Canvas announcements, so make sure you keep up to date.

Topic 1: "I can feel the toxins leaving my body!": Demarcating science from BS (and other non-science)

1/10-1/12: Introduction

1/17-1/19: Introduction continued; Popper, "Science: conjectures and refutations"
Optional: Bem, "Feeling the Future"

1/24-1/26: Kuhn, "Logic of Discovery or Psychology of Research?"; Lakatos, "Science and Pseudoscience"; Thagaard, "Why Astrology is a Pseudoscience"

1/31-2/2: Ruse, "Creation Science is Not Science", Laudan, "Science at the Bar"

2/7-2/9: Paley, "Natural Teleology", Gould; "The Panda's Thumb"; Behe, "Irreducible Complexity"; Sober, "What's wrong with intelligent design?"

2/14-2/16: Presentation 1

Topic 2: Classic issues: Induction, falsification, and underdetermination

2/21-2/23: Hume, selections from "An Enquiry Concerning Human Understanding"; Popper, "The Problem of Induction"; Duhem, "Physical Theory and Experiment"; Cartwright, "Do the laws of physics state the facts?"

2/28: previous week's readings

3/2: take home test, no class

3/6-3/8: Spring Break

Topic 3: How can mirrors be real if our eyes aren't real?: Values and Objectivity in Science

3/14-3/16: Kuhn, "The Structure of Scientific Revolutions" chapter 9 and 10

3/21-3/23: Rudner, "The scientist qua scientist makes value judgments"; Douglas, "Inductive Risk and Values in Science"; Longino, "Values and Objectivity"

3/28-3/30: Okruhlik, "Gender and the Biological Sciences"; Fine, selections from "Delusions of Gender"

4/4-4/6: Saini, selections from "Superior: The Return of Race Science"; Krieger and Bassett, "The Health of Black Folk: Disease, Class and Ideology in Science"

4/11-4/13: Michaels, “Manufacturing uncertainty” ; John, “Epistemic trust and the ethics of science communication: against transparency, openness, sincerity and honesty”; Rekdal, “Academic urban legends”

4/18-4/20: Presentations

Final take home exam: 5/2