

**PHIL 6: Symbolic Logic**

COURSE SYLLABUS

### **Dr. Vadim Keyser**

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(Please use Canvas messaging center through our course shell)

### **Spring 2024**

**Online Meeting Time and Place**:

Recorded online videos and recorded, optional lectures (see details below)

**Office Hrs**:

Tues 5pm; Optional Recorded Extra Zoom Session Tues 5 pm (details in weekly announcements)

## 1. Course Description

3 units. This is a course designed to develop skills in logical reasoning. Topics include: logical translation, logic proofs, and differences between deductive and inductive reasoning. PREREQUISITES: English 1A or 1AH. (A, CSU-GE, UC, I) **Prerequisite:** English 1A

## 2. What to expect each week

* All learning materials are accessible via Canvas.
* **Posted each week (Monday)** you will have a list of things to do for that week, and where to go to do them. As soon as you log into Canvas you will see the **a weekly content folder that is titled ‘Modules’**, which provides all directions, readings, and any additional video module content for the week. Keep track of this folder very closely.
* Lectures are **recorded videos** that you can watch, rewind, and have plenty of time with. A lot of my work is in animation and video-editing, so this should make things simple for everyone. I will **also** have **live sessions that will be optional and recorded**. That way, you can come interact; but you are not required to in order to get the full content. This way, you have full material and you aren’t stressed by time conflicts. We will coordinate these live sessions, so stay tuned.

**This course has strict participation and activity requirements**, including engagement with the course material on a weekly basis. Students who do NOT:

1. Log in to the course at least once each week during the first week

2. Engage actively in coursework for at least one hour each week for the first week

3. Submit discussions during the first week

Failing to perform 1-3 will be considered to have abandoned the course and *may be administratively dropped by the instructor*. *Re-enrolment will not be permitted.*

## 3. Learning Outcomes and Objectives:

## Course Objectives:

## Lay out arguments, including arguments of historically recognized importance, in numbered premises and conclusions.

## Confront the responsibility of accurately representing opposing views on a philosophical problem, especially views opposed to their own.

## CSLOs:

Construct arguments using basic valid forms.

Construct valid deductive arguments.

Recognize basic valid and invalid argument forms.

 Recognize common formal fallacies.

## 4. Assignments

**Your grade in this course will be based on:**

**A. Test:** there are 2 tests (**30% each for a total of 60%**):

* **See date on the final page of the calendar**.
* You can start these tests whenever you would like starting *when the week begins*.
* For the test, you are **allowed to use your notes as well as the readings and any additional modules**.
* The test will be any combination of *multiple choice, short, and long response*. You will have a *2-hour time limit for the test*. The questions are directed toward conceptual application. This means that most of the questions will require you to synthesize, extrapolate, and apply information.
* You will have **from the start of each Week (Monday 6am) to Sunday 11:59pm** to find the right window for you to take the tests, but once you open, 2 hrs starts and **cannot be paused**. After 2 hrs, the test closes, and you cannot edit any of it. ***For any given test trial, you cannot re-take the test, even if you open it and then close it or if you experience a computer error.*** *That means, once it is submitted, it is submitted. That sounds really scary, but see the \*\*****VERY IMPORTANT****\*\* comment below. If you are worried about your Internet connection, please use the computers on campus (If you cannot, and are worried about the internet connection, please email me and I will make alternative plans).*
* ***VERY IMPORTANT: For the first test, you will have 2 trials (i.e. 2 opportunities to take it).***
* The test content will be everything up to the test, including the previous units.
* **Do not work in groups**. You will see why when we talk about methods: **sometimes two heads are actually less reliable than 1 and I will show you why.**

**B. Weekly Reflective Discussion posts/Class Participation**: **40% total.** There will be weekly discussions. This is really easy but important work because it is your primary engagement with the material for that week, and it requires collaboration with classmates. This serves as practice in **analysis** and **application** of concepts in critical reasoning.

* I will be posting application-based discussion questions when the week opens.
* \*\***You will have to (A) post a discussion post as well as (B) respond to 2 other people to get the *full credit* each week**. \*\*
	+ Each discussion is worth 5 points. You will receive a **2/5** if you just post a perfect discussion and no responses. You will receive a **3.5/5** if you respond to only one classmate. You will be rated on completeness, accuracy, and content in the initial post as well as your responses two classmates.
	+ See specific directions below.
* **Things to keep in mind for discussions:**
	+ The *necessary condition* with any post is that you are respectful to your classmates.
	+ These responses should *not* be trite, generic, and half-baked. Rather, they will be an attempt to think about these things for real and to begin forming a representation of the concepts, theories, and examples used. The purpose of these discussions is to generate an initial representation and engagement with the material.

