

# PHIL 110: Logic Through Puzzles and Games

## Section 1 (20705)

**Meeting Times and Location:** M/W 2:30-3:45 in Manzanita Hall 103

**Instructor:** Dr. Drew Stewart (they/them/theirs or he/him/his)

**Email:** [andrew.stewart@csun.edu](mailto:andrew.stewart@csun.edu) . I will aim to reply to emails with the **name of the course** and your section time or section number in the subject line within two business days.

**Drop-In (Office) Hours:** M/W 11-1:30 in Sierra Tower 533. During these times you may show up, without an appointment, to discuss anything related to the course. Please email me if you would like to meet outside this time or without others present. I'm also happy to meet on Zoom.



*Calvin and Hobbes* by Bill Watterson, September 12, 1995

Image source: <https://screenrant.com/calvin-and-hobbes-best-calvinball-comics/>

**Catalog Description:** Emphasizes the development and application of critical reasoning skills through logic puzzles and games. Students will use games to express logical relationships and properties; develop strategies to solve inductive and deductive logic puzzles; learn how to make 'good' guesses and reasonable inferences; and approach complex problems in fun and creative ways. (Available for General Education, Basic Skills A3 Critical Thinking.)

**Further Details:** Welcome to Logic Through Puzzles and Games! In this version of the course, each week we will play and/or discuss one or more games in conjunction with readings, film viewings, and discussion of principles of logic and critical thinking. By the end of the course, you will have learned new strategies for organizing your thoughts and presenting good arguments (and you will be better at playing various kinds of games)!

**Learning Objectives:** This is a Basic Skills Critical Thinking GE course. For more about GE requirements, please see <https://catalog.csun.edu/general-education/> . The goal of Critical Thinking: “Students will analyze information and ideas carefully and logically from multiple perspectives and develop reasoned solutions to problems.”

*Critical Thinking Learning Objective 1:* Explain and apply the basic concepts essential to a critical examination and evaluation of argumentative discourse.

*Critical Thinking Learning Objective 2:* Use investigative and analytical thinking skills to examine alternatives, explore complex questions and solve challenging problems.

*Critical Thinking Learning Objective 3:* Synthesize information in order to arrive at reasoned conclusions.

*Critical Thinking Learning Objective 4:* Evaluate the logic and validity of arguments, as well as the relevance of data and information.

*Critical Thinking Learning Objective 5:* Recognize and avoid common logical and rhetorical fallacies.

**Technological Requirements:** Word processing, PDF viewing, email, Canvas, device for watching and recording video.

**Required Materials:** Please bring pen/pencil and paper to every class session. Zero textbook costs. All course readings will be available via Canvas. All of the required out-of-class film viewings are linked on Canvas to a resource called Swank Digital Campus.

**Attendance:** Attendance at each class session is required, with some exceptions.

If you are ill, please get some rest and do not come to class.

If you have any concerns about attendance, including for religious holidays, CSUN-sponsored activities, family obligations, etc., please let me know ASAP.

Excused absences will be considered on a case-by-case basis. They excuse you from that day's in-class activities and quiz if there is one.

**Important note about a possible work stoppage during the semester.** The California Faculty Association (the union that represents all CSU faculty, including lecturer faculty, tenure-line faculty, coaches, counselors, and librarians) is in the midst of a difficult contract dispute with the CSU system-wide administration. In response to the CSU management's stance, it is possible that the faculty union will call a strike or other work stoppage this term. I promise to inform the class as soon as possible of any disruption to our class meeting schedule. For further information about the issues involved in the strike, please see the resources at: [www.calfac.org](http://www.calfac.org) and [www.cfabargaining.org](http://www.cfabargaining.org) .

**Disability and Accessibility:** I am committed to providing students with equal access to this course. **If you are struggling because of a medical condition, a life circumstance, or reasons it is hard to put into words, I encourage you to reach out to me.**

At CSUN, Disability Resources and Educational Services (DRES) has an official accommodation process that is helpful for students with disabilities: <https://www.csun.edu/dres/student-disability-services/accommodation-procedures>.

