PHILOSOPHY 3550 (ONLINE)
PHILOSOPHY OF SCIENCE
SPRING 2009

Course Description: Science appears to be extraordinarily successful is two crucial respects. First, science apparently serves as an extremely reliable vehicle for arriving at the *truth* (as contrasted with astrology or palm reading). Second, the methodology of science seems eminently *rational* (again as opposed to the methodologies of astrology or palm reading). Philosophers have been quite interested in these two apparent virtues of science. Some philosophers think that the two virtues are illusory and that, upon reflection, science is not significantly superior to astrology or palm reading. Some philosophers even reject concepts like truth and rationality as somehow bogus or illegitimate. Our basic goal in this course is to survey 20th century philosophy of science as centered upon such disputes. To this end, our focus will be upon the following question: are truth and rationality genuine features of scientific inquiry, or are they mere illusions?

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Course Website: http://elearn.wmich.edu

Texts: Peter Godfrey-Smith, *Theory and Reality: An Introduction to the Philosophy of Science* (Chicago: University of Chicago Press, 2003).
Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 3rd ed. (Chicago: University of Chicago Press, 1996).
Optional: Richard DeWitt, *Worldviews: An Introduction to the History and Philosophy of Science* (Oxford: Blackwell Publishing, 2004).

Technical Support: For any technical support pertaining to the course (including course readings), contact ATIS by phone at (269) 387-ATIS or by email at atis.footprints@wmich.edu. Neither the professor nor graduate assistant is able to provide technical support.

Email: All correspondence regarding this course will either be sent to WMU email accounts (from GoWMU) or else posted to the e-learning environment. Students are required to regularly check their WMU accounts, and all correspondence from them should be sent from those accounts (per university policy). Emails to the instructor or GA should be sent to them directly and not posted as mail through e-learning; this will ensure a faster response since e-learning mail has to be checked separately from university email.

Overview: This course will be conducted online and has various components; those components will be described in the rest of the syllabus. Each week, students will complete the below-listed reading assignments and then read lectures that have posted about them. A lecture will be posted on Monday at 900a of each week and will remain visible for the rest of the course. The lectures will be posted in two formats, .pdf and .pptx; students are encouraged to use whichever they find most useful, though the content is the same. The readings should be done before the lectures as the lectures will evaluate the arguments made in the readings. Following the assimilation of the readings and lectures, students will take an online quiz. There will be four writing assignments, spread out throughout the semester. Office hours will be held both physically and online.

Grading:			
	Weekly Quizzes	20%	
	Writing Assignment #1	20%	(due Week 5)
	Writing Assignment #2	20%	(due Week 8)
	Writing Assignment #3	20%	(due Week 11)
	Writing Assignment #4	20%	(due Week 14)

All writing assignments receive letter grades which are converted to a 4.0 scale: A = 4.0, BA = 3.5, B = 3.0, CB = 2.5, C = 2.0, DC = 1.5, D = 1.0, E = 0.0. Final quiz averages are also converted to a 4.0 scale: ≥93% = 4.0, 90-92% = 3.7, 88-89% = 3.3, 83-87% = 3.0, 80-82% = 2.7, 78-79% = 2.3, 73-77% = 2.0, 70-72% = 2.3, 68-69% = 1.3, 63-67% = 1.0, 60-62% = 0.7, 58-59% = 0.3, ≤58% = 0.0. Numerical final grades are then converted to letter grades: ≥3.75 = A, 3.25-3.74 = BA, 2.75-3.24 = B, 2.25-2.74 = CB, 1.75-2.24 = C, 1.25-1.74 = DC, 0.75-1.24 = D, ≤0.74 = E.

Weekly Quizzes: Every Wednesday at 900a, a quiz will be posted to the course website. For each of you, 10 multiple choice questions will be randomly selected from a bank of questions that have been submitted. These quizzes should be taken without any study materials present, and you will have 15 minutes to complete the quiz. The quiz must be completed by Thursday at 500p, by which time it will no longer be available. You should take the quiz after you have read the assigned readings and lecture for the week, as well as studied them.

Your lowest two quiz grades, including those for missed quizzes, will be dropped. For this reason, no further allowances will be made for personal reasons or computer issues that should arise.

Writing Assignments: On Thursday at 500p of weeks 4, 7, 10, and 13—as soon as the quizzes for those weeks close—writing assignments will be accessible from the course website. The first assignment will cover material from weeks 1-4; the second assignment will cover material from weeks 5-7; the third assignment will cover materials from weeks 8-10; and the fourth assignment will cover material from weeks 12-13 (i.e., none of the assignments is cumulative and no new material in week 14).

You then have one week to complete the writing assignment, which is due by 500p on the Friday after which it is posted. Assignments submitted by 500p the following Monday will be penalized one letter grade. Assignments submitted at any later time will be penalized two letter grades. Extensions will not be offered, nor should they be requested.

Each writing assignment will be approximately 2,500 words, and the prompts will likely have several components. You are allowed to use your course notes as well as your course readings in the development of your answers. No other sources—including collaboration with others—should be incorporated into this assignment; the incorporation of any uncited sources will be considered plagiarism. Citations should be made to course readings as appropriate, with citations given to the author and original page of publication.

Note that you also have quizzes (on new material) the same weeks that you will be principally writing these assignments, except for the last week of the semester. This is one reason that they have been made available on the Friday before the week they are due; this way, you have a weekend to work on them, should you want to.

TOPICS AND READING ASSIGNMENTS

1	Order Textbooks	
2	Introduction to the Philosophy of Science	*Theory and Reality* (*T&R*): chapter 1
3	Logic Plus Empiricism	*T&R*: chapter 2
4	Induction and Confirmation	*T&R*: chapter 3
5	Popper: Conjecture and Refutation **Writing Assignment #1 by Friday at 500p**	*T&R*: chapter 4
6	Kuhn and Normal Science	*The Structure of Scientific Revolutions (SSR)*: chapters 2-8 *T&R*: chapter 5
7	Kuhn and Revolutionary Science	*SSR*: chapters 9-13 *T&R*: chapter 6
8	Lakatos, Laudan, and Feyerabend **Writing Assignment #2 by Friday at 500p**	*SSR:* postscript *T&R*: chapter 7
9	Naturalistic Philosophy in Theory and Practice	*T&R*: chapter 10
10	Naturalism and the Social Structure of Science	*T&R*: chapter 11
11	Scientific Realism **Writing Assignment #3 by Friday at 500p**	*T&R*: chapter 12
12	Explanation	*T&R*: chapter 13
13	Empiricism, Naturalism, and Scientific Realism?	*T&R*: chapter 15
14	(No New Material) **Writing Assignment #4 by Friday at 500p**	