Consider the following ancient puzzle, which the above cartoon is alluding to: Two guards are standing at a fork of a road on which you're walking. You know that one of the two guards always tells the truth and that the other one always lies, but you don't know which one is which. You also know that one road leads to death, and the other leads to freedom. By asking one of the two guards one yes/no question, can you determine the road to freedom?

We are all capable of informally determining the solution to this puzzle by so-called deductive reasoning (hint: the question you have to ask is a rather tricky one). Symbolic logic gives us the tools to
formally analyze our reasoning, it helps us distinguish good arguments from bad ones, and it teaches
us how to think quickly on our feet. Logic is a tricky field, and we will be asking tricky questions. But
don't worry: there won't be any guards of any sort in this course. One of the goals of the course is to
help students who have felt intimidated by formal or symbolic systems feel more comfortable with this
sort of material. We will start slowly and then we pick up steam as we go.

Course objectives

This course introduces you to the aims and techniques of modern symbolic logic. The course is
roughly divided into two parts: First, we cover sentence logic (sometimes called 'propositional logic')
and then we turn to predicate logic (sometimes called 'first-order logic'). Topics covered (don't worry if
you don't understand this yet) include: truth-functional connectives, truth tables, truth trees, natural
deduction, quantifiers, identity, and the concepts of semantics, syntax, truth, validity, equivalence, and
proof. There are no prerequisites for the course; no philosophy, engineering, math, or computer
science background is presupposed.

Prerequisites

There are no prerequisites for this course.

Course materials

The text for the class is Paul Teller's *A Modern Formal Logic Primer Volumes 1 & 2*. The book is
out-of-print, but the rights have reverted to the author, and he has very graciously made it available for
free here: http://tellerprimer.ucdavis.edu/. This page has links to related software, and the link on the
bottom of takes you to the files containing individual chapters, the answer key, and so on. I'd suggest
that you print out the chapters so you can bring them to class.

What will be expected of you

Attendance and class participation. **Attendance is required.** You may miss no more than 4 classes
without penalty. **Participate in class** – bring the text with you. Attendance and class participation will
count for 15% of your final grade.

Reading responses. For class meetings 2, 3, 4, 6, 7, 8, I ask you to send me a roughly **200–300 word
reading response** two hours before class time on the reading for the day. The reading responses may
be about something that you particularly liked about the article, something you disagree with, or
something that you didn't understand. **You may miss no more than one reading response** without
penalty. You won't be graded on the reading responses. If you don't miss more than of them, you will
get full credit for this part of the course, which amounts to **15% of your final grade**. There are no
reading responses due on catch-up days.

Problem set. There will be one short problem set on the science of argument, which will be worth 5% of
your final grade.

Papers. There will be **3 papers, two of which will be worth 15% of your final grade and the last of
which will be worth 35%**. For the first two papers, you will submit a **draft, which is worth 5%**, and
then you will submit the **final version, which is worth 10%**. You are required to meet with me to
discuss your drafts before you hand in the final versions. If you don't meet with me on a draft, the
grade you received for that draft will be cut in half. For the third paper, you are encouraged but not
required to submit a draft. If you choose to submit a draft, it will not be graded.
Extra credit opportunities. We will start most classes with a brief recap of what we discussed in the previous class. You may volunteer to do such a recap up to two times. Please get in touch with me after class if you want to do a recap in the next class. If there is more than one person who wants to recap a given class, then you will work together. The recaps are not graded and they add 3% to your final grade.

Accessibility

All of us learn in different ways and have different needs to ensure our well-being and success. Your well-being and success in this course is important to me. Please talk to me as soon as possible about any circumstances that may affect your performance. These may include mobility, visual, hearing, medical, psychological, and learning disabilities, but they may also be personal, health-related, or family-related issues. We will work together to find ways of adapting course assignments to meet your needs as well as the course requirements. I also encourage you to discuss your individual learning styles and comprehension requirements with me.

If you have, or think you may have, a disability, I strongly encourage you to make use of the services provided by Disability Services and Support (DSS), who will handle your concerns in a confidential matter. The DSS office is located in Usdan 130. Their website is at http://www.brandeis.edu/acserv/disabilities/ and their phone number is (781) 736-3470. If you are a student with a documented disability on record at Brandeis University and wish to have a reasonable accommodation made for you in this class, please see me immediately.

Other important resources are:

- **Brandeis Counseling Center**
  Mailman House
  http://www.brandeis.edu/counseling/
  (781) 736-3730

- **Writing Center**
  Rabb 144
  http://www.brandeis.edu/writingprogram/writingcenter/
  (781) 736-2130

Making use of such resources is part of a normal learning experience.

Laptop and cell phone policy. I find that students using laptops and cell phones in class is distracting to me and other students, in part because the temptation to take “just a second” to check email or web updates is hard to resist. If you feel that your learning will be hampered by not having access to your laptop or cell phone for note-taking or other legitimate purposes, please speak to me. Otherwise, keep your laptop and cell phone turned off and stowed away during class.

Academic Integrity

Academic integrity is central to the mission of educational excellence at Brandeis University. Each student is expected to turn in work completed independently, except when assignments specifically authorize collaborative effort. It is not acceptable to use the words or ideas of another person without proper acknowledgement of that source.

Violations of University policies on academic integrity, described in Section Three of Rights and Responsibilities, may result in failure of the course or on the assignment, or in suspension or dismissal from the University. If you are in doubt about the instructions for any assignment in this course or about how to properly cite the sources you’ve used, it is your responsibility to ask for help. If you have questions about academic integrity, please do not hesitate to ask me, refer to the Rights and Responsibilities Handbook, or contact the office of Student Development and Conduct.

Four-Credit Course (with three hours of class-time per week)

Success in this 4 credit hour course is based on the expectation that students will spend a minimum of 9 hours of study time per week in preparation for class (readings, papers, discussion sections, preparation for exams, etc.).
Four-Credit Course (with seven hours of class-time per week)

Success in this 4 credit hour course is based on the expectation that students will spend a minimum of 21 hours of study time per week in preparation for class (readings, papers, discussion sections, preparation for exams, etc.).

Communications

All changes to this syllabus, as well as accommodations for snow days will be communicated by email.

Schedule

(some of the details here may still change)

| July 10 (Mon) | Introduction |
| July 11 (Tue) | Teller volume I, chapters 1 & 2 |
| **July 13 (Thu)** | Teller volume I, chapters 3 & 4 |
| | **Problem Set 1 assigned** |
| July 17 (Mon) | Teller volume I, chapters 5 & 6 |
| July 18 (Tue) | Teller volume I, chapter 7 |
| July 20 (Thu) | Teller volume I, chapters 8 & 9 |
| | **Problem Set 1 due** |
| | **Problem Set 2 assigned** |
| July 24 (Mon) | Review |
| | **Problem Set 2 due** |
| | **Take-home midterm assigned** |
| July 25 (Tue) | Teller volume II, chapters 1 & 2 |
| July 27 (Thu) | Teller volume II, chapters 3 & 4 |
| July 31 (Mon) | Teller volume II, chapters 7 & 8 |
| | **Take-home midterm due** |
| | **Problem Set 3 assigned** |
| August 1 (Tue) | Teller volume II, chapter 9 (skip section 9.3) |
| August 3 (Thu) | *Catch-up class* |
| | **Problem Set 3 due** |
| August 7 (Mon) | Carroll's “What the Tortoise Said to Achilles” and review |
| August 8 (Tue) | Review |
| August 10 (Thu) | **Final exam** |