**(A) Discussions Details About YOUR initial post:** (Remember,You will receive a **2/5** if you just post a perfect discussion and no responses)

You will submit a **recorded video presentation**, type up **at least a 300 word original reflective post, or create a visual representation** corresponding to the discussion question for the week. You will copy and paste this into the discussion or upload this as a PDF document within the discussion forum post. Your answer will contain the following:

* 1. *Ordered and complete content*: Your answer must be in your own words and should be structured. The structure is up to you. You do not have to number your response. But you can.
	2. *Understandable and clear content*: All sentences should be understandable to other classmates.
	3. *Precision/Accuracy*: Be as detailed and correct as possible about the concepts. Do not step far into creative boundaries. This exercise is about getting the details right.
		1. Think about the text perspective our classmates will be using to analyze your content. Make it as accessible as possible using clear sentences and word choice.
		2. Proofread your posts before you post them to make sure that the structure and content are presentable.

**(B) How to respond to two classmates once you’ve posted:**

Remember, each week you will be expected to **respond to 2 other classmates in 100 words**. You must try to respond to classmates that are lacking in responses. So, if you see someone with 2 responses already, respond to another person. We want these to be distributed.

Your response should not be a criticism, but rather an exploration of ideas or a constructive suggestion on formatting, theme, concept, examples, etc. You can point out something interesting about the classmate’s response, suggest an example, take the discussion a bit further, suggest an alternative view, introduce a different way of organizing that would also be effective, etc. The response is collaborative rather than competitive. The goal is to use these discussion responses as brainstorming ideas for projects as well as review for each week.

**Structured suggestions for all discussion responses:**

1. You must try to respond to classmates that are lacking in responses. So, if you see someone with 2 responses already, respond to another person. We want these to be distributed.
2. Your response should not be a criticism, but rather an exploration of ideas. You can point out something interesting about the classmate’s response, suggest an example, take the discussion a bit further, or suggest an alternative view, introduce new organization/structure, etc. The response is collaborative rather than competitive. The goal is to use these discussion responses as brainstorming ideas for projects as well as review for each week.
3. Responses must be **100 words**. Responses under that will receive half points for each response automatically (3/5 total).
4. The main element that a response should have is engagement with the research. I am looking to see if you are processing the information rather than just putting in a couple of key words.

\*\*All assignments will have to be turned in via Canvas only.

## Extra Credit

If there is a need for extra credit, I will make it available. If you’re really worried about your grade, please check in with me via email way ahead of the end of the class.

# 5. Grading Scale

A = 90-100%

B = 80-89 %

C = 70-79%

D = 60-69%

F = < 60%

*There will be no rounding of fractional points*. You and only you are responsible for monitoring your performance in this course. Be sure to pay close attention to the drop deadline.

**6. Late Work**

*No late work will be accepted* without documented emergency proof, which will be reviewed by the instructor and discussed with the student. Once proof is accepted the student will have a one-week un-penalized extension. **Work that is submitted past the assigned deadline will receive a 0. This means that you have to make sure you leave room for error when submitting an assignment (e.g., loading error, internet connection error, extended rendering time, etc.). If an assignment is due at/by 11:59pm, a submission of 12:00am means that it is late. Deadlines will be strictly enforced.**

**This is very important: If you are having a hard time keeping up with deadlines and/or you predict that you will have a hard time given the difficulty of your schedule, please email me ahead of time (at least 5 days before the assignment is due) and I will work with you to make sure that you turn it in in a timely fashion.**

# 7. Writing Guidelines:

Please make sure to read the first week’s document on HOW to take notes.

## 8. Preparation

Make sure you take responsibility for every aspect of this course. If you work steadily through the material, you will feel confident about the progression. If not, it’ll be very difficult to catch up again. Keep up with the reading and give yourself lots of time to do it. Philosophy is very demanding of your time and attention. Most students find they need to read philosophical writing several times before they have understood it.

## 9. Academic Honesty

You are free to study together. \*\* **It is imperative that you do not complete the essay and tests together. If the tests or presentations look relevantly similar, you will receive a 0 and you will be reported for plagiarism.**

“Academic Dishonesty is unacceptable and will not be tolerated by Fresno City College. Cheating, plagiarism and collusion in dishonest activities erode the college’s educational and social role in the community.

