Introduction to Logic for Social Scientists (PSCI 4396.09M)
Course Syllabus
The University of Texas at Dallas – Summer 2013
Tuesday & Thursday, 1:00pm – 5:00pm in GR 2.302

Instructor Contact Information

Calin Scoggins, Ph.D. Candidate – Political Science
Office: Green Hall 3.318
Office Hours: T/Th 10am-12pm and by appointment
Email: cjs061000@utdallas.edu

Course Pre-requisites, Co-requisites, and/or Other Restrictions

None.

Course Description

This course introduces students to the basics of traditional (Aristotelian) logic, including classification of terms, different types of definition, basic forms of deductive and inductive arguments, construction and evaluation of syllogisms, and identification of formal and material fallacies. Whether you stay in academia or move on to work in public service, non-profits, or the corporate world, having a basic foundation in traditional logic will aid you in your reading, writing, listening, speaking, and thinking. Most of the material is fairly simple and common-sense, but can be easily overlooked or forgotten if not explicitly studied. In a 5-week summer class we can only cover the basics, but it is the basics that are the most important, the most useful, and the easiest to remember. Although the core of logic does not change across disciplines, this course will have a particular emphasis on applications to social science and will draw on examples from that literature. The course is constructed with students of the social sciences in mind, but will be useful and beneficial to students from any or no academic background.

Student Learning Objectives/Outcomes

Students will gain familiarity with the basics of traditional (Aristotelian) logic. By the end of the semester, students should be able to:

- Explain the foundational principles of traditional logic, including the three acts of the mind, the nature of logical laws, and Aristotle's categories.
- Distinguish different types of definition based on an understanding of Aristotle's account of the predicables, essences, and the difference between essential and accidental properties.
- Identify the basic logical structure of arguments in ordinary language by translating them into proper logical form.

- Recognize relations of immediate logical entailment among propositions using obversion, conversion, and the Square of Opposition.
- Distinguish between valid and invalid deductive arguments.
- Evaluate the relative strength of inductive arguments.
- Construct valid syllogisms.
- Identify material and formal logical fallacies.
- Briefly describe key differences between Aristotelian logic and modern symbolic approaches to logic.

Required Textbooks and Materials

Kreeft, Peter. 2010. *Socratic Logic*, Edition 3.1. South Bend, IN: St. Augustine's Press.
ISBN-13: 978-1-58731-808-5

Suggested Materials for Further Reading

(These suggested materials will not be required to complete the course; they are merely offered as suggestions for those who wish to further pursue this topic and other related topics we will not be able to cover in one summer course.)

Adler, Mortimer J. and Charles Van Doren. 1972. *How to Read a Book*. New York, NY: Simon & Schuster.
ISBN-13: 978-0-671-21209-4

Hacking, Ian. 2001. *An Introduction to Probability and Inductive Logic*. New York, NY: Cambridge University Press.
ISBN-13: 978-0521775014

This course involves a heavy reading and work load. We are concentrating an entire semester's worth of material (and credit) into ten four-hour sessions. The assigned reading will reflect this fact. Please prepare for class by completing the necessary reading *prior* to coming to class, but also do not fall into the mental trap of thinking that if you cannot get all of the reading done then you should not attempt any of the reading. Completing some of the reading is better than not completing any. Take note that all readings are equally important for the purposes of exercises and exams. All lecture content is fair game for exams.

There may be adjustments made to the readings assignments during the course. In that event, an in-class announcement will be made and an updated syllabus posted on eLearning.

Assignments & Academic Calendar

- **July 9th – Introduction**
- **July 11th – Terms, Concepts, and Categories**
    - Readings: Introduction (sections 4 and 5), Ch. 1 and 2
    - Exercises: p. 34, A&B (all), pp. 49-50 (odd), p. 51 (odd), pp. 53-54 (odd), p. 55 (odd), pp. 61-62 (odd), pp. 64-65 (odd, omit #23)

