



Donald Judd. *Untitled*. 1988

LOGIC

DEPARTMENT OF PHILOSOPHY – COLLEGE OF
LIBERAL ARTS – UNIVERSITY OF TEXAS AT EL PASO

SEMESTER: Spring 2020

COURSE: PHIL 1304 (CRN: 26463)

TIME AND LOCATION: M/W 12:00-1:20 in Miners Hall
301

INSTRUCTOR: Aleksandar ("Aleks") Pjevalica
[pea-yeah-va-lee-tza]

INSTRUCTOR'S EMAIL: apjevalica@utep.edu

INSTRUCTOR'S OFFICE HOURS: M/W 10:00-11:30 in
Worrell Hall 111

This course will serve as an introduction to traditional and modern logic, with an emphasis on formal logic. Logic is the study of the rules of good reasoning, and since any piece of reasoning takes the form of an argument, the formal study of arguments is the central task of logic. We will begin the semester by studying the fundamental features of the two standard types of arguments: deductive and inductive arguments. We will then examine how argumentation in ordinary language can go wrong by familiarizing ourselves with the standard kinds of informal fallacies. We will devote the bulk of the semester though to studying formal logic, including syllogistic logic, propositional logic and predicate logic. As we will see, formal logic involves the representation of ordinary language arguments using a symbolic (i.e., formal) language. By doing so, formal logical systems are able eliminate the ambiguity and vagueness that is inherent in ordinary, everyday language. This allows us to represent arguments in a clear and perspicuous way such that they can be definitively evaluated as good or bad, rational or irrational.

By the end of this course, we should be able to 1) identify the features of good (and bad) deductive and inductive arguments, 2) identify fallacies in ordinary language arguments, 3) use Venn diagrams to represent categorical propositions and evaluate categorical syllogisms, 4) translate natural language sentences into symbolic form, and 5) apply various proof procedure methods to arguments in propositional and predicate logic.

REQUIRED TEXT AND MATERIALS

- Baronett, Stan (2019) *Logic*. Fourth Edition. Oxford University Press
- Additional student resources may be found here:
<http://global.oup.com/us/companion.websites/9780199383405/student/>
- Handouts posted on Blackboard
- Notebook or loose-leaf paper and pen or pencil for homework assignments

COURSE REQUIREMENTS

1) Homework Assignments (50%)

We will begin each class meeting by discussing the answers to homework questions that are due for that day (see schedule below). For each day that you complete the assignments, you will receive 1%. Homework assignments are scheduled for 26 meetings, which means that you can fail to complete one homework assignment and still receive 100% for this portion of your grade. The assignments will be collected at the end of the semester, so you must keep them in a folder until then. You must also correct any errors that you made on the assignments in order to receive credit for them.

2) Three Take-Home Exams (50%)

Each exam will be on material covered since the previous exam. You will be required to give handwritten responses to questions on a handout, which you will turn in on the day the exam is due. Here is the schedule:

Exam #1 (15%): Available on Feb. 19 and due Feb. 24.

Exam #2 (15%): Available on Apr. 1 and due Apr. 6.

Exam #3 (20%): Available on May 6 and due May 11.

COURSE POLICIES

Classroom Conduct Code:

- The use of electronic devices (laptops, cell phones, audio recorders, etc.) is strictly forbidden.
- Arrive to class on time.
- Do not chat with fellow classmates during the lecture/discussion.
- I expect you to participate in class discussion on a regular basis. If you have a question or comment, raise your hand (and I will call on you).
- Treat your fellow classmates with respect at all times, including during class discussion.

Note: If you violate the Classroom Conduct Code, you will be asked to leave the class.

Academic Honesty/Plagiarism: Students who engage in scholastic dishonesty will be subject to disciplinary action as stated in the UTEP policy: <http://www.utep.edu/dos/acadintg.htm>.

Email: All class email correspondences will be conducted exclusively through the email address that you have listed with the university.

Accommodation: UTEP seeks to provide reasonable accommodations for all qualified individuals with disabilities, including learning disabilities. This university will adhere to all applicable federal, state, and local laws, regulations and guidelines with respect to providing reasonable accommodations as required affording equal educational opportunity. It is the student's responsibility to register with The Center for Accommodations and Support Services within the first two weeks of classes and inform the faculty member to arrange for appropriate accommodations.

