

Philosophy of Science

Professor: Monika Piotrowska
Office: Department of Philosophy, DM 341C
Email: monika.piotrowska@fiu.edu
Office hours: Wednesdays 11:00 a.m. – 1:00 p.m.

Course Number: PHI 3400 Sec U01
Course Location: ECS 145
Phone: 305-348-4674
Course Time: Fall 2011, MWF 4:00-4:50 p.m.

Course Description: What is science? History shows us that science rarely follows the simple “scientific method” consisting of hypothesis, testing, publication and acceptance. Instead, many important scientific discoveries come about as a result of an informed guess, dumb luck, or seemingly unrelated social factors. In the course of our studies, we will look at a variety of philosophical views on what makes something a science and compare those views with a historical example which most scientists consider to be exemplary science—the Copernican Revolution. In the course of our investigation, we will examine 1) the distinction between science and pseudoscience and between natural and social science, 2) the nature of scientific explanation, observation and confirmation, and 3) the relationship between science and values. The aim is to help you improve your understanding of what science is and how it is related to other human activities.*

Required Texts: Kuhn, *The Copernican Revolution*, Harvard University Press, 1957. (Kuhn)
Klemke, Hollinger, Rudge and Kline (Eds), *Introductory Readings in the Philosophy of Science*, 3rd Edition, Prometheus Books, 1998. (Phil Sci)

Evaluation Criteria: **Quizzes (10%):**
Quizzes will take place at the beginning of class (see calendar for scheduled dates). If you come in late on a quiz day you will miss the quiz. The quizzes will be very short (3 questions) and they will be multiple choice. They will be based on the assigned reading for that day. You are allowed to drop one quiz grade (thus either miss a quiz or drop your lowest score). NO EARLY OR MAKE-UP QUIZZES WILL BE OFFERED.

Class Participation (20%):
Participation involves a variety of factors, such as listening respectfully, making references to the assigned readings in your comments, engaging with other students, etc. In order to get a passing grade in class participation, you will have to speak up. However, speaking up too much can also hurt your grade (see attached class participation grading rubric).

Reading Comprehension Assignments (50%):
There will be a total of 5 reading comp. assignments. Each one is worth 10% of your grade. These assignments are due at the beginning of class (see calendar for due dates) and they are on the topic of the reading due that day. I WILL NOT ACCEPT READING COMPREHENSION ASSIGNMENTS VIA EMAIL. NO LATE ASSIGNMENTS WILL BE ACCEPTED. Through practice, these assignments are designed to teach you how to read and understand philosophy. Beware, it is hard work! (Additional advice on how to read philosophy articles can be found in the “Appendix” in Phil Sci pp. 572-576). Each assignment should be typed in 12-pt font, double-spaced, with one-inch margins, and should answer the following three questions in less than a page:

1. What is the main conclusion or thesis of the article? (In one sentence)

* This course is modeled after a course taught by Kyle Forinash and William D. Rumsey at Indiana University Southeast.

2. What is the author's argument for the main conclusion? In other words, what reasons does the author provide to convince the reader of his or her main conclusion? (No need for "he says" or "it's about"—state points directly. Remember: The logical order of the author's argument is often different from the chronological order of the article.)
3. Why is the author arguing for this conclusion? (Consider the historical/social context)

Paper (20%):

The paper is due at 5 pm on Monday, December 5, 2011. You will need to 1) place a physical copy of the paper in my departmental mailbox (or hand it directly to me), and 2) submit an electronic copy of the paper to www.turnitin.com (more details later). Both the physical and the electronic copies must be submitted by the due date. I WILL NOT ACCEPT PAPERS VIA EMAIL. NO LATE PAPERS WILL BE ACCEPTED. The paper topic can be found in Phil Sci pp. 99-100, under "Case Study for Part 1." The paper should be typed in 12-pt font, double-spaced, with one-inch margins. It should be approximately 3 pages long and it should include a separate cover page with the title of the paper and your name. The paper is your opportunity to show me what you learned in this class in the form of a philosophical argument (see attached paper grading rubric).

