

# Philosophy 2330: Science and Society

Fall 2021

## Instructor Info

Instructor: Joel Velasco



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My Office: 251C Eng/Phil

Office Hours: Mon, Wed, Fri  
12:00-1:00 or by appointment



## Course Info

Class meets Tu, Th 11:00-12:20  
in PHIL 164

Course website:

[http://joelvelasco.net/  
teaching/2330](http://joelvelasco.net/teaching/2330)

## Course Description

Within the last several centuries, scientific knowledge and the technology it has made possible have drastically altered our world. Yet many unresolved questions remain about how scientific knowledge is produced, what makes science different from other ways of learning about things (if there are any), and exactly what science says about what the world is really like. In this class, we will reflect on the nature of science and how it does and should affect our lives.



During the course we will examine such questions as whether there is a sharp dividing line between science and non-science (a “demarcation criterion”) and we will carefully consider the relationship between science and religion. After that, we will look at the question of whether scientific knowledge is reliable and if so, why. Finally, we will look at how scientific questions relate to value judgments and how values might play a role in scientific reasoning.



This is a philosophy course, a core curriculum course, and an honors first year experience course. As such, it has many distinct goals. First and foremost, I aim to introduce you to philosophy – and in particular, to the philosophy of science. In this way, you should begin to see what it is like to be a scholar – to think about things deeply in the pursuit of truth. Whether or not you end up pursuing life as a scholar or as a researcher, it is important to be able to think and reason about the world around you for whatever line of work you pursue and perhaps most importantly, to think critically about the issues that affect your life as a private citizen.

# Expected Learning Outcomes

1) The student will understand some of the scientific details and cultural aspects of the scientific revolution in astronomy and the Darwinian revolution in biology.

2) The student will understand some of the complexities of defining 'science' and 'religion' and understand and evaluate views about their relationship.

3) The student will understand some of the major views about the nature of scientific knowledge and what makes science reliable.

4) The student will understand some of the major views about the nature of value and scientific reasoning and how they relate to each other.

## Grades

- Class Participation (11%): Effective class participation is based on coming to class prepared to engage in class activities, especially exercises in which you work together in groups with other students to invent an example or solve a puzzle that illustrates central concepts for that day. The best way to prepare for class is to read and think about the material indicated on the syllabus before coming to class.
- Tutorials (9%): Three times during the semester we will cancel class and instead, you will meet with me in small groups of three for an active tutorial.
- Short Essays (20%): Periodically throughout the semester (see due dates marked on the course schedule), you will be asked to write short essays (roughly two pages). There will be 4 short essays in all.
- Midterm Exam (20%): There will be one midterm examination covering roughly the first six weeks of the course.
- Long(er) Essays (40%): There will be two longer essays (roughly five pages).

### Rough Grading Scale:

98-100% ⇒ A+	92-97% ⇒ A	90-91% ⇒ A-
88-89% ⇒ B+	82-87% ⇒ B	80-81% ⇒ B-
78-79% ⇒ C+	70-77% ⇒ C	65-70% ⇒ C-
50-64% ⇒ D	0-49% ⇒ F	

### Late Assignments Policy

In the absence of a documented excuse, late assignments will be docked 20% per day.

# Class Participation

Philosophy is a communal enterprise: the ability to make valuable 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. Students are encouraged to continue class discussions immediately after the class is over, by meeting with me in person some other time, 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.

## 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.

## ADA Statement

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, please contact Student Disability Services in West Hall or call 806-742-2405.

## Academic Integrity:

Cheating and plagiarism are, of course, prohibited in this class just as they are in all university classes. 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.

# **Texas Higher Education Coordinating Board (THECB)**

## **Language, Philosophy, and Culture**

### **Description and Objectives**

Courses in this category focus on how ideas, values, beliefs, and other aspects of culture reflect and affect human experience.

Courses involve the exploration of ideas that foster aesthetic and intellectual creation in order to understand the human condition across cultures.

1. **Critical Thinking Skills:** to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
2. **Communication Skills:** to include effective development, interpretation and expression of ideas through written, oral and visual communication
3. **Personal Responsibility:** to include the ability to connect choices, actions and consequences to ethical decision-making
4. **Social Responsibility:** to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities

### **TTU Language, Philosophy, and Culture Student Learning Outcomes**

1. Identify methodologies of historical, literary, philosophical, and/or aesthetic research and recognize their applicability to everyday life.
2. Develop analytical arguments in written and/or oral forms.
3. Evaluate events, ideas, and artistic expressions in terms of multiple cultural contexts and value systems.
4. Demonstrate ways in which the humanities are fundamental to the health and survival of any society.

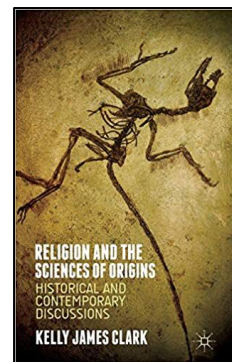
**TTU College-Level Core Competence Statement:** Students graduating from Texas Tech University should be able to: think critically and to evaluate possible multiple interpretations, cultural contexts, and values.

THECB OBJECTIVES	TTU S.L. OUTCOMES	ASSESSMENT METHODS
<p><b>Critical Thinking Skills</b> include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information</p>	<p>Identify methodologies of historical, literary, philosophical, and/or aesthetic research and recognize their applicability to everyday life.</p>	<p>Short essays, tutorials, midterm exam, longer essays</p>
<p><b>Communication Skills:</b>to include effective development, interpretation and expression of ideas through written, oral and visual communication</p>	<p>Develop analytical arguments in written and/or oral forms.</p>	<p>Short essays, tutorials, midterm exam, longer essays</p>
<p><b>Personal Responsibility:</b> to include the ability to connect choices, actions and consequences to ethical decision-making</p>	<p>Demonstrate ways in which the humanities are fundamental to the health and survival of any society.</p>	<p>Short essays, tutorials, midterm exam, longer essays</p>
<p><b>Social Responsibility:</b> to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities</p>	<p>Evaluate events, ideas, and artistic expressions in terms of multiple cultural contexts and value systems.</p>	<p>Short essays, tutorials, midterm exam, longer essays</p>

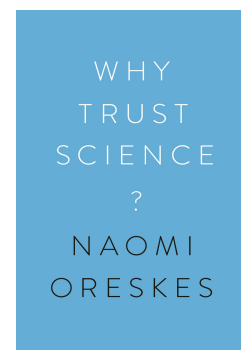
## Required books:

*Religion and the Sciences of Origins: Historical and Contemporary Discussions* by Kelly James Clark.

Palgrave Macmillan, 2014. The book is available at the bookstore or a pdf is available on blackboard.



*Why Trust Science?* by Naomi Oreskes. Princeton University Press, 2019. The book is available at the bookstore or an epub is available on blackboard.



An updated course schedule and access to all readings and assignments will be kept on the course website here:

<http://joelvelasco.net/teaching/2330>

## Rough Course Schedule

	Reading	Topic	Assignments due
Weeks 1-2	Okasha, Gould, Dawkins Clark Ch 1-3	Science and Religion	Short essay 1
Weeks 3-4	DeWitt Clark Ch 4 Galileo and others	Scientific Revolution in Astronomy	Short essay 2
Weeks 5-7	Clark Ch 5-6	Evolution	Week 7 Tutorial, mid-term exam
Week 8-11	Oreskes + Commentators and reply	Why Trust Science?	Short essay 3, tutorial, long essay
Week 12-15	Varied	Science and Values/ Values in Science	Short essay 4, tutorial, long essay