For information and resources from Student Services and Support, please see <https://www.csun.edu/student-life/student-services-support>.

I will honor all official accommodations. I encourage you to contact me at any point through the process, and you are welcome to disclose whatever you are comfortable disclosing.

**Classroom Technology Policy.** The **use of laptops, cell phones, tablets, etc. is not permitted in this class** unless (1) it is a specific occasion that the instructor tells you about or (2) you have permission due to documented accommodations from Disability Resources and Educational Services (DRES). If you need to deal with an important call or text, please step out of the classroom. Using devices in any way that detracts from your and others' engagement in the course will result in lost points on in-class portions of your grade.

**Audio, image, and/or video recording of class sessions is not permitted** unless (1) it is a specific occasion that the instructor tells you about or (2) you have permission due to documented accommodations from Disability Resources and Educational Services (DRES).

**Grades:** Course grades will be determined using the following scale:

|    |          |    |                 |
|----|----------|----|-----------------|
| A  | 95-100   | C  | 73-76.99        |
| A- | 90-94.99 | C- | 70-72.99        |
| B+ | 87-89.99 | D+ | 67-69.99        |
| B  | 83-86.99 | D  | 63-66.99        |
| B- | 80-82.99 | D- | 60-62.99        |
| C+ | 77-79.99 | F  | 59.99 and below |

| Assignments                                     | % of Final Grade |
|-------------------------------------------------|------------------|
| Introductory Video                              | 5%               |
| Reading Annotation Assignments (5, 2% each)     | 10%              |
| Practice Assignments (7, $\approx$ 2% each)     | 15%              |
| In-Class Short Reflections (most class periods) | 5%               |
| In-Class Quizzes (14, 4 lowest dropped)         | 10%              |
| In-Class Activities and Discussion              | 15%              |

|                                         |     |
|-----------------------------------------|-----|
| Game Creation (2, 5% each)              | 10% |
| Gameplay and Game Revision (2, 5% each) | 10% |
| In-Person Final Exam                    | 20% |

**Introductory Video (5%):** This assignment is due on 9/3 at 5 PM. Like all of our out-of-class assignments, please submit your work on Canvas. Please make a 4-5 minute video. First, introduce yourself. Then, I would like you to pick one of your favorite puzzles or games. Describe in your own style—as if we are having a conversation—why you like it/them *and* your opinion about what it teaches about logical thinking. There is no need for anything fancy. If you have any topics that you are excited to talk about in class, I encourage you to mention them. \*If you have questions or concerns about the course, you may mention them in the video. However, you will need to email me in order to guarantee a direct response to your questions or concerns.\*

**Reading Annotation Assignments (10%):** Annotating—marking up a text with highlights, underlining, comments, etc.—helps you “talk” to the text. These regularly scheduled assignments are paired with required philosophy readings, but only on weeks when there is no movie to watch outside of class. You must submit these using Canvas’s annotation tool. You may *skip* one Reading Annotation Assignment. Anything you submit will be graded.

Each Reading Annotation Assignment is graded out of 10. If my answers to all of these questions are “yes,” you’re very likely to get 9/10 or 10/10.

1. Do the markings added to the text through Canvas **make sense**?
2. Do the markings realistically **follow your “journey”** through the text?
3. Would the annotations **help a stranger figure out what you were thinking and feeling** as you read?
4. Are “**easier**” methods such as **underlining, highlighting, stars, etc. used selectively** to identify important claims?
5. Is there **at least one “thoughtful comment” per full page** of the reading? A thoughtful comment could be, for example, an interesting open-ended question, example, comparison or contrast, critique, real-world connection, or relevant personal anecdote.
6. Could at least some of the thoughtful comments **get a good conversation going if you said them out loud**?

