

PHIL 4311: PHILOSOPHY OF SCIENCE AND TECHNOLOGY
ASU DESIGNATED COMMUNITY ENGAGED CLASS¹

SPRING 2014

DEPARTMENT OF POLITICAL SCIENCE AND PHILOSOPHY

PROFESSOR

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Office Hours: MW 10:30-12:30; TR 11:00-12:00; 2:00-3:00. Others by appointment

Do not hesitate to contact me during regular office hours. You can come and visit, call me or send me an email. Let me know if we need to schedule an appointment for a different time that is convenient for both. Please allow me 24 hours to respond to your emails before you feel abandoned. I will be happy to assist you with any difficulty you may have regarding the course or any question about a particular issue.

COURSE DESCRIPTION

This course examines science and technology in a philosophical manner. The first part of the course explores the nature of scientific investigation first as conceived by logical positivism (the received view), and then as conceived by more historical and critical approaches. Some examples of the types of questions concerning philosophy of science are: What is science? How does a theory, or an explanation, earn the title of being scientific? What is the aim of science? Is there a scientific method common to all the sciences? How do scientists move from one theory to the next? Are scientific theories true? Do they cease to be true once they are abandoned? What values are at work in the logic of scientific discovery? Is science "too human"? Is science objective? Is science intrinsically good? Is it good enough? Is the notion of a completed science incoherent? Are scientific theories and methods subject to social and political critique?

¹ As a CONNECTED! Course, this class pays particular attention to Civic Responsibility (SR2): Connecting Civic knowledge and responsibility (SR2.1) and Civic communication (SR2.2). This course will give you the opportunity to participate in a community-based research learning excursion. You will be required to reflect collectively and individually on issues pertaining to your learning excursion.

The second part of the class concerns the nature of technology and its impact on our lives. Among the questions we will be considering are: what is the nature of technology? Is technology value neutral? Is it a social construct? How should we think about technology? What are the limits to technological progress? What is the connection between science and technology? Does scientific knowledge make technology possible, or does improvement in technology make scientific inquiry possible? Is technology beneficial?

COURSE OBJECTIVES

- Students will analyse and critically evaluate past and contemporary approaches to science and technology
- Students will reflect on social responsibility linked to the use and creation of technology (SR2.1)²
- Students will develop their ability to read, analyse and write about readings regarding philosophical analysis of science and technology (SR2.2)³

STUDENT LEARNING OUTCOMES (IDEA)

Upon completion of the course, you will:

1. Develop specific skills, competencies and points of view required by professional philosophers who teach philosophy (IDEA #4)
2. Develop skills in expressing yourself orally or in writing (IDEA #8)
3. **Acquire skills in critical analysis by learning how to critically evaluate ideas, arguments, and points of view (IDEA #11)**

STUDENT LEARNING ASSESSMENT

Student learning assessment will be measured by class participation, two tests, and a journal

Assessment Type	Student Learning Outcome assessed	Weight as a Percentage
Class participation (critical analysis and discussion of reading assignments)	1, 2, 3	25
Reflective essays (3)	1, 2, 3	30
Tests (2) [One of the tests can be replaced by	1, 2, 3	45

² SR2: Civic Responsibility; SR2.1 Connecting Civic knowledge and responsibility; SR2.2 Civic communication

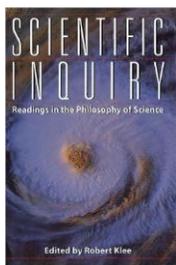
³ SR2: Civic Responsibility; SR2.1 Connecting Civic knowledge and responsibility; SR2.2 Civic communication

a research paper]		
	Total	100%

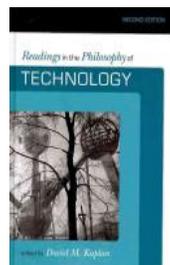
*NOTE about absence policy: you can miss **up to five times for whatever reason**. You need not justify your absences. But remember that after 5 absences, you will not receive credit for class participation.

*All assignments for this course are meant to increase your civic responsibility. Essay 3 should include a reflection on how our learning excursion/s, our discussions and interactions with other members of the philosophical community helped you become more aware of your social responsibilities (specifically, civic responsibility) regarding the use and promotion of technology. The learning excursion, our movie colloquium, and the discussions based on the readings should help you understand the impact of technology in ethics, in politics, in the creation of personal identity and the society at large. Reflective essay 3 will be used for CONNECT! Assessment.

