

Teaching Portfolio

Tyrus Fisher

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1 Teaching Statement

As an instructor my primary aims are to (1) improve my students' abilities to understand and appreciate philosophical problems, (2) improve their abilities to critically engage with these problems, and (3) improve the clarity and rigor of their argumentation, both written and spoken.

I greatly enjoy introducing students to philosophical problems, work that has been done on these problems, and discussing with my students their ideas about these problems. This keeps me excited about teaching. In the last few years, I have come to believe strongly that students produce better work and better engage with me and the material when I make it apparent that I am enthusiastic about working with them. Consequently, I prioritize making this enthusiasm apparent to my students. Of course, my enthusiasm is no sufficient condition for effective teaching. In what follows I describe two teaching strategies I make use of in order to keep student engagement high and teach effectively and, before closing, share some details about an approach to writing assignments that I have found to be effective.

In-Class Discussion and Lecture

Collaborative Design

In the classroom I work to help students put their knowledge, conjectures, and problem-solving ideas to work so that we can together construct a solution to a given problem or way of achieving a goal. I call this *Collaborative Design*, and contrast it with a more traditional approach according to which a professor tries to transmit knowledge to a mostly passive audience.

To illustrate with an example, when introducing students to a language of predicate logic in an introduction to logic class, I begin by asking students to consider whether an argument such as the following is intuitively valid:

$$\frac{\text{Heidi is happy.}}{\text{Someone is happy.}}$$

I then ask them to transcribe this argument into our language of sentence logic and consider whether the resulting argument is valid. They carry out the transcription and realize that the argument is invalid. We can then discuss what is missing from our language and corresponding semantic theory that makes them unable to deliver the validity of such an obviously truth-preserving argument. We then work together to puzzle out what properties a language might need in order to validate inferences like the one at issue. In particular,

much of the idea in this case is to help students discover the value of having a language that grammatically encodes predicate and singular-term positions.

My experience has been that when employing this collaborative design strategy, students' levels of engagement and, I believe, interest are much higher than when I "lecture straight". The strategy seems to demand of students that they work to engage with the items at issue. And, I believe that when students work to arrive at a solution without having it simply delivered to them, this is often preceded by work that engenders a deeper understanding of some aspects of the material being taught. One reason I think this is that when using this strategy I find that students ask more questions and advance proposals that are often arrived at through original thought in the classroom.

Close Look and Discussion

Another strategy I commonly employ is *Close Look and Discussion*. This is the strategy of structuring class-room discussion time around the introduction of a particular philosophical argument or problem followed by discussion of the argument/problem. This is, of course, a common way to explore academic philosophy in the classroom, and given the fundamental place that arguments occupy in academic philosophy and its history, one that I believe is valuable.

Typically, when considering an argument or philosophical problem with students, I like to begin by orienting them to a relevant problem space or history that I feel the argument or problem is nicely situated relative to. For example, before discussing a Quinean indeterminacy-of-translation argument against the existence of meanings and analyticity, I begin with some discussion of the importance of analyticity to an initially attractive picture of a priority and the distinction between science and philosophy. On such a picture, the sciences are devoted to answering questions, the answers to which are a posteriori and non-semantic, while the philosopher's job is to answer questions using a priori methods of conceptual or semantic analysis. Here I find it helpful to encourage students to examine their own intuitions about a priority and analyticity and how they bear on the way we often sort disciplines into the empirical and non-empirical. We might for example consider some prima facie takes on why physics and biology look like empirical undertakings, while mathematics and logic look to be a priori disciplines.

I find that an important part of making the Close Look and Discussion strategy effective is finding a way to help students actively engage with the argument we are considering. Happily, I find that combining Collaborative Design with Close Look and Discussion works very well. For example, in considering the initially attractive picture mentioned above, after some moments polling students' intuitions about analyticity, we can work together to reason out how these intuitions inform a picture of a priority and a distinction between science and philosophy. In this way we construct the picture that the Quinean indeterminacy arguments are intended to refute. With some understanding of Quine's target and some considerations in favor of this target's plausibility, we are nicely positioned to reconstruct a Quinean indeterminacy argument through another application of Collaborative Design.

Writing

Arguably, there is no skill more important for a philosopher or college student to have than clear and persuasive writing. Good writing reflects one's ability to think clearly and facilitates effectively communicating these thoughts to others. Additionally, good argumentative writing is a crucial skill for functioning well in many academic and professional capacities.