**Practice Assignments (15%):** These assignments are like open-ended versions of “problem sets.” I will post them on Canvas a few days before they are due. They are due on Thursdays. More information about these assignments will be provided later.

**In-Class Short Reflections (5%):** I will regularly ask you, often at the start of class, to write on a specific topic for a few minutes to prepare for discussion. You are required to bring pen/pencil and paper for this purpose. If you do this whenever you’re present, you’ll get full credit in this category. **Please write legibly, since I may collect and grade these reflections without notice.**

**In-Class Quizzes (10%):** There will be 14 very short quizzes about required out-of-class reading, viewing, and listening assignments. They will be unannounced, but there will be roughly one per week. The quizzes must be completed via pen/pencil and paper at the beginning

of class without the use of any notes or electronic devices. Each quiz will take 5-10 minutes. **There are no make-up quizzes for those who are late to class.**

You may use up to four skips on the quizzes, with no grade penalty, to account for absences. In addition, after doing a quiz you may decide not to turn it in, which will count towards your four passes. Turning a quiz in means it will be graded.

**In-Class Activities and Discussion (15%):** For actively contributing to in-class assignments and discussion, you will gain one check mark each week. Here are some ways to actively contribute:

- (1) asking or answering questions relevant to the material being discussed;
- (2) making comments relevant to the material being discussed;
- (3) collaborating on group activities in class;
- (4) coming to drop-in hours and speaking to me;
- (5) emailing me with questions or comments about the course material.

Grading aside, participation will help you, me, and everyone else learn and benefit from this experience. I hope to make class discussions interesting and fun, so that you *want* to participate. As a student I often struggled with speaking up in class. If speaking up in class is something that concerns you for any reason, I encourage you to contact me.

In this course we will investigate some of the most fundamental and difficult questions out there. All of us, myself included, will have moments of confusion and frustration. There is no shame in being wrong, or not knowing exactly what to say. It is important through everything that we all try our best, treat each other with respect and compassion, and pay attention to what others are saying. These are preconditions for In-Class Activities and Discussion credit.

**Game Creation (10%):** You will create two games of your own: one focused on inductive reasoning, the other on deductive reasoning. The games will then be played by one or more of your peers. More information about this project will be provided later. It will be due near the end of the semester.

**Gameplay and Game Revision (10%):** Other students will play your two games and you will make revisions in consultation with them. More information about this project will be provided later. It will be due near the end of the semester.

**In-Person Final Exam (20%):** There will be an in-person final exam during the scheduled time on 12/14 from 5:30-7:30 in our regular classroom. If you are engaged in this course all the way through by consistently doing the readings, participating in discussions, and completing the assignments, you are likely to do well on the final exam.

**Late Policy:** Assignments receive a one letter grade deduction per day late. 5 minutes to 23 hours and 59 minutes late counts as 1 day, 24 hours to 47 hours and 59 minutes late counts as 2 days, etc. If you are worried about a deadline, I encourage you to reach out to me as soon as possible. I am open to extensions, but you need to reach out to me ASAP. I may require you to send me whatever you have done so far in a timely manner.

For reasons of fairness, it is your responsibility to make sure that your assignments are successfully submitted to Canvas on time. It is worth it to double check.

**Academic Integrity:** Do not present work that is not your own as if it is your own. A low score on Turnitin or related sites is not enough if there is other strong evidence that your work is derived from sources you do not cite. **Using AI resources such as ChatGPT, Claude, Gemini, and/or Grammarly to summarize readings; brainstorm and organize ideas; draft, generate, or revise written work; or for any other purpose that is not directly related to an official accommodation, is not permitted in this course.** If you have questions about my expectations or what counts as academic dishonesty, it is your responsibility to ask me before you submit your work. See the CSUN policies here: <https://catalog.csun.edu/policies/academic-integrity-policy/>.

### Additional Class Rules:

Please treat everyone in the course with respect and compassion.

Please raise your hand and wait to be called on before speaking in class.

