Philosophy 236Q-001
(32832)
Introduction to Logic
T/R 10:50 – 12:05
JONH 346
3 Units

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Required Texts

A Concise Introduction to Logic by Hurley

Course Description

We will discuss and apply techniques for the art & science of argumentation in this course. Both formal and informal techniques will be presented and honed through readings and discussions. Ancient and Modern forms of valid inference will be studied in depth. Welcome to the amazing world of fallacies, contradictions, deduction, induction, tautologies and syllogisms!

Q Core Learning Outcomes

Students completing a Core 2.0 Quantitative Reasoning (Q) course should demonstrate the ability to:

> 1. Interpret and draw inferences from mathematical or statistical models represented as formulas, graphs, or tables. (e.g. Venn and other diagrams)
> 2. Represent mathematical or statistical information numerically and visually. (e.g. Venn and other diagrams)
> 3. Employ quantitative methods such as arithmetic, algebra, geometry, or formal statistical inference to solve problems. (E.g. methods of formal proof such as Propositional Calculus and/or Quantificational Calculus)

Course Objectives

Students will learn how to critically analyze, define and evaluate arguments, utilize philosophical concepts noted above, and develop skill in oral and written thesis defense. Students will develop the ability to recognize arguments and use diagrams and mathematical languages in order to determine their validity. Students will be able to locate informal fallacies in a written or oral context by the end of this course.

Grading Scale

A	93-100%	373-400 points	C	73-76%	292-304 points
A-	90-92%	360-372 points	C-	70-72%	280-291 points
B+	87-89%	345-359 points	D+	67-69%	265-279 points
B	83-86%	332-344 points	D	60-66%	240-264 points
B-	80-82%	320-331 points	F	0-59%	0–239 points
C+	77-79%	305-319 points			

Grading Policy

> Grades are based on the following course requirements:
> 1) Four Quizzes; 2) Midterm Exam; 3) Final Exam 4) Bonus Homework Assignments
> The specifics of each assignment type are detailed on the following pages.
> **You must check D2L, and your email, regularly as part of this course.**

Course Requirements

1) <u>Quizzes:</u> (5 quizzes, 40 points each, 200 points total) Quizzes will ask you to identify arguments and their components, translate them into the current logical language, and evaluate them for validity and soundness using methods learned in the class. Missed quizzes cannot be made up for any reason. Don't panic, I offer extra credit homework throughout the course.

2) <u>Midterm & Final Exam</u>: (100 points each, 200 points total) The exams will look very much like the quizzes.

3) <u>Extra Credit</u>: Homework assignments developed and graded by your TA may take many forms, ranging from problems in the book to constructing your own argument using real-world examples, using techniques learned in class to test for validity, soundness, etc., up to 25 points. I will announce extra credit opportunities as they appear. Each extra credit homework listed on the syllabus is worth 2 bonus points.

Academic Integrity

Plagiarism and Academic Dishonesty are Serious Offenses. Know what they are and recognize that the consequences could be worse than a failing grade on the assignment. If I discover academic misconduct, I will 1) meet with you, 2) fill out an Academic Misconduct Notification Form, and 3) provide a written request for the Dean of Students to press charges of violation of the Student Conduct Code.
http://www2.montana.edu/policy/student_conduct/student_conductc-code_2007-2008.htm#instructorrespon

Ground Rules & Notes on General Civility

1. *If a disagreement arises, present facts and evidence calmly rather than a heated and useless personal attack. Some opinions are more well-justified than others, but none merit active hostility or degradation.*
2. *Missed papers, presentations, discussions, quizzes and exams cannot be made up, but an opportunity for extra credit will be provided for those who have experienced some difficulties in attending class. If you experience an extended illness or catastrophe, see me.*
3. *If you miss a class, you are responsible for making up and understanding all the material presented that day. While I am willing to help, and the TAs are here to help you, no one can give private lessons for missed material. Get missed handouts and notes from your classmates.*
4. *If something or someone in the class is genuinely and persistently bothersome, offensive and/or inhibiting your learning process, please bring it to my attention.*
5. *If work is accepted by email, it is always due at 11:59 p.m. on the stated due date. If your work does not arrive in my inbox with that time stamp (because you experience internet difficulties, your computer has problems, your computer clock is inaccurate, or for any other reason), or if I cannot open your file or if it is corrupt, you will receive 0 points for that assignment.*

You are responsible for understanding the ground rules and all other information in this syllabus.

