

PHIL 3372 05 W Philosophy of Science
Spring 2018

Location: CHSS 220

Day and Time: Tuesday and Thursday 8:00-9:20 am

Instructor: Dr. Maria Botero

Office: CHSS, room 348

Office Hours: Tuesdays and Thursdays 9:30-10:30am and 2-3 pm. You do not need an appointment for regular office hours, just drop by. Please consider office hours as part of the class. Your success in this course is important to me. I am happy to work with you if you have any difficulties/questions regarding the class material, studying for the exam or if you just want to discuss the class material, I always enjoy talking about Philosophy! If this time doesn't work we can set up an appointment (please email me three possible meeting times so we can set an appointment that works with both of our schedules)

Email: mdb037@shsu.edu

Course Description (Catalogue): A survey of topics in philosophy of science including the logic of explanations in the physical and social sciences, the relations of science to the realm of values, and a look at the “mind-body problem”.

Class Description: In this course we will discuss questions related to scientific knowledge and the relationship between science and society. We will discuss questions such as what distinguishes science from pseudo-science, what is the logic with which scientific claims are grounded, what is the relation between theory and empirical data, and what social aspects influence the acquisition of knowledge in science. We will apply theories and questions to concrete examples in natural and social sciences.

The course involves formal lectures that will discuss crucial issues from the readings and their relationship with the basic questions explored during the course. It also includes in-class work where students are required to apply the theories explored in class to topics in philosophy of science.

Course Objectives: the aim of the course is to familiarize students with some of the most important **theories** and problems discussed in Philosophy of Science. At the end of this class students should be able to **apply these theories** to understand problems/concepts in science and hopefully make them more thoughtful scientists. This means that the aim of this class is to help students to think critically about their own research or the research of others.

This is a “W” course, which means that more than 80 percent of your course grade will derive from writing activities designed to help you master course objectives. These activities include a test that includes essay-type questions (60 % of your grade) and in-class writing exercises (20% of your grade). Writing in this course is one of the tools used to help you learn course material; in-class exercises will require you to draft and revise your work, with or without instructor feedback.

Required Textbooks:

Barker G., and Kitcher P. (2014) *Philosophy of Science A New Introduction*, New York: Oxford University Press.

We will use this textbook throughout the class; the required readings are central to the course. In addition I will post additional readings on Bb and cover material in class that is not found in your textbook (for that reason coming to class is very important for this class). You are expected to do all of the assigned readings and to come to class prepared to discuss them and use them in in-class writing exercises.

I chose this textbook because of its high quality and low cost. This textbook is fundamental for the class, please buy it or rent as soon as possible.

Attendance Policy: Attendance is mandatory. In accordance with University regulations attendance will be taken every class. If you miss more than three classes I will deduct 1 point from your final grade for each day.

Laptop Policy: No laptops are allowed in class. If you feel that this restriction limits your ability to learn please talk to me.

Grading Plan

Tests (essay-type questions): 60%

Exploratory Writing Exercises: 20%

Quizzes: 5%

Final Exam: 15%

Description:

- **Exams:** These are a combination of multiple choice and essay-type questions. Essay-type questions are not “just opinions.” You need to use the theories examined in class and presented on your readings. Failure to use these theories will result in a non-passing grade. The best way to prepare for your tests is to complete all the in-class exercises.
- **In-Class Exercises:** These are a combination of individual and group writing exercises. The instructions for the in-class writing exercises will be given in-class. On the appointed date (a schedule of assignment submission, rubric and blank log form will be posted on Bb) you are required to submit all of the writing exercises done until that point in a folder. You are also required to complete the log and staple this log to your folder. There are no make-ups for these exercises; if you miss a class you need to make sure that by that day you have completed the missed exercise. All of these exercises are designed to prepare you for the essay-type questions you will encounter in your tests in other words, don’t miss them!
- **Quizzes:** Multiple-choice format. These are meant as a way to prepare for the multiple choice section on your test, I highly advise you that you don’t miss them.
- **Final Exam:** The final exam will be comprehensive.