“Cheating is the act of deception by which a student misleadingly demonstrates that she/he has mastered information on an academic exercise. Examples include but are not limited to:

* Copying from another’s work, supplying one’s work to another or giving or receiving copies of examinations without an instructor’s permission.
* Using or displaying notes or devices inappropriate to the conditions of the examination
* Taking a test for someone else or permitting someone to take a test for you.

“Plagiarism is a specific form of cheating and is the use of another’s words or ideas without identifying them as such or giving credit to the source. Plagiarism may include but is not limited to:

* Failing to provide complete citations and references for all work that draws on the ideas, words, or work of others.
* Failing to identify the contributors to work done in collaboration, submitting duplicate work to be evaluated in different courses without the knowledge or consent of the instructors involved, or encouraging, permitting, or assisting another to do any act that could subject him or her to discipline.

“Disciplinary Procedures When a faculty member discovers a violation of the cheating or plagiarism policy, the faculty member:

* Will arrange a conference with the student and at that time advise the student of the allegations.
* Will notify the dean of the division in writing that an act of dishonesty has occurred. This report will become a part of the student’s permanent record. A copy will be mailed or given to the student.
* May give the student an ‘F’ for the assignment and/or for the course, depending upon the seriousness of the infraction. If the student’s permanent record indicates more than one occurrence of cheating or plagiarism, the student may be placed on probation, suspended or expelled by the Dean of Students.

“A student may appeal to the Academic Standards Committee any sanctions employed based on an allegation of dishonesty. Such an appeal must be made within fifteen (15) days after notification is mailed or given to the student.”

## 10. Course Materials

## All readings will be posted in pdf on Canvas in order to be of a little bit of ease.

Mainly, we will be using: *An Introduction to Formal Logic* by Peter Smith, which is *open access* [here](https://www.logicmatters.net/resources/pdfs/IFL2_LM.pdf).

**11. Instructor Availability**

The instructor will be available by email and will normally respond to all questions within 24 hours. Students who do not receive timely responses should resend their email in case I overlooked it. **The instructor will be available on email during weekends but may take 48 hrs to respond.**

## 12. Universal Accessibility/Accommodations

“If you have a verified need for an academic accommodation or materials in alternate media ([e.g.] Braille, large print, electronic text, etc.) per the Americans with Disabilities Act or Section 504 of the Rehabilitation Act, please contact your instructor as soon as possible.”

**[Reading Schedule on Next Page]**

## Reading Schedule:

* All readings to-do will be summarized on Canvas every Monday.
* All readings will be in pdf or word doc format.
* Each week covers all Learning Specific Outcomes

**PHIL 6- Reading/Assignment Schedule**

All readings will be made available on Canvas. Please do not exchange any readings outside of the class. As an additional resource there is the *Stanford Encyclopedia of Philosophy*, available at <http://plato.stanford.edu>.

**PHIL 6 Reading/Assignment Schedule:**

**Readings may change at the discretion of the professor. All readings listed for the week are to be completed *before* the start of class on Wednesday (with the exception of week 1).**

**1/8 Welcome to Week 1, everyone**.

The textbook is free and provided in pdfs, all lectures are done in compact videos with me talking through the content, and assignments are straightforward. But, since it's intro week there is very limited work.

This week there are 4 simple things to do. Click on 'Week 1' to access the folder contents.

These are the directions:

1) **Watch the video about me**. As an introduction to myself, I've animated a video about my *research interests*. We won't be going into major detail about this stuff, but it's what I do, so I'd like to share it. If you'd like to explore some of the stuff that I've been doing, here's some more content: drvkeyser.com

2) **Take a look at the syllabus**. It has a lot of details, most of which you don't need. Don't get overwhelmed with the details. Ask some questions, and fall into the rhythm.

3) **You have one reading about a) how to take notes, but also b) about the concept of BS.**The link to the article on BS is within the summary that I'm posting. Make sure to click on the link. The article is 20 pages but it's an easy read. Please take a look at the document thoroughly.

4) You have one video about **Frankfurt discussing BS**.

4) Answer the**discussion on BS, which can be found in the 'discussions' tab on the left.**

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| **1/15 Week 2: We Begin Part I: Methods: Basic Deductive and Inductive Methods** |
|  | We explore basics in **representing sentential information; and arguments**. This will set students up for how to organize logical information.·       Make sure that you have downloaded *Elements of Logic* (see Week 1 module) | •  **Monday Holiday: Martin Luther Kong Jr., Day**  |

Things to do:

* Discussion
* There are **two video modules this week**. Do not worry, these will just stay up and you can access them as we progress. Pay particular attention to the sentence translation module because we will come back to this. I've also posted a previous optional recorded session. This may help as an intro to how I do things.
* I wrote up a detailed **feedback doc**about last week's discussion. Take a look.