I prioritize writing improvement in the philosophy classes I teach (excepting more-introductory logic courses). In the lower-division philosophy of science courses I have taught, throughout the quarter, students work together in groups writing out short answers to a selection of questions. These are questions about the articles we have read and discussed together. At mid- and end-of-quarter, students are asked to choose a subset of these questions to answer in the form of three- to five-paragraph mini essays intended to argue for an interpretation of some argument we have examined, and/or for or against the cogency of some such argument. Particularly for the lower division student, I believe writing a number of short essays has some advantages over writing relatively few longer essays. Some reasons I believe this are as follows.

First, because shorter essays contain relatively few paragraphs, it is easier for many beginning college students to keep their essays well structured and clear throughout. Second, because the essays are shorter, more of them can be written over the span of a quarter or semester. The intended benefit here is that students get more practice putting together well structured and clear pieces of writing. Third, because students have already written out answers to the questions their essays are about, the work needed to understand the material has begun well before it is time to write an essay about it. I believe this allows students to focus more on their writing, rather than struggling to understand a difficult philosophical issue at the same time they are tasked to write a longer essay about it.

Concluding Remarks

In sum, my classroom is a collaborative environment. And I prioritize improving our understandings of and abilities to recognize good argumentation, and improving our abilities to appreciate and articulate good reasons for the claims we want to defend.

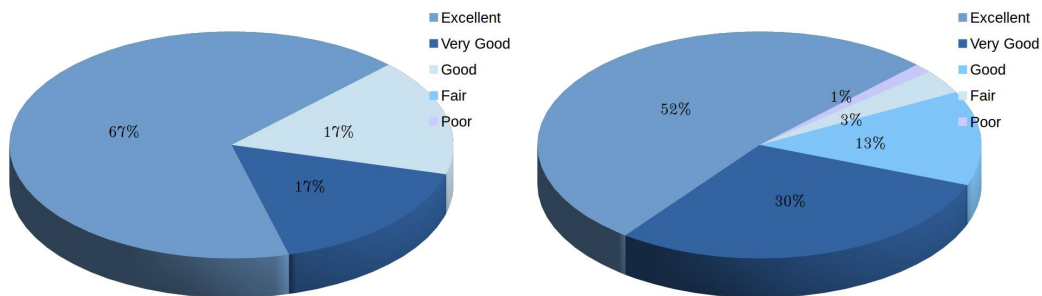
2 Evidence of Teaching Ability

Overview

In my time at UC Davis I have served as sole instructor for five courses (Intermediate Symbolic Logic, Introduction to Symbolic Logic, and Introduction to Philosophy of Science three times) and as a teaching assistant for thirteen courses. The entirety of my student evaluations are available upon request.

From fall 2013 through Spring 2017, I served as a teaching assistant for four courses and taught two courses as sole instructor. The following charts summarize data gathered from teaching evaluations for all courses have I taught or assisted between fall 2013 and Spring 2017.

Teaching Evaluations Feedback



(a) 2013-17 Overall Teaching Effectiveness as Instructor (b) 2013-17 Overall Teaching Effectiveness as Teaching Assistant or Instructor

The following table summarizes data from 5 courses I taught or recently assisted. The table is followed by complete and unedited comments from students in these courses.

Overall Teaching Effectiveness

Course Title	Excellent	Very Good	Satisfactory	Fair	Poor
Intro to Symbolic Logic Summer 2016 (As Instructor)	71.43% (10)	14.29% (2)	14.29% (2)	0.00%	0.00%
Intro to Philosophy of Science Summer 2014 (As Instructor)	60.00% (6)	20.00% (2)	20.00% (2)	0.00%	0.00%
Introduction to Ethics Spring 2017 (As Teaching Assistant)	54.05% (20)	18.91% (7)	21.62% (8)	33.33% (1)	0.00%
Metaphysics Winter 2015 (As Teaching Assistant)	44.44% (4)	33.33% (3)	11.11% (1)	0.00%	11.11% (1)
Philosophy of Physical Science Winter 2014 (As Teaching Assistant)	66.67% (8)	33.33% (4)	0.00%	0.00%	0.00%

The following are unedited and complete comments from the five courses represented above (courses taught listed before courses assisted).

