

INSTRUCTOR	OFFICE	E-MAIL	OFFICE HOURS
Joel Velasco	Eng/Phil 265G	joel.velasco@ttu.edu	MW 11:00-12:30

Class meets Monday and Wednesday, 4:00-5:20 in English and Philosophy 264

Course description:

In this seminar we will look at some central issues in “general philosophy of science” which have an epistemological flavor (rather than for example, metaphysics or ethics). Sample topics might include the demarcation problem, the problem of induction, theory choice and underdetermination and non-deductive reasoning more generally including, for example, bayesian confirmation theory, model selection theory, common cause reasoning, parsimony, and more. As an example that we will start with and then return to later, we will spend a significant amount of time focusing on the example of phylogenetic inference - that is, inferring the evolutionary history of a group of species.

Course Webpage: All information about the course (such as this syllabus) as well as the reading assignments and links to papers can be found on the course website at <http://joelvelasco.net/teaching/5330>

Office hours: My office hours are Mon and Wed, 11:00-12:30, or by appointment, in 265G Philosophy.

Required Books: There is one required book – Elliott Sober’s *Reconstructing the Past*. The remainder of the readings will be articles that I will provide for you online. All class assignments and any other readings will be found on the class website. You should check this website regularly for updates and bring copies of the assigned readings to class.

Evaluation: Your grade in the class will be based on participation as well as written assignments. First, you must come to class prepared and participate throughout the term (described below). Second, there will be several short assignments due throughout the semester. There will also be at least one more substantial paper.

Class Participation: Philosophy is a communal enterprise: the ability to make valuable oral contributions to philosophical discussions can be as important as the ability to write well. Moreover, since the written assignments will force the students to think carefully about very specific topics, participation in class discussion is an important way for students to demonstrate a broader competence with the material than is possible in the papers alone. Evaluation will be based upon the quality, not the quantity, of comments made during class. Students are encouraged to continue class discussions after the class is over, by meeting with me in person, or continuing the discussion over e-mail with me. Of course discussion with each other outside of class is strongly encouraged as well. Students who for any reason have difficulty speaking up in class are especially encouraged to (and must!) pursue these options. It should go without saying that

attendance is an absolutely essential component of class participation. **Electronic Devices:** Students may have laptop computers, or other portable electronic devices, for the purpose of taking notes, and occasionally looking up material relevant to class discussion. However, there will be no internet-surfing, texting, tweeting, instant messaging, e-mailing, gaming, or other use of electronic devices not directly related to class. Also, please silence all phones before class starts. **Special Accommodations:** If you have a disability or personal circumstance that will require special accommodation, please do not hesitate to contact me.

Other Matters:

Academic Integrity: Cheating and plagiarism are, of course, prohibited in this class just as they are in all university classes. They will be taken particularly seriously in this class, and any cases that may arise will be treated in a manner consistent with University policy. These two violations of academic integrity are each defined in the section of the Texas Tech online official publications titled “Academic Integrity.” Plagiarism is there described as follows:

“Plagiarism’ includes, but is not limited to, the appropriation of, buying, receiving as a gift, or obtaining by any means material that is attributable in whole or in part to another source, including words, ideas, illustrations, structure, computer code, other expression and media, and presenting that material as one’s own academic work being offered for credit.” <http://www.depts.ttu.edu/studentconduct/academicinteg.php>

You can find excellent explanations of what specifically constitutes plagiarism as opposed to proper citation, and also tutorials on how to avoid plagiarism at the following websites: <http://www.dartmouth.edu/~writing/sources/>
<http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml>

Note: If, at any time, you are at all unclear about what counts as plagiarism, or about whether you are properly citing sources in any of your written work, please just come by and ask me about it. You do not want to be confused or careless about this serious matter.

Classroom Civility: It should go without saying that disruptive behavior is not considered acceptable in the classroom. In addition, the study of philosophy, like any other substantial subject, requires a certain level of concentration. And everyone’s attention and concentration is facilitated by an absence of unnecessary distractions within classroom. You do not need a laptop in class, though you may use them to view your textbook if you prefer an electronic version. Though note that this leads to temptation not to pay attention as well as you should in class and it is easy to distract yourself and others. All you really need in class is paper, something to write with, your textbook, and your brain.

Students with Disabilities: Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services during the instructor’s office hours. Please note instructors are not allowed to provide classroom

accommodations to a student until appropriate verification from Student Disability Services has been provided. For additional information, you may contact the Student Disability Services office in 335 West Hall or 806-742-2405.

Religious holy days: a student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent for the observance of a religious holy day shall be allowed to take an exam or complete an assignment scheduled for that day within a reasonable time after the absence.

Rough course schedule:

Week 1: Phylogenetic Inference

Week 2: Hempel on Scientific Method

Weeks 3+4: The problem of Induction

Week 5: Popper on Scientific Method

Week 6: Underdetermination

Week 7: Simplicity

Week 8+9: Bayesianism and Confirmation theory

Weeks 10+11: Probabilistic Causation and the Principle of the Common Cause

Weeks 12+13: Modeling and Model based inferences

Weeks 14+15: Phylogenetic Inference in a Statistical Context