**1/22 Week 3: Propositional Logic Cont'd**

This week I'd like to slow things down a bit and make sure that you all have a solid grasp on propositional logic translations. So, if you haven't, review the videos from last week (especially the Zoom session). Then, do the discussion.

Things to do:

* Review Argument Form, Syntax, Semantics
* Discussion

**1/29 Week 4: Truth Tables/Test week**

This week is about truth tables, application, and testing our knowledge. Our purpose is to always apply concepts to the complexity of the world.

Your task:

1) Review materials on **truth tables**. This will NOT be on your test.

2) I have completed a **review document** for you, which will help a ton with representing sentences, symbolically. For anyone who added late, this will help a lot. Read the document. In case you are interested in going further in logic, there is a section on scope and one on truth tables. You will NOT be tested on these. You will only be tested on sentence translation and basic arguments.

3) My recommendation is always to re-watch modules before a test.)

4) Your **Test/Quest is available as of Monday**. You will have until **Sunday at midnight** to complete it. You will have a 2 hour time limit. You may have your notes open. This test is application-based so the notes will only help if you understand the concepts. It will be multiple choice and short essay questions. For this one, I will give you 2 attempts. The reason for the 2 attempts is I want you to use this as a measurement of your test environment. Usually these are the things that are uncontrolled variables within our measurement setups for tests: 1) Internet connection that glitches out; 2) Having too many open browsers or browsers that time out (I recommend Chrome); 3) accidental errors when clicking on choices; 4) Distractions. Take the three attempts to sort out these variables.

Again, I will use the highest of your scores. This is important: **Do not work with other classmates. Here's the reasoning: Groupthink is very dangerous unless it is done independently.** You'll have to wait until a later week to find out why. But for now, if error is generated within the group, it won't seem like error, and both people will feel confident that they have arrived at the truth. Oftentimes this is an illusion and the disappointment stings more. Trust your own research efforts.

\*Note, if you are worried about your Internet connection, try an on-campus computer lab. Even though you have 3 chances to do this Quest, I suggest that you try to polish all of the error variables very carefully.

Summary:

1) Have good internet connection.

2) Do not open up a lot of new browsers, and do not exit a browser. (I suggest having your notes as separate documents that are saved and the modules already open in a different browser.)

3) Avoid distractions.

2/5 Week 5: Forms of Inference

We have mastered sentence translation and basic logic functions. It is time to finish up with some basic methods and transition into our second part of the course (see syllabus), which is argumentation and deductive method. But first,...

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| Forms of Inference | We begin a deeper dive into **deductive validity and inductive strength**. Our focus is to make what we have been doing for the past 3 weeks intuitive before we approach proofs.·       Chapter 3:*An Introduction to Formal Logic* by Peter Smith |

Our tasks:

1) We are now turning full force to the **free open access book** for our readings. Don’t forget, it is in the Week 1 module.

2) **No discussion** because I want you to do the extra credit. See #4 below.

3) Take a look at **chapter 3 Mon and Tues**, see how far you get and if you understand it. **Wed, check out my video module.**

4) Your tests will be graded by mid week-very fast. **You have an opportunity to boost your quest grade only if you choose.** (\*\*NOTE: if you did not take it, contact me ASAP.) The due date is listed within the assignment.

The way that this works is very simple. My focus is always on **self-responsibility and autonomy**. If you work hard (and I mean hard) and understand the material, then your grade will reflect your effort. See the directions in the assignment.

**We begin Part II: Intermediate Methods in Deductive Reasoning**

**2/12 Week 6: Proofs**

Building on patterns of inference from last week, we add some additional content on proofs. The boiled down version is that I want you all to see how validity is evaluated in patterns of inference and arguments.

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|  | Proofs | We explore proofs in order to see the structures and methods of propositional logic.·      Chapter 4:*An Introduction to Formal Logic* by Peter Smith |

Things to do:

1. In the initial part of the week, Read Chapter 4 from your free textbook.

2. Mon- Wed, Watch the video module where I synthesize patterns of inference and proofs.

3. Do the discussion on circular arguments or *reductio ad absurdum*

4. Don't forget about the extra credit.

**2/19 Week 7: Counter Example Method**

Building on patterns of inference and proofs from last week, we add some additional methods.