Introduction to Symbolic Logic, Summer Session II 2016

Comments about Instructor:

1. Really good teacher, animated and clearly interested in the topic. Dedicated to helping students who need it and is engaging and open during office hours. In class discussion was extremely interesting and Tyrus clearly had a wide demand of knowledge surrounding the course material that helped contextualize the information.
2. Tyrus is a great instructor and a credit to the philosophy department. He likely has an excellent career ahead of him researching but he also possesses great teaching skills. It was a pleasure having him as an instructor.
3. I appreciated Ty's passion for the material and willingness to spend time helping students understand material in class. My only suggestion is that material be left on the board for longer because I didn't always have time to write stuff down. Thanks Ty!
4. The content sometimes are confusing, while our instructor speeds down a lot to explain the puzzles. Tyrus is really patient and he really welcomes us to ask during office hour and after class. The test is not that difficult and I feel Tyrus want us to get a good grade. He does not trick us nor judge it so hard, To be honest, this is one of my favorite class at college.
5. Tyrus is an excellent professor. He is very passionate about the material and he genuinely wants his students to learn. The only suggestion I have is that he can at times be

impatient with his students when they don't get the answers right away... nonetheless he's very intelligent and understands logic very well.

6. I liked Ty's enthusiasm about the topic. It helped keep me engaged, but general lack of interest in the subject negatively affected my own success in the subject.
7. I feel like this class was much more difficult than what you'd expect for a lower division intro class. Our exams were quite difficult too. It was a very intense class. Especially since I don't understand why it is a requirement for a communication major.
8. He can explain the material clearly during lecture.
9. Awesome instructor!

Introduction to Philosophy of Science, Summer Session I 2014

Comments about Instructor

1. Very good at reading the class and able to figure out if the class needed further explanation on any topic. Always made things as clear as possible.
2. Could do better with encouraging discussion in class rather than mostly lecturing about different philosophers and their philosophies.
3. Made this material which was sometimes initially dense and confusing, very clear and easy to understand. Was always open to and responded well to any and all questions students had. Overall excellent, and I would be happy to take another class taught by this professor.
4. I am confident that if Mr. Fisher decides to pursue a career in teaching philosophy that he will excel at it.

Intro to Ethics, Spring Quarter 2016

Comments about Teaching Assistant:

1. Tyrus has a great attitude about helping and teaching. Tyrus inspires me to participate and think critically about ethical issues. He is the real professor for this course.
2. Best TA I have had in UC Davis. Explains clearly, interesting to listen and even charismatic.
3. Good
4. Intimidating at first, but I've come to genuinely enjoy discussion sections.
5. Great TA and discussion section. TA made material very understanding and helped with any questions I had.

6. A little more direction in the discussion section to better understand the concepts presented in lecture and not consider new ideas.
7. I think very highly of you tyrus.
8. Ty is a really great TA. He helped clarify a lot of questions that I had, and challenged me further.
9. Ty was a great Teaching Assistant. I went to his office hours several times and he was always extremely helpful. His passion for the subject was evident throughout the quarter and he really helped me reaffirm that I want to continue studying philosophy.
10. The discussion seemed a bit disorganized and student participation wasn't very encouraged. It was all very monotonous.

Metaphysics, Winter Quarter 2015

Comments about Teaching Assistant:

1. I rarely find discussions to be all that helpful and honestly don't go to them that much for that reason. Ty, on the other hand, was the complete exception. This guy seriously knew what he was talking about and knows his stuff. Despite literally gearing class towards what we wanted to learn and having no plan, he knew how to answer most all question without significant preparation. He was also very willing to help and set aside a time to go over things like homework and essays. Either way, I'm very glad to have met him and I am hoping that as I continue the philosophy minor, I'll be seeing him around still.
2. Tyrus is very dedicated and always willing to help answer questions. He also did a great job at capturing the needs of students for discussions each week, and discussion really served its purpose. It helped me to further clarify concepts but also helped me in applying the concepts I learned in class and exercise them in papers and assignments. This was my second class with Tyrus as a TA and both times he has been essential to my success in the course.

Philosophy of Physical Science, Winter Quarter 2014

Comments about Teaching Assistant

1. Better than some of the professors in the Philosophy Dept. On more than one occasion he was able to inspire those pleasurable moments of understanding cool concepts that made me like philosophy in the first place.
2. Ty was always open to answering any questions in class and through email which was very much appreciated.
3. Ty is very good at clearly explaining the material and adding in extra information to help us make sense of the information presented in class and in the text.