- **July 16th – Definitions and Propositions**
  - Readings: pp. 113-122, Ch. 4 and 5
  - Exercises: p. 130 I. (all), II.A. (odd); pp. 156-163 A-G (odd), pp. 164-165 (all)
- **July 18th – Conversions and Contradiction**
  - Readings: Ch. 6 and 7
  - Exercises: pp. 171-172 (all), pp. 178-179 (all)
- **July 23rd – Reasoning and Argument**
  - Readings: Ch. 8 and 9, Ch. 3 (sections 1-7)
  - Exercises: p. 199 (all), p. 205 (all)
- **July 25th – Syllogisms I**
  - Readings: Ch. 10 (sections 2 and 3 are optional) and 11
  - Exercises: p. 219 (all), pp. 234-235 A and B (all), pp. 253-254 A and B (odd)
- **July 30th – Syllogisms II**
  - Readings: Ch. 12 and 13
  - Exercises: pp. 271-275 (odd), p. 282 (all), pp. 285-288 (odd), pp. 299-301 (odd), pp. 302-303 (all), pp. 305-306 (all), pp. 311-312 (odd)
- **August 1st – Induction**
  - Readings: Ch. 14 (omit pp. 336-341), Hacking handout
  - Exercises: pp. 317-319 (all), pp. 333-335 (all)
- **August 6th – Applications**
  - Readings: Ch. 15 and 16
- **August 8th – Last Day**
  - Part 1: In-class Exam
  - Part 2: Take-home Exam Distributed

Grading Policy

Final grades are determined as follows:

Daily Exercises	40%
Attendance and Participation *	20%
Exam	40%

* Attendance and Participation includes, but is not limited to, (1) attendance, (2) participation in class discussion, and (3) participation in online discussion via the eLearning discussion boards.

The grading scale used is as follows:

A+	= 97% and up
A	= 93-96%
A-	= 90-92%
B+	= 87-89%
B	= 83-86%
B-	= 80-82%
C+	= 77-79%
C	= 73-76%
C-	= 70-72%
D	= 65-69%

F = 64% and lower

Course & Instructor Policies

Attendance and Participation
Attendance is mandatory – missing one class during this 5-week session is equivalent to missing about two weeks of classes during a normal long semester. Students are allowed to miss one class with prior notice and written documentation of the reason for the absence. Subsequent absences *for any reason* may result in not receiving credit for the class due to the limited number of meetings.

Participation requires regular contributions to class discussions; however, quality always trumps quantity. Bringing a topic to our attention or offering a substantive contribution to our discussion will aid your participation grade. Additionally, students may increase their participation grade by contributing to online discussion through the eLearning discussion board. Please remember to be respectful in your discussions; uncivil discussion behavior will result in an automatic grade of 0 for participation, and may warrant further action.

Exercises
Exercises from the text will be assigned along with reading for every class period. The reading and exercises listed for a specific date are due ***in class on the day listed on the syllabus***. For each exercise assigned, we will review the answers in class on the day it is due and address any questions that may arise. Due to the subject matter of the course, it is far more important that you understand *how* to answer each question and grasp the concept the exercise is meant to cover than it is that you put down the answer you think I am expecting. Please come to class prepared to ask any questions you have about the homework exercises – the content of each class meeting builds on the previous one. We will also typically work through some exercises from the text together in class. **PLEASE BRING YOUR TEXTBOOK WITH YOU TO EVERY CLASS**.

Exams
There will be one exam divided into two parts – an in-class section and a take-home section. On the last day we meet for class students will take the in-class part of the exam, and at the end of class the take-home part will be distributed. There are no make-up exams, except for copiously documented emergencies.

Grade Appeals
Any student who wishes to challenge a grade on an assignment may do so by submitting a written memo detailing the grade you think you deserve and the logic supporting your request. Appeals must be made within one week of the return of the assignment or the posting of the grade. Please include the original assignment and evaluation with the request.

Late Work
No late work will be accepted.

eLearning
eLearning will occasionally be used to communicate with students and post updated course information. Please be sure you have access to your eLearning account and check it regularly.

Cell Phone/Electronic Device Policy
Use of a cell phone during class is strictly prohibited; please turn your phones off or on silent (*not vibrate*). If it is an emergency, please step outside the classroom to take the emergency call or text. Students are allowed to use personal computers and tablets for taking notes during class. However, if the use of the device becomes a distraction or hindrance to other students (such as by web browsing or playing games), then device use may be prohibited for that class and future classes. Electronic devices may not be used at all during quizzes. **Any use of any electronic device during quizzes or exams will result in a zero for that exam or quiz. Further infractions will result in ejection from the classroom and the enforcement of disciplinary procedures in accordance with university policies and procedures**.

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to http://go.utdallas.edu/syllabus-policies for these policies.

The descriptions and timelines contained in this syllabus are subject to change without prior notice at the discretion of the Instructor.