SCHEDULE (subject to change)

Date	Topic
Thurs. Jan 9	Syllabus, Introduction to course and text Introduction to Logic, meet your Course Assistants
Tues. Jan 14	Relativism, Realism, Truth, and Logic What is Philosophy? What is an Argument? How do we support our views? Valid vs. Sound. What is Logic? Logic v. Debate and Logic v. Opinion; Propositions, Premises, Conclusions, Deduction, Induction, Soundness Deduction, Induction (Chapter 1)
Thurs. Jan 16	Aristotelian Logic (Chapters 4 & 5) Star Test, star test with translations The Star Test is NOT in the book, use the handout
Tues. Jan. 21	Aristotelian Logic (Chapters 4 & 5) Star Test, star test with translations Categorical Propositions, Translations, Syllogisms and Immediate Inferences, Square of Opposition **Extra Credit Homework Due**
Thurs. Jan 23	**Quiz #1 (40)**
Tues. Jan 28	Venn Diagrams –See Handout
Thurs. Jan 30	Venn Diagrams, Circle Test –See Handout
Tues. Feb 4	Carroll Diagrams – See Handout
Thurs. Feb 6	Review and Practice: If you are having trouble, come to class. If you feel fine, take a day off and have a nice time. **Extra Credit Homework Due**
Tues. Feb 11	**Quiz #2 (40) on Diagrams & Aristotle**
Thurs. Feb 13	Truth Tables, Equivalence, Contradiction, Tautology, Necessary and Sufficient Conditions, Operators (Chapter 6)
Tues. Feb 18	Truth Tables and Translation Tricks Truth Tables: Validity Test Quick Test
Thurs. Feb 20	Review and Practice: If you are having trouble, come to class. If you feel fine, take a day off and have a nice time. **Extra Credit Homework Due**
Tues. Feb 25	**Quiz #3 (40) on Truth Tables** First Proof Rules in PC (Chapter 7) Translations & Direct Proofs
Thurs. Feb. 27	Proof Rules **Extra Credit Homework Due**

Tues. Mar 4	Proof Rules
Thurs. Mar 6	**MIDTERM (100)**
Tues. Mar 12 Thurs. Mar 14	Spring Break
Tues. Mar 18	Proof Rules & Translations Refutations, Quick Test
Thurs. Mar 20	Advanced Proof Rules Refutations **Extra Credit Homework Due**
Tues. Mar 25	Advanced Proof Rules Reductio Ad Absurdum Style & Conditional Proofs
Thurs. Mar 27	**Quiz 4 (40) on PC Proofs of all kinds** **Extra Credit Homework Due**
Tues. April 1	Intro to Quantificational Calculus/Predicate Logic (Chapter 8) All, Every, Each, Existence, etc. Translations
Thurs. April 3	**Quiz #5 (40) Proofs & Translations** **Extra Credit Homework Due**
Tues. April 8	Intro to Quantificational Calculus/Predicate Logic Proofs
Thurs. April 10	Fancy Proofs, Refutations and Translations **Extra Credit Homework Due**
Tues. April 15	**Bonus Quiz (10) on QC Proofs and Refutations**
Thurs. April 17	Informal Fallacies (Chapter 3)
Tues. April 22 Sara out	Review for final exam with TAs **Extra Credit Homework Due**
Thurs. April 24 Sara out	Review for final exam with TAs
May 2nd 2:00-3:50	**Final Exam (100)**