

Redeemer University College

PHIL 314: Philosophy of Science (W'19)

[3 credits]

Course Description

In the last few hundred years, science has produced some amazing achievements: we have eradicated deadly diseases; we have improved our overall quality of life with technology; and, we have deepened our understanding of what it means to be human, to name a few. Despite these achievements, people are becoming increasingly suspicious of the worldview offered by science and the future promised by ever more ubiquitous technology. This worldview has further implications for those with religious commitments. How are we to reconcile the scientific worldview with a religious, and specifically Christian, worldview? Is it possible for someone to be both a good scientist and a good Christian?

In this course, we will explore the relationship between religion, science, and philosophy by looking at some of the major issues in the philosophy of science. We will approach key questions concerning the nature of scientific reasoning, the possibility of scientific process, and how scientific frameworks evolve over time.

Logistics

Meeting Times: Th 6:30-9:30 PM **Meeting Locations:** Main Building, 211
Meeting Format: LEC, SEM

Instructional Support

Instructor: Dr. Kyle Bromhall **Office Hours:** Th 5:30-6:20
Email: kbromhall@redeemer.ca **Office Location:** TBA
Skype Handle: TBA

Required Learning Resources

1. Barker & Kitcher. *Philosophy of Science: A New Introduction* (Oxford UP)[†]
2. Nagel, Thomas. *Mind and Cosmos* (Oxford UP) [†]
3. Plantinga, Alvin. *Where the Conflict Really Lies* (Oxford UP) [†]
4. Various Essays, as indicated in the schedule

[†] Resources marked with a dagger will be used almost in their entirety; as such, it is *highly recommended* that you purchase copies of your own. Not having access to the textbooks is not a legitimate grounds for consideration.

Primary Learning Objectives

By the end of this course, a successful student will...

Depth and Breadth of Content	1. Be able to articulate the main developments in the history of philosophy of Western science.
Knowledge of Methodologies	2. Be able to articulate the main epistemological presuppositions in the history of the philosophy of science 3. Be able to describe the history of scientific methodologies and models on a variety of topics and explain their presuppositions
Application of Knowledge	4. Be able to differentiate primary from important secondary sources by means of readings and discussion 5. Explain how worldviews shape scientific theories and explanations.
Communication Skills	6. Develop a tentative position on the relation of religion and science. 7. Offer a presentation on an agreed-upon topic.
Awareness of Limits of Knowledge and Maturity	8. Develop a thesis and defend it in an analytic research paper. 9. Teach by example a sense of humility in the face of the limitations of human understanding of God and nature. 10. Articulate the main answers to the question of the reliability and the limitations of human knowledge. 11. Grasp the main arguments of a presentation and engage in respectful discussion.

Class Evaluation

Grading Scheme

Percent	Letter	Points	Status
90-100	A+	12	Excellent
85-89	A	11	
80-84	A-	10	
77-79	B+	9	Good
73-76	B	8	
70-72	B-	7	
67-69	C+	6	Satisfactory
63-66	C	5	
60-62	C-	4	
57-59	D+	3	Unsatisfactory
53-56	D	2	
50-52	D-	1	
0-49	F	0	Failure

Assessments

Presentation (2x20%)

On the first day, we will negotiate dates for two presentations: one on a chapter (or portion thereof, as indicated on the e-handout) of the Plantinga book; and one on a chapter (or portion thereof, as indicated on the e-handout) of the Nagel book. Presentations will occur during the seminar component (SEM) of this course. Although you will be presenting during class time, you must **submit your written presentation materials**—or at least a good working draft—the week before your presentation.

The goal of these presentations is to promote lively discussions amongst the class, and your grade will be heavily influenced by your ability to do so. Using effective audio-visual materials, providing a handout, asking effective questions, and other means of increasing your audience's engagement with the material will contribute to your grade. Content-wise, you must provide a clear explanation of the author's argument in your chosen passage, explain how it fits within the author's overall argument, assess it on its merits, and tie it in to the main themes of the course.

For a complete explanation and rubric, please refer to the assignment itself.

Class Engagement (20%)

This component of the course has two sub-components: near-weekly reflections (NWRs) and in-class participation.

You are required to submit a reflection every week, in class, with the following exceptions: the first week; reading week (week seven); week ten; week fourteen; and, the two weeks on which you are presenting. These will be graded as acceptable, unacceptable, or missing, with 'acceptable' defined as B- (minimum). Each acceptable NWR is worth two points; each missing one is worth -1 point. You may earn up to three bonus points on each NWR through participation; missing a class is worth -1 point.

Your grade will be half your point total at the end of the course.

Essay (20%)

You will write a medium-length essay (2500-words) on a topic of your choice from a selection provided by the Instructor. This will be an argumentative research paper, and will follow the steps and formatting requirements made available at the time the topics are distributed. The final product will be due by **6:30 PM** on **25 March 2019**; other parts of this assignment will be due before then. See the assignment for details.

Final Exam (20%)

The final exam will be a mix of multiple choice, short answer, and longer-answer type questions. It will be at a date and time to be determined. Stay tuned for details.

Course Policies

Assessment Policies

Submitting assignments

Presentations and Essay. You must submit these assignments through the dropbox folder on Discovery. A paper copy is not necessary.

Near-Weekly Reflections. Your weekly reflections are due in paper form at the end of each class. Electronic submission is not necessary.