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|  | Counter Example Method |  | We explore the counter example method. ·       Chapter 5:*An Introduction to Formal Logic* by Peter Smith | **Monday Holiday: Presidents’ Day** |

Things to do:

1. Because this is a shortened week, I'm giving everyone a bit of a break. In the initial part of the week, Read Chapter 5 from your free textbook. If you do not know where it is, go into the previous weeks and download it (see syllabus schedule for all of the chapters if you'd like to read ahead)

2. Wed, Watch the video module where I counterexample.

3. Take a break from discussion this week.

**2/26 Week 8: Regroup and Apply**

I would like to pause us a little in order to make sure that we understand the previous method (counterexample). This will also give us an opportunity to get on an extra application. It's deceptively difficult. So:

1) **No new reading** or content (if you'd like to read ahead, you can go right into our assigned reading listed in the syllabus this week)

2) Do the applied **discussion on counterexample method.**

**3/4 Week 9: Logical Validity**

We explore logical validity and compare it to logical necessity.

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|  | Logical Validity |  | We explore logical validity and compare it to logical necessity. ·       Chapter 6:*An Introduction to Formal Logic* by Peter Smith |  |

1. Read Chapter 6:*An Introduction to Formal Logic* by Peter Smith. Take a bit of time with this, try to represent and visualize it for yourself.

2. Watch the video about validity.

3. Discussion.

**3/11 Week 10: Logical Connectives**

We review proposition logic connectives. This week should be very lowkey.

Part III: Formal Deductive Methods

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|  | Review |  | We review proposition logic connectives. ·       Chapter 8:*An Introduction to Formal Logic* by Peter Smith |   |

1. Chapter 8:*An Introduction to Formal Logic* by Peter Smith. Take a bit of time with this, try to represent and visualize it for yourself.

2. Watch the video about validity.

3. Discussion topic about logical validity.

**3/18 Week 11: Syntax**

This week we review syntax

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|  | Syntax | We review syntax and explore deeper dimensions. ·       Chapter 9:*An Introduction to Formal Logic* by Peter Smith |  |

1. Read Chapter 9 on syntax.

2. Watch the module on syntax.

3. Discussion.

**3/25 Week 12: Semantics**

We add on to syntax by looking at the details of semantics. Modified from our syllabus:

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|  | Semantics |   | We review semantics and re-structure our toolkit. ·       Chapter 10:*An Introduction to Formal Logic* by Peter Smith |

Tasks:

1) Read Chapter 10 in your textbook

2) Watch the Module on Wednesday

3) Complete the Discussion on last week's topic of *wff*'s.

**4/1 Week 13: Logical Conventions**

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|    |  Logical Conventions |   | What are key logical conventions? ·       Chapter 11:*An Introduction to Formal Logic* by Peter Smith |  |

1) Read Chapter 11

2) Video module on Logical Conventions

3) Slightly more creative discussion involving memes.

**\*4/8 Week null: Spring Break**

**4/15 Week 14 Proofs: Conjunction and Negation**

Welcome back, everyone. Let's keep the week relatively chill, even though we are ramping up.

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|  | Proofs: Conjunction and Negation |   | We explore conjunction and negation. ·       Chapter 20:*An Introduction to Formal Logic* by Peter Smith |

1) Read Chapter 20.

2) Video Module.

3) Discussion.

**4/24 Week 15: Proof: Disjunction**

This week we are continuing our exploration of rules and proofs.

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|  |  Proofs: Disjunction |   | We build by exploring disjunction ·       Chapter 21:*An Introduction to Formal Logic* by Peter Smith |   |

1) Read Chapter 21 in the text.

2) Discussion about the previous week's methods.

3) Video Module on Disjunction.

**4/29 Week 16: Peer-Review Activity**

This week is application-based:

1) Read 'How to Argue Against Common Fallacies'.

2) Watch the video module on 'rhetoric', which serves as the foundation for analyzing fallacious reasoning vs. argument.

3) Do the Discussion.

**5/6 Week 17: Proofs: Conditional**

This week we explore conditionals and ‘conditional introduction’ in more detail.

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|  Proofs:Conditionals  |      | This week we explore conditionals and ‘conditional introduction’ in more detail. ·       Chapter 22:*An Introduction to Formal Logic* by Peter Smith |

1) Read Chapter 22 from the text.

2) No discussion this week.

3) Video Module on Conditionals.

4) I will release your exam during this week, which will be more of an activity than a standard exam. Logic is tricky and our purpose is to see the POINT of why we are using logic. So, I will have you all do something for me that is both creative and technical. The final exam will be **due 5/12** **11:59pm.**