I enjoyed section w/ him as he made the material interesting and understandable.

Even his tangents were nice additions to the material to sort of place the information in a larger philosophical context.

Section was well organized though he often had more stuff planned than we got to but the delay was b/c he was explaining things.

4. Ty was very influential in my understanding of the course content. At times the concepts were too abstract for me to understand w/out ty's alternative explanations. He offered his time to help me and was accessible to me as a student. I thought he was professional and helpful in his role. He seemed dedicated to the course work and teaching it well. I enjoyed his discussions!
5. The assistant was very knowledgeable on the subject being taught and was very useful in explaining further the concepts introduced in class.
6. Excellent TA — more helpful than the instructor. Passionate and willing to let conversation flow. Stopped going to lecture because the professor speaks like a sophist and waves her hands a lot; found that discussion alone w/ reading is great for grasping material.
7. Great enthusiasm, approachable, always incredibly helpful. Slides were well-written, lectures well done. This class required a more lecture-focused discussion, which was fine but other classes may find a more open debate to be preferable.
8. I really liked Tyrus, he was able to explain difficult concepts clearly as possible, and he never talked down to students. He was willing to lead the discussion when no one had anything to say.
9. Generally-speaking, I can say that Ty is a well-informed T.A. This means that Ty obviously has a grasp on not simply the information we have been discussing but, more generally, on Philosophy. Given his "well-informedness" I would say Ty adequately satisfies all of the above criteria mentioned in the above instructions. I appreciate all of his help and willingness to help and I have no doubts that other students will, in the future, too. So Ty, thank you for a wonderful quarter.
10. Tyrus was really nice, engaging, and very knowledgeable (sp?). He also would recommend books that were interesting and related to the subject at hand.

Sometimes he would stop himself mid thought, and retract from what he was about to say which would sometimes upset the flow of paying attention.

But other than that he was a great T.A. and I was lucky to have him.
11. Philosophy is an abstract subject which requires a lot of patience and knowledge in order to be able to explain to the students. Tyrus is very knowledgeable with the material and is open to discuss and explain the material more in-depth. He offers many views related to the relevant topic and allows us to form our thoughts. He is very open for office hours and is always eager to answer any and all questions.

Based on the topic, it allows the class to navigate the course in a direction. But Ty allows us to accomplish and answer all related questions regarding each reading.

12. – Good w/ explanations.
 - Knows what he's talking about.
 - Helps w/ understanding and how to succeed in the course.

3 Syllabi with Course Descriptions

Workshop in Critical Thinking: Reasoning about Morality (PHIL 1000)

12:00–1:50 PM, Mon., Wed. Room TBA



Instructor: Tyrus Fisher, tkfisher@ucdavis.edu

Office Hours: Wednesdays 2–4 PM Office: Room TBA.

Required Text: Hurley, Patrick J. *A Concise Introduction to Logic*; any of editions 11–13.

Course Description

Development of good critical thinking skills is plausibly among the most important parts of a good college education. Our goal in this course is to improve our abilities to think critically and express the results of this thinking. We will look at some common kinds of mistakes people make when reasoning (through a study of formal and informal fallacies). We will study some principles of deductive logic and practice some methods of applying these principles (propositional natural deduction and syllogistic reasoning). And we will practice both deductive and non-deductive argumentation (in two short essays). Throughout the course we will develop and sharpen these skills by discussing and critically evaluating some perennial issues in moral philosophy.

Grading

Course Requirements

Two quizzes (2 × 20%)	40%
Two argumentative essays (2 × 20%; 3-5 pages each)	40%
Two homeworks (2 × 7.5%)	15%
Short in-class exercises (5 × 1% graded for completion; 2 dropped;)	5%

Late Work No late or make-up quizzes are permitted unless a medical note is provided or permission is granted by the instructor *before* the scheduled quiz date. If you anticipate needing more time to complete an assignment, please speak to me before the scheduled due date.

Class Materials Please bring your textbook, paper, pencils, and eraser to class with you.

Academic Honesty Work suspected to have been plagiarized will be turned over to the Office of Student Judicial Affairs. If it is determined that such work is not entirely the author's own, the author will receive a letter grade of F in addition to any further action taken by the Office of Student Judicial Affairs.