The Center for Accommodations and Support Services (CASS)
 Union East Building Room 106
 Phone: (915) 747-5148
 Fax: (915) 747-8712
 Email: cass@utep.edu

SCHEDULE (provisional)

Week	Day	Topic/Reading	Homework Due	Exams
1	Jan. 22	Course Syllabus		
2	Jan. 27	What Logic Studies: “Statements and Arguments” (Ch. 1: §A), “Recognizing Arguments” (Ch. 1: §B), “Arguments and Explanations” (Ch. 1: §C)		
	Jan. 29	What Logic Studies: “Truth and Logic” (Ch. 1: §D), “Deductive and Inductive Arguments” (Ch. 1: §E), “Deductive Arguments: Validity and Soundness” (Ch. 1: §F)	Exercises 1B I: 7-9, 14; Exercises 1B II: 7-9, 15-17, 36, 47-49; Exercises 1C: 7-9, 15-17	
3	Feb. 3	What Logic Studies: “Inductive Arguments: Strength and Cogency” (Ch. 1: §G),	Exercises 1E: 7-9, 23-25; Exercises 1F.I: 6, 7; Exercises 1F.II: 2, 3	

		<p>“Reconstructing Arguments” (Ch. 1: §H)</p>		
	Feb. 5	<p>Informal Fallacies (Ch. 4: §A-§E)</p>	<p>Exercises 1G I: 9, 10; Exercises 1G 2: 9, 10; Exercises 1H I: 13, 18; Exercises 1H II: 10, 13, 14</p>	
4	Feb. 10	<p>Categorical Propositions: “Categorical Propositions” (Ch. 5: §A), “Quantity, Quality, and Distribution” (Ch. 5: §B), “Existential Import” (Ch. 5: §C), “The Modern Square of Opposition” (Ch. 5: §D), Handout “Distribution and Venn Diagrams” (on Blackboard)</p>	<p>Exercises 4B I: 8, 9; Exercises 4B II: 13; Exercises 4C I: 8, 9; Exercises 4C II: 38, 47; Exercises 4D I: 8, 9; Exercises 4D II: 30, 47; Exercises 4E: 38, 42, 45</p>	
	Feb. 12	<p>Categorical Propositions: “Conversion in the Modern Square” (Ch. 5: §E), “The Traditional Square” (Ch. 5: §F), “Conversion in the Traditional Square” (Ch. 5: §G)</p>	<p>Exercises 5A: 11, 14; Exercises 5B I: 10, 14; Exercises 5B II: 5, 10; Exercises 5B III: 5, 10; Exercises 5B IV: 5, 10; Exercises 5D: 32, 38, 43</p>	
5	Feb. 17	<p>Categorical Propositions: “Translating Ordinary Language into Categorical Propositions” (Ch. 5: §H)</p>	<p>Exercises 5E: I12, I23; II2, II3, II11; Exercises 5F.1: I4, II2, II6, III3-III5, IV15, IV23; Exercises 5F.2: I15, I19, II2, II4, II10</p>	
	Feb. 19	<p>Categorical Syllogisms: “Standard-Form Categorical Syllogisms” (Ch. 6: §A), “Mood and Figure” (Ch. 6: §B),</p>	<p>Exercises 5H: 10, 15, 30, 54, 63, 70, 72, 74, 75</p>	<p>Take-Home Exam #1 available</p>

		“Diagramming in the Modern Interpretation” (Ch. 6: §C)		
6	Feb. 24	Categorical Syllogisms: “Rules and Fallacies Under the Modern Interpretation” (Ch. 6: §D)	Exercises 6B I: 6, 10; Exercises 6B II: 3, 10; Exercises 6C I: 19, 26; Exercises 6C II: 7; Exercises 6C III: 11, 15; Exercises 6C IV: 5, 8	Take-Home Exam #1 due
	Feb. 26	Categorical Syllogisms: “Diagramming in the Traditional Interpretation (Ch. 6: §E), “Rules and Fallacies Under the Traditional Interpretation” (Ch. 6: §F)	Exercises 6D I: 2, 14; Exercises 6D II: 3, 4	
7	Mar. 2	Categorical Syllogisms: “Ordinary Language Arguments” (Ch. 6: §G), “Enthymemes” (Ch. 6: §H)	Exercises 6E I: 2, 8; Exercises 6E II: 2, 10; Exercises 6E III: 8, 13; Exercises 6E IV: 2, 8; Exercises 6F: 2, 4	
	Mar. 4	Propositional Logic: “Logical Operators and Translations” (Ch. 7: §A), Handouts “Propositional Logic and Translations” and “Necessary and Sufficient Conditions” (on Blackboard)	Exercises 6G.1: I10, I13, II3, II10; Exercises 6G.2: 9, 15; Exercises 6H I: 9, 18; Exercises 6H II: 6, 9	
8	Mar. 9	Propositional Logic: “Compound Statements” (Ch. 7: §B)	Exercises 7A I: 4, 7, 10, 24, 29, 35, 47; Exercises 7A II: 10, 16; Exercises 7A III: 11, 15, 16	
	Mar. 11	Propositional Logic:	Exercises 7B.1: 8, 14; Exercises 7B.2: 3, 12,	