- Grading Scale:** A = 93-100%, A- = 90-92%, B+ = 87-89%, B = 83-86%, B- = 80-82%, C+ = 77-79%, C = 73-76%, C- = 70-72%, D+ = 67-69%, D = 63-66%, D- = 60-62%, E = 59% and below
- Missed Classes:** If you miss a class, it is your responsibility to obtain lecture notes from another student.
- Class Etiquette:** I expect you not to disrupt me, or other students, during class, which means that if I catch you texting, reading the paper, surfing the internet, or talking to another student you will be asked to leave. I do not allow laptops in class (except when used by me to enhance your learning). I expect you to treat other students (and their opinions) with respect and I expect you to show up on time.
- Grading Policy:** You do not get graded on effort but on the quality of work you produce. If you produce work that is of poor quality, providing me with excuses is a waste of your (and my) time. If you need a good grade in this course (because you're on a scholarship, for example) then get a good grade in this course. Trying to get me to sympathize with your situation is NOT an effective way of raising your grade.
- On the other hand, if you are dissatisfied with your grade because you think my grading was unfair you are welcome to raise your concerns with me. I am willing to look over your work again, but be aware that I will re-evaluate it and provide you with a new grade. This means that there is a chance that your grade may go down because I may decide that I was too generous the first time.
- Academic Misconduct:** Academic misconduct includes cheating, plagiarism, and unauthorized collaboration with other students on assignments. *Academic dishonesty disadvantages honest students, and is clearly unfair to hardworking students. Instructors have a duty, therefore, to protect honest students, and to insure that they are not disadvantaged by dishonest students.* For more information, see FIU's Academic Misconduct policy (Section 2.44). There are serious consequences for academic misconduct, including suspension and expulsion from the university.

SEMESTER SCHEDULE¹

	Monday	Wednesday	Friday
Week 1 (August 22-26)	Introduction	Copernicus Kuhn Ch. 1	Copernicus Kuhn Ch. 2
Week 2 (August 29-Sept. 2)	Copernicus Kuhn Ch. 3 & 5 & pp. 115-117	Copernicus Kuhn pp. 185-200 & 209-228	Copernicus Kuhn Ch. 7 & pp. 229-231
Week 3 (September 5-9)	NO SCHOOL	Logic	Logic
Week 4 (September 12-16)	Science & Pseudoscience Phil Sci Ch. 1 Reading Comp. Due	Science & Pseudoscience Phil Sci Ch. 1	Science & Pseudoscience Phil Sci Ch. 4 Quiz
Week 5 (September 19-23)	Science & Pseudoscience Phil Sci Ch. 4	Science & Pseudoscience Phil Sci Ch. 5 Quiz	Science & Pseudoscience Phil Sci Ch. 5
Week 6 (September 26-30)	Natural & Social Science Phil Sci Ch. 8 Reading Comp. Due	Natural & Social Science Phil Sci Ch. 8	Natural & Social Science Phil Sci Ch. 9 Quiz
Week 7 (October 3-7)	Natural & Social Science Phil Sci Ch. 9	Natural & Social Science Phil Sci Ch. 10 Quiz	Natural & Social Science Phil Sci Ch. 10
Week 8 (October 10-14)	Explanation Phil Sci Ch. 11 Reading Comp. Due	Explanation Phil Sci Ch. 11	Explanation Phil Sci Ch. 14 Quiz
Week 9 (October 17-21)	Explanation Phil Sci Ch. 14	Explanation Phil Sci Ch. 13 Quiz	Explanation Phil Sci Ch. 13
Week 10 (October 24-28)	Observation Phil Sci Ch. 19	Observation Phil Sci Ch. 19	Observation Phil Sci Ch. 20
Week 11 (October 31-Nov. 4)	Observation Phil Sci Ch. 20	Justification Phil Sci Ch. 24 Reading Comp. Due	Justification Phil Sci Ch. 24
Week 12 (November 7-11)	Justification Phil Sci Ch. 26 Quiz	Justification Phil Sci Ch. 26	NO SCHOOL
Week 13 (November 14-18)	Justification Phil Sci Ch. 28 Quiz	Justification Phil Sci Ch. 28	Science & Values Phil Sci Ch. 30 Reading Comp. Due
Week 14 (November 21-25)	Science & Values Phil Sci Ch. 30	Science & Values Phil Sci Ch. 31 Quiz	NO SCHOOL
Week 15 (November 28-Dec. 2)	Science & Values Phil Sci Ch. 31	Science & Values Phil Sci Ch. 33 Quiz	Science & Values Phil Sci Ch. 33
Week 16 (December 5-9)	Paper Due at 5 pm		

¹ Schedule is subject to change for pedagogical reasons