Due dates & late penalties

The due dates for all requirements may be found in the description of that requirement. With the exception of the Near-Weekly Reflections, you will have at least two weeks—and usually longer—from the time the assignment is distributed to the time when it is due. I reserve the right to modify due dates at my discretion; however, they will never be earlier.

All deadlines are firm, and lateness is penalized harshly. All assignments are date-stamped automatically by the online submission system; your *latest* date stamp will be taken as your submission date. **Late assignments are not accepted.** The only exceptions shall be for medical or compassionate reasons, provided that you have the necessary evidence. There are no make-up assignments or extra credit.

TL;DR: If you foresee a problem, talk to me ASAP.

Style and formatting

Formatting plays a subtle but crucial role in the development of your papers. Clean, consistent formatting ensures that your reader's energies are focused where they should be—on your content—instead of being spent overcoming technical inefficiencies. Each assignment will have formatting requirements, including citation style, that you are required to follow. Failure to follow the requirements will be penalized.

Technology Policies

Course Website

I will use the course website *extensively*. It is there that I will post all grades, lectures slides, assignments, and make announcements or provide errata. You are encouraged to check the website frequently, and at least once per week.

Turnitin

This university has adopted Turnitin to detect possible plagiarism, unauthorized collaboration, or copying as part of the ongoing efforts to maintain academic integrity at the university.

All submitted assignments will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Usage Policy posted on the Turnitin.com site.

Document Distribution

Non-textbook readings are on electronic reserve through the library. The library will determine the format in which they are available and which functions are enabled; I have no control over that.

Lectures will be posted in Portable Document Format (PDF) on CourseLink for online viewing. You will need a program like Adobe Reader, Nitro Reader, or Microsoft Word to open these files. Note that printing has been disabled.

Assignments will be posted in PDF on the course website with printing enabled.

Laptop and smartphone use

While it is within an instructor's prerogative to ban electronic devices from the classroom, there are circumstances that warrant the use of a laptop for the purpose of note-taking in class. If a student would like to use a laptop in class for note-taking, he or she should inform the instructor at the beginning of the course. Because the use of a laptop in class is not considered by the institution as academic accommodation, instructors do not require proof of disability nor do students need to disclose their reasons for using a laptop to take notes in class. The use of all other electronic devices is not permitted, unless the instructor expressly allows it.

Contacting me

Email is my preferred method of communication outside of class or office hours. I will try my best to respond to your email within a few hours of receiving it, although please understand that circumstances may not always permit this.

I am also available to talk via Skype by appointment only.

Governance Policies

Distractions

Be aware of actions that others may find distracting. Talking, accessing social media, texting and so on all have a *scientifically-demonstrated* negative effect on your grade, but also on those around you. It is also extremely disrespectful. Therefore, please refrain from doing anything that would distract others. If any of these things start to be a problem, I may impose limitations on the class.

Tolerance

More so than in many other disciplines, philosophy asks you to vigorously and precisely defend your own position and to attack those of others. This does not mean that at any

time you should ever show any sort of disrespect towards another student. As philosophers, we exhibit significant tolerance for differences of view, and it is expected that you demonstrate this tolerance.

Transparency

This course is not a democracy, but that does not mean that I am inscrutable. If you have an issue with something in the course, I will provide you with a full explanation of the process. I will honestly reconsider our position should the situation call for it.

Territorial Acknowledgement

I would like to acknowledge that the land on which we gather is the traditional territory of the Haudenosaunee and Anishnaabeg. This territory is covered by the Upper Canada Treaties, is within the lands protected by the “Dish With One Spoon” wampum agreement and is directly adjacent to Haldiman Treaty territory.

Course Schedule

Week		Topic	Primary Reading
01 Jan 10	LEC	Syllabus	
	SEM	Introduction	BK: Science and Philosophy
02 Jan 17	LEC	The Demarcation Problem	BK: Demarcation
	SEM	Evolutionary Psychology	Plantinga, 5
03 Jan 24	LEC	Explanation in Science	BK: Explanation
	SEM	Faith and Reason	Plantinga, 6
04 Jan 31	LEC	Realism & Anti-Realism I	TBA
	SEM	Fine-Tuning	Plantinga, 7
05 Feb 7	LEC	The Goal of Unity	BK: Unified Science
	SEM	Design Discourse	Plantinga, 8
06 Feb 14	LEC	Convenient Assumptions	BK: Naturalism & Supernaturalism
	SEM	Deep Concord	Plantinga, 9
07 Feb 21	LEC	READING WEEK	
	SEM		
08 Feb 28	LEC	Scientific Progress	BK: Frameworks & Revolutions
	SEM	How Deep Does It Go?	Nagel, Introduction
09 Mar 7	LEC	Realism & Anti-Realism II	BK: Science and Truth
	SEM	Are You Your Body?	Nagel, Antireductionism

Week		Topic	Primary Reading
10 Mar 14	LEC	Probably away for a conference. My goal is to find someone to take the course and provide scheduled workshop appointments for the students' essays.	
	SEM		
11 Mar 21	LEC	Science and Its Detractors	BK: Critical Voices
	SEM	Can Matter Think?	Nagel, Consciousness
12 Mar 25	LEC	Is Science Value-Free? I	BK: Science, Values, and Politics I
	SEM	Can Cognition Evolve?	Nagel, Cognition
13 Apr 04	LEC	Is Science Value-Free? II	BK: Science, Values, and Politics II
	SEM	Can Value Evolve?	Nagel, Value
14 Apr 11	LEC	In-Class Review	
	SEM		