		“Truth Functions” (Ch. 7: §C), “Truth Tables for Propositions” (Ch. 7: §D)	21, 24; Exercises 7B.3: I2, I15, II3, II19	
9	Mar. 16-20	SPRING BREAK		
10	Mar. 23	Propositional Logic: “Contingent and Noncontingent Statements” (Ch. 7: §E), “Logical Equivalence and Contradictory Statements” (Ch. 7: §F)	Exercises 7C.1: 3, 10, 14, 19; Exercises 7C.2: I11, I19, II7, II18; Exercises 7D: 2, 8, 32	
	Mar. 25	Propositional Logic: “Truth Tables for Arguments” (Ch. 7: §G), “Indirect Truth Tables” (Ch. 7: §H)	Exercises 7E: 4, 17; Exercises 7F.1: 2, 24; Exercises 7F.2: I2, I12, II3, II9	
11	Mar. 30	TBA	Exercises 7G.1: I2, I15, II2, II17, III15, III19; Exercises 7G.2: 2, 14; Exercises 7H.1: I3, I19, II4, II16, II19; Exercises 7H.2: 8, 15	
	Apr. 1	Natural Deduction: “Implication Rules” (Ch. 8: §A and §B)		Take-Home Exam #2 available
12	Apr. 6	Natural Deduction: “Tactics and Strategy” (Ch. 8: §C), “Implication Rules II” (Ch. 8: §D)	Exercises 8B: I4, I15, II3, II14, III4, III10, IV2, IV10	Take-Home Exam #2 due
	Apr. 8	Natural Deduction: “Replacement Rules” (Ch. 8: §E and §F)	Exercises 8C: I2, I10, I19, II7, II9; Exercises 8D: I10, I14, II3, II10, III2, III11, III27, IV6, IV10	

13	Apr. 13	<p>Natural Deduction: “Conditional Proof” (Ch. 8: §G), “Indirect Proof” (Ch. 8: §H), “Proving Logical Truths” (Ch. 8: §I)</p>	<p>Exercises 8E: I6, I15, II10, II15, III2, III10, III26, IV3, IV10; Exercises 8F: I2, I15, II3, II8, III2, III14, IV3, IV18, IV36, IV48, V11, V15</p>
	Apr. 15	<p>Predicate Logic: “Translating Ordinary Language” (Ch. 9: §A), Handout “Translating ‘Unless’” (on Blackboard)</p>	<p>Exercises 8G: I2, I19, I35, II2, II4; Exercises 8H: I3, I12, I27, I35, II2, II4; Exercises 8I: 2, 7, 20</p>
14	Apr. 20	<p>Predicate Logic: “Four New Rules of Inference” (Ch. 9: §B) Handout “Existential Instantiation Rule” (on Blackboard)</p>	<p>Exercises 9A: 2, 7, 9, 11, 18, 21, 30, 35, 39, 42, 44, 48, 54, 56, 59</p>
	Apr. 22	<p>Predicate Logic: “Change of Quantifier” (Ch. 9: §C) “Conditional and Indirect Proof” (Ch. 9: §D)</p>	<p>Exercises 9B: I3, II2, III3, III12, III20, IV3, IV4</p>
15	Apr. 27	<p>Predicate Logic: “Demonstrating Invalidity” (Ch. 9: §E)</p>	<p>Exercises 9C: I3, I9, II3, II10, II14, III4, III5 Exercises 9D: I4, I7, I10, I20, II4, II5</p>
	Apr. 29	<p>Predicate Logic: “Relational Predicates” (Ch. 9: §F)</p>	<p>Exercises 9E: I3, I6, I8, II2, II6, II15, III2, III4</p>
16	May 4	<p>Predicate Logic: “Identity” (Ch. 9: §G)</p>	<p>Exercises 9F.1: 2, 6, 7, 10, 12, 15, 19, 20; Exercises 9F.2: 4, 9, 19</p>

	May 6		Exercises 9G.1: 2, 3, 6, 7, 15, 19; Exercises 9G.2: 3, 14, 16	Take-Home Exam #3 available
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