Tentative Schedule and Course Outline

Week 1: Introduction & Ch1 Basic Concepts

Reading and discussion: Hurley. Ch 1

Week 2: Basic Concepts Cont. & Ethical Relativism

Reading and discussion Hurley. Ch 1 Cont.

Reading and discussion Shafer-Landau. Ethical Relativism. (Course website)

Week 3: Informal Fallacies & Morality and Religion

Reading and discussion Hurley. Ch 2.

Reading and discussion Shafer-Landau. Morality and Religion. (Course Website)

Week 4: Informal Fallacies Cont. & Psychological Egoism

Reading and discussion Hurley. Ch 2.

Reading and discussion Shafer-Landau. Psychological Egoism. (Course Website)

Week 5: Propositional Logic & Morality and Animals

Reading and discussion Hurley. Ch 6.

Reading and discussion Norcross. “Puppies, Pigs, and People: Eating Meat and Marginal Cases”.
(Course Website)

Week 6: Propositional Logic Cont. & Morality and Animals Cont.

Reading and discussion Hurley. Ch 6 cont.

Reading and discussion Frey. “Moral Standing, the Value of Lives, and Speciesism”. (Course Website)

Week 7: Natural Deduction in Propositional Logic & Euthanasia (Quiz 1 and HW 1 due)

Reading and discussion Hurley. Ch 7.

Reading and discussion Rachels. “The Morality of Euthanasia” (Course website).

Homework 1 Due at start of class on 10/30.

Quiz 1 11/1.

Week 8: Natural Deduction in Propositional Logic Cont. & Euthanasia Cont. (Essay 1 due)

Reading and discussion Hurley. Ch 7 cont.

Reading and discussion Rachels. “The Morality of Euthanasia” cont. (Course Website)

Essay 1 Due at start of class on 11/6

Week 9: Categorical Propositions & Euthansia Cont.

Reading and discussion Hurley. Ch 4.

Reading and discussion Gay-Williams. “The Wrongfulness of Euthanasia”. (Course Website)

Week 10: Categorical Syllogisms & Poverty and Hunger

Reading and discussion Hurley. Ch 5.

Reading and discussion Singer. “The Solution to World Poverty” (Course Website)

Week 11: Hunger and Poverty Cont. (Quiz 2 and HW 2 due)

Reading and discussion Narveson. “Feeding the Hungry” (Course Website)

Homework 2 due on 11/27 at start of class.

Quiz 2 on 11/29.

Week 12: (Essay 2 due)

Some Reasoning Traps and a Paradox:

- The Wason Selection Task
- The Conjunctive and Disjunctive Fallacies
- Newcomb’s Paradox

Essay 2 due on 12/6 at start of class.

How to do Well in this Course

This course is designed with the expectation that students will complete the required readings before we discuss them in class. To do well in this course, I believe most students will need to stay caught up on the reading and work through *many* exercises outside of class. For my own part, when I am learning something to do with logic for the first time, I find it helpful to work through at least a few exercises every day. As a rough rule of thumb, I suggest devoting the amount of time and effort to your logic studies that you would devote to a mathematics course you want to do well in.

Extra Help

Please don't hesitate to email me or come to my office hours to ask questions or discuss any aspect of the course. I will look over drafts of assignments if they are showed to me at least one week in advance of their due dates. (I may ask that we meet in person to discuss them.)

Participate

You are encouraged to ask questions during class about the ideas laid out in our textbook, and you are encouraged to challenge these ideas. Regarding deductive reasoning, exploring challenges to and questions about modern classical logic often helps us better understand it. Regarding non-deductive reasoning, the study and systematization of such reasoning is notoriously difficult and poorly understood. There is much to question here. I hope you will enjoy critically evaluating our tools of critical evaluation!

Some Important Dates

Homework 1 due	10/30.
Quiz 1	11/1 (tentative date).
Essay 1 due	11/6
Homework 2 due	11/27.
Quiz 2 due	11/29.
Essay 2 due	12/6.

PHI 12, Introduction to Symbolic Logic

MTWR, 12:10–1:50 pm in Wellman Rm 1

Instructor: Tyrus Fisher, tkfisher@ucdavis.edu

Office Hours: Mon 11:00–12:00 pm. Wed 2:00–3:00 pm. Office: Social Sciences and Humanities, Room 237.