REQUIRED COURSE MATERIALS



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- *Scientific Inquiry, Readings in the Philosophy of Science, ed. By R. Klee*
- *Readings in the Philosophy of Technology, Second Edition, Kaplan ed. 978-0-7425-6401-5*

Recommended: *Writing Philosophy* (L. Vaughn). You can get this book for free when purchasing Klee's *Scientific Inquiry* (ISBN: 9780199386369)

GENERAL CLASS RULES

- **READ THE MATERIAL.** You are expected to come to class prepared. Every reading assignment will allow you to follow the lecture and to participate in class discussion. Remember: reading philosophy requires time and patience. You should have questions regarding each day's reading assignment. If you have no questions, re-read the assignment
- **PARTICIPATE.** Active participation is a vital component of the philosophical learning experience. Listening carefully, expressing doubts and concerns in a coherent manner (either orally or in writing), and responding to other's philosophical concerns contribute to a deeper understanding of the issues at hand. It is important that you take good class notes so you can assimilate the material presented in class. If you see that your class notes "do not match" with your reading notes, bring the fact to my attention so we can clarify any misunderstanding. I will keep attendance records throughout the semester

- CHECK BLACKBOARD FREQUENTLY. Blackboard provides important information, such as, whether there is a quiz or not scheduled for next class, the amount of reading for a particular day, what we did on the day that you missed, your grade after a quiz, test or assignment, or any general announcement for the class. Also, you need Blackboard to access the Discussion Board, and the journal assignments

- ETIQUETTE: Be respectful when you address other people (either other students or me). You may disagree with what other people are defending. The challenge is to show the weaknesses in their arguments and to build better ones. Insults do not make good arguments. Attack arguments, not people. Also, when you send me an email, remember my name (Dr. Badiola) and make sure you tell me yours. Make sure to check your ASU email account in case I have to contact you at any point during the semester.
 - SWITCH MOBILE PHONES AND OTHER ELECTRONIC DEVICES OFF before entering the classroom
 - HAVE THE COURTESY TO INFORM ME in advance if you intend to leave before class ends. Sit at the back of the room so you can exit without disturbing anyone

THE ANGELO STATE UNIVERSITY HONOR CODE

Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the Academic Honor Code, which is contained in both print and web versions of the [Student Handbook](#).

In other words, when you submit your work, you claim that the work is yours. If someone else wrote it for you or you got it from someone else (internet, other student's class...), then you are not the author and thus will get a zero for that assignment. Any idea that is not yours should be properly referenced.

DISABILITIES

Please let me know if you have any special need due to any learning disability.

Persons with disabilities which may warrant academic accommodations must contact the Student Life Office, Room 112 University Center, in order to request such accommodations prior to any accommodations being implemented. You are encouraged to make this request early in the semester so that appropriate arrangements can be made.

COURSE OUTLINE AND SCHEDULE

Course Outline	Tuesday	Thursday
Philosophy of Science (readings from Robert Klee ed.) 1. The Positivist Model and its Problems	1/14 Course overview	1/16 Book Introduction, section introduction, 1 (Rosenberg) & 2 (Suppe)
	1/21 3 (Putnam), 4 (Maxwell) & 5 (van Fraassen)	1/23 7 (Duhem)& 8 (Popper)
	1/28 9 & 10 (Quine)	1/30 16 (Hempel & Oppenheim)
	2/4 17 (Kitcher)	2/6 Essay 1 on the Positivist Model due at midnight Section introduction, 19 (Kuhn), 20 (Kuhn)
	2/11 21 (Ian Hacking)	2/13 22 (Feyerabend)
	2/18 23 (Bloor)	2/20 24 (Latour & Woolgar), 25 (Brown)
	2/25 26 (Boghossian)	2/27 27 (Harding)
	3/3 28 (Pinnick)	3/6 29 (Gross & Levitt)
	3/11 Spring Break	3/13 Spring Break
	3/18 30 (Putnam) & 31 (van Fraassen)	3/20 34 (Musgrave)
3/25 Essay 2 on Historicism and its aftermath (class presentation)	3/27 Test 1: Philosophy of Science	
Philosophy of Technology (Readings from Kaplan ed.) 1. Philosophical Perspectives 2. Technology and Ethics 3. Technology and Politics	4/1 Introduction 1 (Heidegger)	4/3 2 (Dreyfus)
	4/8 (8) Bush	4/10 11 (Latour)
	4/15 12 (Jonas)	4/17 17 (Winner)

4. Technology and Human Nature	4/22 23 (Bostrom)	4/24 28 (Elliot) Essay 3 due at midnight
5. Technology and Science	4/29 35 (Ihde)	5/1 Review
	5/6	5/8 Test 2: Philosophy of Technology (10:30-12:30)