Please engage in discussion in good faith: aim to learn, not just to win an argument.

Please cover your mouth and/or wear a mask when coughing or sneezing.

Please do not eat in class. If this policy is an issue for any reason, please contact me.

### Schedule of Reading/Viewing/Listening

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|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Week 1</b>                      | Course Introduction                                                                                                                                                                                                                                                                                                                                                              |
| 8/24 8/26                          | What is logic? What are games? What are puzzles?<br>-----<br>Out-of-class reading: please read the syllabus and familiarize yourself with Canvas.                                                                                                                                                                                                                                |
| <b>Week 2</b>                      | Games That Play You                                                                                                                                                                                                                                                                                                                                                              |
| 8/31 9/2<br><br>due 9/3<br>at 5 PM | In-class viewing: Mark Rober, “Carnival Scam Science (and how to WIN)” (YouTube).<br>In-class viewing: Julia Galef, “Why you think you’re right – even if you’re wrong” (YouTube).<br>-----<br>Introductory video due.<br>Out-of-class reading: Maria <b>Konnikova</b> , <i>The Confidence Game</i> , Introduction (PDF pages 1-19).<br><b>Konnikova</b> Reading Annotation due. |
| <b>Week 3</b>                      | Arguments and Fallacies                                                                                                                                                                                                                                                                                                                                                          |
| x 9/9                              | In-class reading: Ali <b>Almossawi</b> , <i>An Illustrated Book of Bad Arguments</i> (entire book).<br>-----                                                                                                                                                                                                                                                                     |

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| due 9/10<br>at 5 PM  | Out-of-class viewing: <b><i>The Inventor: Out for Blood in Silicon Valley</i></b> (Swank Digital Campus) (1h 59m).<br><br><b><i>The Inventor</i></b> Practice Assignment due.                                                                      |
| <b>Week 4</b>        | Deductive Reasoning 1: Lewis Carroll's Game of Logic                                                                                                                                                                                               |
| 9/14 9/16            | In-class game: Lewis Carroll's Game of Logic.                                                                                                                                                                                                      |
| due 9/17<br>at 5 PM  | Out-of-class reading: excerpts from Lewis <b>Carroll</b> , <i>Symbolic Logic</i> and Lewis <b>Carroll</b> , <i>The Game of Logic</i> .<br><br><b><i>The Game of Logic</i></b> Practice Assignment due.                                             |
| <b>Week 5</b>        | Deductive Reasoning 2: Smullyan in Puzzle-Land                                                                                                                                                                                                     |
| 9/21 9/23            | In-class puzzles: Knights and Knaves and truth-tables.                                                                                                                                                                                             |
| due 9/23<br>at 5 PM  | In-class viewing: clip from <i>Labyrinth</i> (YouTube).<br><br>Out-of-class reading: TBD.<br><br><b>Knights and Knaves</b> Practice Assignment due.                                                                                                |
| <b>Week 6</b>        | Deductive Reasoning 3: Murdle, G.T. Karber Wrote                                                                                                                                                                                                   |
| 9/28 9/30            | In-class puzzles: Murdle and elimination grids.                                                                                                                                                                                                    |
| due 10/1<br>at 5 PM  | Out-of-class viewing: <b><i>Clue</i></b> (YouTube) (1h 37m).<br><br><b><i>Clue</i></b> Practice Assignment due.                                                                                                                                    |
| <b>Week 7</b>        | The "Game's" Afoot: Sherlock Holmes and the Limits of Deduction                                                                                                                                                                                    |
| 10/5 10/7            | In-class game TBA.                                                                                                                                                                                                                                 |
| due 10/8<br>at 5 PM  | In-class reading: Arthur Conan <b>Doyle</b> , "How Watson Learned the Trick"<br><br>Out-of-class reading: Massimo <b>Pigliucci</b> , "Sherlock's Reasoning Toolbox" (book pages 49-59).<br><br><b>Pigliucci</b> Reading Annotation Assignment due. |
| <b>Week 8</b>        | "Social Deduction" and Game Theory                                                                                                                                                                                                                 |
| 10/12 10/14          | In-class games: <i>Werewolf</i> and/or <i>Demon Bluff</i>                                                                                                                                                                                          |
| due 10/15<br>at 5 PM | Out-of-class reading: Catarina <b>Dutilh Novaes</b> , "A Dialogical, Multi-Agent Account of the Normativity of Logic" excerpt (journal pages 595-603).                                                                                             |