Textbook: Teller, Paul. (1989) *A Modern Formal Logic Primer Vols. I and II*. (Available for free at: <http://tellerprimer.ucdavis.edu/pdf/>)

Course Description

Syntax and semantics for a symbolic language of sentence logic. Transcription/Translation between a language of sentence logic and English. Sentence logic natural deduction and truth trees. And (time permitting) introduction to a language of predicate logic and natural deduction in this language.

Grading

Course Requirements

Midterm and final exams	80% (2 × 40%)
Homework	15% (3 × 5%)
<i>Short</i> in-class exercises	5% (graded for completion; 2 scores dropped)

Late Work No late or make-up exams are permitted unless a medical note is provided or permission is granted by the instructor *before* the scheduled exam date.

Class Materials Please bring your textbook, paper, pencils, and eraser to class with you.

Academic Honesty Work suspected to have been plagiarized will be turned over to the Office of Student Judicial Affairs. If it is determined that such work is not entirely the author's own, the author will receive a letter grade of F in addition to any further action taken by the Office of Student Judicial Affairs.

Tentative Reading List and Tentative Topical Course Outline

Week 1: Transcriptions/Translations and Semantics for SL

Reading 1: Teller. Vol I, Ch 1. Basic Ideas and Tools, pp. 1–18.

Reading 2: Teller. Vol I, Ch 2. Transcription Between English and Sentence Logic, pp. 21–26.

Week 2: Semantics of SL and HW 1

Reading 3: Teller. Vol I, Ch 3. Logical Equivalence, Logical Truths, and Contradictions, pp. 29–43.

Reading 4: Teller. Vol I, Ch 4. Validity and Conditionals, pp. 46–55.

Homework 1: Due Thurs, Aug 11, at start of class.

Week 3: Truth Trees, HW 2, and Midterm

Reading 5: Teller. Vol I, Ch8. Truth Trees for Sentence Logic: Fundamentals, pp 113–130.

Reading 6: Teller. Vol I, Ch9 Truth Trees for Sentence Logic: Applications, 134–143.

Homework 2: Due Thurs Aug 18, at start of class.

Midterm: In class exam, Thurs Aug 18.

Week 4: Natural Deduction

Reading 7: Teller. Vol I, Ch5. Natural Deduction for Sentence Logic: Fundamentals, pp. 59–72.

Reading 8: Teller. Vol I, Ch 6. Natural Deduction for Sentence Logic: Strategies, pp. 75–92.

Week 5: Natural Deduction Cont, Intro to Predicate Logic, and Homework 3

Reading 9: Teller. Vol I Ch 7 Natural Deduction for Sentence Logic: Derived Rules and Derivations w/out Premises, pp. 94–110.

Reading 10. Teller Vol II, Ch 1. Predicate Logic: Syntax, pp. 1–10.

Homework 3: Due Thurs, Sep 1, at start of class.

Week 6: Predicate Logic Cont and Final Exam

Reading 11. Teller Vol II Ch 5. Natural Deduction for Predicate Logic: Fundamentals, pp 62–88.

Final Exam. In-class exam, Thurs Sep 8.

How to do Well in this Course

This course is designed with the expectation that students will complete the required readings and try their hand at some exercises at roughly the same time we are working through the corresponding material in class. To do well in this course, I believe most students will need to stay caught up on the reading and work through *lots* of exercises outside of class. For my own part, when I am learning something to do with logic for the first time, I find it helpful to work through at least a few exercises every day. As a *rough* rule of thumb, I suggest devoting the amount of time and effort to your logic studies that you would devote to a mathematics course you want to do well in. Note also that summer courses are compressed into a very short period of time. This means you may need to spend more time reading and working through exercises each day than you otherwise would in order to do well.

Extra Help

Please don't hesitate to email me or come to my office hours to ask questions or discuss any aspect of the course. I will look over drafts of homework assignments if they are showed to me at least one week in advance of their due dates. (I may ask that we meet in person to discuss them.)

Participate

You are encouraged during class to ask questions about the ideas laid out in our textbook and to challenge them. Though I will typically treat the material in our textbook as delivered truth—as, indeed, much of it is—it can be helpful to challenge or question the assumptions behind classical logic as well as its proofs and theorems. Such challenges and questions can often help us better understand contemporary classical logic.