Illness on the day of the exam: If the student has a very good reason and supporting documentation (i.e. doctor's note, death in the family), s/he can apply to the course director for a makeup exam within 2 business days of the missed exam.

Grading Scale: A 90-100, B 80-89, C 70-79, D 60-69, F below 60. Only in cases where the final grade is a .6 or higher, the final grade it will be rounded to the next letter grade. No other grades will be rounded.

Standard Policies: Students should consult the standard policies in the following link <http://www.shsu.edu/syllabus/>

Please consult this webpage for a complete description. The following is a brief description of some of the main points of the standard policies plus some additions pertinent to this class: (1) **NOTICE TO PERSONS WITH A DISABILITY:** Every student is entitled to a meaningful and stimulating learning experience. Disabled students are strongly encouraged to avail themselves of the services provided by the *Office of Services for Students with Disabilities in the SHSU Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786)*. *Please contact this office to request accommodations.*

Please keep in mind that no accommodation can be made until you register with this office and that there will be no retroactive accommodations. However, if your paperwork/diagnosis is in progress please talk to me (2) **ACADEMIC DISHONESTY:** Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. If during a test the student engages in a behavior not acceptable during a test (for example, consult your cellphone, a textbook or another student's test) the student will automatically get a zero for that test. Cheating on a test is not worth the risk! (3) **CLASSROOM RULES OF CONDUCT:** Students are expected to assist in maintaining a classroom environment that is conducive to learning because of the topics discussed in this class it is crucial that we maintain a respectful environment.

Tentative Reading Schedule

All the readings here refer to your textbook unless it is indicated otherwise. This is not a final reading schedule; changes may be incorporated during the class. The order of the readings will remain the same; however, dates may change. Check with your classmates or instructor if you miss class. The student is responsible for submitting assignments on the right date.

January 18	Welcome and Introduction
January 23, 25	Chapter 1, Science and Philosophy, p.1-11 <ul style="list-style-type: none"> • Science in the 17th century and its influence in contemporary science.
January 30, February 1	Chapter 2, The Analytic Project p. 12-16 <ul style="list-style-type: none"> • What is the Scientific Method?. <ul style="list-style-type: none"> ○ Rationalism vs. Empiricism ○ Induction vs. Deduction <p style="text-align: center;">Additional Reading posted on Bb, Hempel</p>

	<ul style="list-style-type: none"> ○ Context of Discovery vs. Context of Justification ○ Feb 1 Quiz 1
February 6, 8	<ul style="list-style-type: none"> ● What is Scientific Observation? Additional Reading posted on Bb, Feyerabend.
February 13, 15	<ul style="list-style-type: none"> 2 The Problem of Induction p. 16-24 ● Falsifiability Additional Reading posted on Bb, Popper ● Feb 13 Quiz 2
February 20, 22	<ul style="list-style-type: none"> ● Confirmation and the Hypothetico-Deductive Method, p. 24-29 ● Additional Reading posted on Bb, Hempel ● Feb 20 First Folder Submission ● Feb 20 Quiz 3
February 27, March 1	February 27 Test 1
March 6, 8	<ul style="list-style-type: none"> ● Confirmation and Probabilities, Bayes Theorem p. 29-34 and class handout
March 13, 15	Spring Recess (March 12-16), no class
March 20, 22	2.2 Theories p. 35
March 27, 29	March 29, Test 2
April 3, 5	2.3 Explanation Additional readings will be posted on Bb
April 6 Last day to drop course with "Q" grade	
April 10, 12	Chapter 4, Science, History and Society, p.78-103 Additional reading posted on Bb, Kuhn
April 17, 19	Chapter 5 Critical Voices p. 106-134
April 24, 26, May 1	Chapter 6, Science, Values and Politics p. 136-162 Additional readings will be posted on Bb.
May 3	Last day of class, review for final exam
May 8, 8 am	Final Exam