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|                      | <b>Dutilh Novaes</b> Reading Annotation due.                                                                                                                                                          |
| <b>Week 9</b>        | Inductive Reasoning and Fermi Problems                                                                                                                                                                |
| 10/19 10/21          | In-class: various examples of Fermi problems.                                                                                                                                                         |
| due 10/22<br>at 5 PM | Out-of-class reading: TBD.<br><br><b>Fermi Problems</b> Practice Assignment due.                                                                                                                      |
| <b>Week 10</b>       | Argument Reconstruction and Politics as a Game                                                                                                                                                        |
| 10/26 10/28          | In-class debate activity.                                                                                                                                                                             |
| due 10/29<br>at 5 PM | Out-of-class viewing: a specific California or Los Angeles political debate (TBD).<br><br><b>Argument Reconstruction</b> Practice Assignment due.                                                     |
| <b>Week 11</b>       | Ethical Reasoning and Trolley Problems                                                                                                                                                                |
| 11/2 11/4            | In-class games: <i>Dungeons &amp; Dragons (&amp; Deontology)</i> and <i>Trial by Trolley</i> .                                                                                                        |
| due 11/5<br>at 5 PM  | In-class viewing: clips from <i>The Good Place</i> episodes “The Trolley Problem” and “Jeremy Bearimy” (DVD).<br><br>Out-of-class reading: TBD<br><br><b>Trolley Problem</b> Practice Assignment due. |
| <b>Week 12</b>       | Artificial Intelligence and the “Imitation Game”                                                                                                                                                      |
| 11/9 x               | In-class reading: Alan <b>Turing</b> , “Computing Machinery and Intelligence,” excerpts.                                                                                                              |
|                      | Out-of-class viewing: <i>The Imitation Game</i> (Swank Digital Campus) (1h 53m).                                                                                                                      |
| <b>Week 13</b>       | Gamification and Value Capture                                                                                                                                                                        |
| 11/16 11/18          | In-class: game(s) TBD.                                                                                                                                                                                |
| due 11/19<br>at 5 PM | Out-of-class reading: C. Thi <b>Nguyen</b> , <i>The Score</i> , chapters 1 and 3 (book pages 3-25 and 41-51).<br><br><b>Nguyen</b> Reading Annotation due.                                            |
| <b>Week 14</b>       | Games and the Meaning of Life                                                                                                                                                                         |
| 11/23 11/25          | In-class: game(s) TBD.<br><br>In-class reading: the fable of the Ant and the Grasshopper (/Cicada)                                                                                                    |

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| due <b>12/2</b><br>at 5 PM | <p>Out-of-class reading: Bernard <b>Suits</b>, <i>The Grasshopper</i>, chapter 1 and chapter 3 excerpt (book pages 5-12 and 36-43).</p> <p><b>Suits</b> Reading Annotation due.</p> |
| <b>Week 15</b>             | Puzzles and Games Workshop                                                                                                                                                          |
| 11/30 12/2                 | Schedule TBD                                                                                                                                                                        |
| <b>Week 16</b>             | Concluding Discussion                                                                                                                                                               |
| 12/7 12/9                  | <p>In-class game(s) TBD.</p> <p>In-class movie: possibly <i>The Sheep Detectives</i>.</p> <hr/> <p>Out-of-class: prepare for the final exam.</p>                                    |
| <b>12/14</b>               | <b>In-Person Final Exam 3:00-5:00</b>                                                                                                                                               |