Some Important Dates

Last day to add without a PTA number	8/5.	
Last day to drop a class without a PTD number	8/9.	
Homework 1 due	8/11.	
Homework 2 due	8/18.// Midterm exam	(tentative date) 8/18
Last day to opt for Pass/Not Passed grading	8/22	
Homework 3 due	9/1	
Final exam	9/8	

*Note: For the Chapter Summary Exercises when asked to give a brief explanation, feel free to write out the definition or explanation of the target notion *verbatim* as it appears in the text. I do not recommend trying to paraphrase Teller's characterizations in your own words as such paraphrases may come out non-equivalent to their paraphrased counterparts.

Homework 1

Due 8/11 at the start of class.

Vol I, Ch. 1 Exercises

1-2 (p. 7) a), c), e), g).

1-4 (pp. 15-16) b), d).

1-5 (p. 18) a), c), e).

1-6 (pp. 18-19) a), c), e), g).

Ch Summary Exercises (pp. 19-20) a), b), d), u), x), y), z).

Vol I, Ch. 2 Exercises

2-1 (p. 26)

2-2 pp. (26-27) a), b), c), e), f), m), q).

2-3 (p. 27) a), c), e).

Vol I, Ch. 3 Exercises

3-2 (p. 37) a), c), e).

3-4 (p. 39)

3-7 (pp. 39-40) a), d), f).

3-8 (pp. 43-44) a), b).

Chapter Summary Exercises (pp. 44-45) a), c), d), e), f), k), l).

Homework 2

Due 8/18 (same as tentative midterm date)

Vol I, Ch. 4 Exercises

4-1 (p. 50) a), b), c), d).

4-2 (p. 50) a), b), e).

4-5 (p. 56) a), b), f).

4-8 (p. 57) a), c), d), e), j).

Chapter Summary Exercises (p. 58) a), c), d), e), f), g), h).

Vol I, Ch. 8 Exercises

8-4 (p. 130–131) a), b), c), d), k), p).

Chapter Summary Exercises (pp. 132–133) a), b) c), d), j), m).

Vol I, Ch 9 Exercises

9-1 a), b), d).

9-2 a), e), h).

9-3 a), d), g).

9-4 a), g).

9-6 a), c), d).

Chaper Summary Exercises a), b), h), i).

Homework 3

Vol I, Ch. 5 Exercises

5-1 (p. 63) a), c), i).

5-2 (p. 68) a), c), k).

5-3 (pp. 72-73) a), c), e), g).

5-6 (pp. 74)

Vol I, Ch 6 Exercises

6-3 (pp. 92) a), c), e), g).

Chapter Summary Exercises (p. 93) a), c).

Vol I, Ch. 7 Exercises

7-1 (p. 102) a), c), e)

7-4 (p 105) a), g), j), l).

7-6 (pp. 110-111) a), c), d).

7-7 (p.111)] a.), c), e).

Chapter Summary Exercises a), b), c) , h), i)

Vol II, Ch. 1 Exercises

1-1 (p. 5) a), b), c), d).

1-2 (p. 5) a), b), c), d) e).

1-3 (p. 10) a), b), c), e).

Vol II, Ch. 5 Exercises

5-1 (p. 65) a), e).

5-2 (69) a), c).

5-4 (p. 81-82)

5-5 (p. 82) a), b).

5-6 (p. 88)

5-7 (p. 88) g), h).

PHI 30 – Introduction to the Philosophy of Science

MTW, 2:10-4:25pm in Wellman Rm 233

Instructor: Tyrus Fisher, tkfisher@ucdavis.edu

Office Hours: 12:00-2:00pm Mon and by appointment. Office: Social Sciences and Humanities, Room 237.

Textbook: Klemke *et al.* (Eds). (1998) *Introductory Readings in the Philosophy of Science* 3rd edition. Amherst: Prometheus Books.

Course Description

This course surveys some of the main issues in the philosophy of science through analyses of primary-source readings. We will focus on some influential philosophical views and arguments aimed at answering the following questions:

1. Is there a difference between science and non-science?
2. How does science explain; what makes an explanation scientific?.
3. What is a scientific theory?
4. What is an observation and what distinguishes an observation term from a theoretical term? Are there such things as unobservable theoretical entities?
5. How are scientific theories confirmed, and why do some theories come to be accepted?

We will regularly discuss influential philosophical articles aimed at answering these questions. We will regularly work in small groups to answer questions about these articles and the arguments they contain. The take-home exams will be comprised of short-essay prompts asking you to answer some of the questions you have previously considered in your in-class groups.

Grading

Course Requirements

Participation	10%
Take-Home Midterm Exam (tentative date: 7/09).....	40%
Take-Home Final Exam (due in class 7/31)	50%

Late Work No late or make-up exams are permitted unless a medical note is provided or permission is granted by the instructor *before* the scheduled exam date.

Academic Honesty Work suspected to have been plagiarized will be turned over to the Office of Student Judicial Affairs. If it is determined that such work is not entirely the author's own, the author will receive a letter grade of F in addition to any further action taken by the Office of Student Judicial Affairs.

Reading List and Topical Course Outline

Week 1: The Problem of Demarcation

Reading 1: Popper. "Conjectures and Refutations". Textbook, pp. 38-47.

Reading 2: Kitcher. "Believing Where We Cannot Prove". Textbook (excerpt), pp. 76-93.

Week 2: Scientific Explanation and Law-like Statements

Reading 3: Hempel. "Studies in the Logic of Explanation". Textbook, pp. 206-221.

Reading 4: Lambert & Britten. "Laws and Conditional Statements". Textbook, pp. 225-231.

Reading 5: Salmon. "Scientific Explanation: How We Got from There to Here". Textbook, pp. 241-261.

Week 3: Theory and Observation

Reading 6: Carnap. "The Nature of Theories". Textbook, pp. 316-331.

Recommended Reading: Carnap. "The Methodological Character of Theoretical Concepts". Excerpt at Smartsite Resources page.

Monty Python and the History of Analytic Philosophy. In-class reading and video clips.

Midterm. Take-home exam. Tentative due date: 7/09.

Week 4: Theory and Observation Cont.

Reading 7: Putnam. "What Theories Are Not". Textbook, pp. 333-337.

Reading 8: Hanson. "Observation". Textbook, pp. 339-348.

Week 5: Confirmation and Induction

Hume's Problem of Induction. Lecture and discussion.

Reading 9: Goodman. "The New Riddle of Induction", from *Fact, Fiction, and Forecast*. On Smartsite Resources page.

Recommended Reading: Hempel. "Studies in the Logic of Confirmation". Selection on Smartsite Resources page.

Week 6: Kuhn and the Challenge of History

Reading 10: Kuhn. *The Structure of Scientific Revolutions*. Selection on Smartsite Resources page.

Recommended Reading: Hempel. "Scientific Rationality: Analytic vs. Pragmatic Perspectives". Textbook, pp. 461-463.

Final Exam. Take-home exam; due on 7/30 (the last day of class) at 3:10pm. The final exam will be posted to Smartsite (under Resources) by the instructor no later than 7/27.

How to do Well in this Course

Read the Articles

This course is designed with the expectation that students will complete the required readings *before* the readings are discussed in class. It is also recommended that you read the section introductions in the textbook that correspond to the required readings.

Participate

You are encouraged during class to ask questions about and to challenge the ideas and arguments found in the readings as well as those presented by the instructor. Moreover, during class time you will often work in groups to answer questions that will later appear on the exams. If you are to do these things well, it is crucial that you have done the reading.

What is a Philosophical Article?

From our textbook: “For the purpose of our course, philosophical articles are academic articles written by professionals formally addressing a philosophical topic, such as the morality of euthanasia. Many works in literature address philosophical topics as well. What makes an article distinctively philosophical, however, is the presence of a sustained argument in favor of a particular position (the author’s thesis or main conclusion)” (Klemke *et al.*, 572).

Some Suggestions about Reading Philosophical Articles

From our textbook: “The first goal of reading any philosophical article is to identify what the author’s main conclusion is and what argument(s) he/she uses in favor of that conclusion. It’s only when you understand the author’s views that you are in a position to evaluate the argument assess whether you agree or disagree with the author and determine which parts of the article are persuasive and which are not.

Surprisingly, the best way to approach an academic article for the first time is to skim the whole before actually reading it. Quickly reviewing the text will give you an idea of the overall structure of the paper, the author’s writing style, and often some idea of how the author argues for a particular point of view. The most important thing to do is to locate the author’s main conclusion” (Ibid).

Extra Help

Please don’t hesitate to email me or come to my office hours to ask questions or discuss any aspect of the course.

Some Important Dates

Last day to add without a PTA number	6/27.
Last day to drop a class without a PTD number.....	6/30.
Midterm exam	(tentative date) 7/09.
Last day to opt for P/NP or S/U grading.....	7/14.
Final exam.....	7/30.