Course Description:

This course introduces formal techniques for evaluating arguments through the study of two systems of logic. We will study a simple system for sentential (propositional) logic, and an expanded system for predicate logic. For each system, we will study: (1) the formal language itself; (2) "translation" (of a limited sort) from English into the formal language; (3) construction of proofs for the validity of arguments in the language; (4) a semantics, or model theory, for the language.

Of What Good is This? ("What's in it for me?")

Well, aside from the fact that the study of logic is a darn fine way of passing the time, there is much value found in its study. Formal logic aims at representing certain aspects of human reasoning, especially those involved in such processes as deductive inference and mathematical proof and thus has many applications in those areas where these aspects of reasoning are important, e.g. the design of computer circuitry. However, for most people, the study of formal logic yields benefit of a different sort. In order to construct deductions in a formal logical system you need to acquire certain skills that will turn out to be of importance in the kind of strategic thinking you will probably need to do no matter what your choice of career. One of these is figuring out how to reach a desired goal with a limited set of resources. Another is the habit of attending to precisely what a statement says (and does not say). A third, more closely linked to the application of logic to natural language, is the ability to see important distinctions. Finally, if you acquire some appreciation for the notion of a valid argument and the distinction between valid and invalid arguments, then you might find it easier to wade through the astounding array of poor argumentation that surrounds us each day.

Text:

The required text for this class is:


The text for this course is, as far as textbooks go, very affordable. Heck, it'll probably be one of the least expensive textbooks you'll ever buy. You have the authors, two members of the A&M Philosophy Department, to thank for this since they requested that the publishers keep the price as low as possible. However, you should realize that it is not a text that is intended for independent study. It is, as mathematicians like to say, "elegant." What this means to you is that the text is sufficiently terse to make learning from it alone, unless you've had a fair bit of exposure to formal systems, extremely difficult. In short, it is a textbook designed to be used with the aid of an instructor, which is a good reason for coming to class.

Web Support:

The course web site listed above will contain a copy of this syllabus, links to supplemental class notes, online access to your grades, additional homework problems, links to other web resources, and the like. There is also an excellent resource to be found in the Philosophy Department's logic lab site ([http://logic.tamu.edu](http://logic.tamu.edu)). On that site you will find the ever popular *Logic Daemon* and *Quizmaster*. The *Logic Daemon* provides a means of checking proofs, which comprise the bulk of what we do in this course. The *Quizmaster* provides a means of testing your skill in virtually everything we will cover in this course through the means of randomly generated quizzes.
**Grading Policy:**

Your grade in this course will be assigned based upon your performance on four equally weighted exams, i.e. each exam counts for 25% of your grade. Exams will be given upon the completion of the material for each of the four chapters of our text. Each exam will only cover the material in the chapter just completed, but cannot be considered as an independent entity. The reason for this is that each successive chapter builds upon the material in preceding chapters and as such all exams may be considered cumulative. Therefore it is in your best interest not to fall behind, and to seek help as soon as possible when you have difficulty with the material.

*Makeup exams will only be given with a University approved excuse!* If you want to know what constitutes a University approved excuse, check the latest copy of the Texas A&M University regulations. A copy may be found online at [http://student-rules.tamu.edu](http://student-rules.tamu.edu).

**Homework:**

There is lots of it, because there simply is no other way to learn this stuff. It comes in the form of exercises at the end of each section and additional exercises to be listed on the course web site. I do not, however, collect it. It is simply in your best interest to do a significant portion of the exercises in the text if you wish to fully grasp the material presented. If you wish to judge your progress on these exercises, the *Logic Daemon* and *Quizmaster* provide one means of checking your work. Additionally, as if this needed to be said, you can ask questions during class since a significant portion of class time will be devoted to answering questions regarding the homework. Please also feel free to drop by my office and have me look over your work, or discuss any questions you may have regarding the course material.

**Attendance:**

I don't keep any *formal* record of attendance, and no formal percentage of your grade is calculated based upon attendance or class participation. It is, nevertheless, a good idea to attend regularly. As previously stated, the text is not designed for independent study. If you can learn this material on your own, more power to you, but most folks benefit from the in-class presentation. Additionally, from time to time, there might be a pop-quiz or two. These pop-quizzes count strictly as extra credit and will not hurt you if you miss them, but they could make the difference if all that is standing between you and a higher grade is a couple of points.

**Academic Dishonesty:**

Given that as Aggies we are all bound by the *Honor Code*, it pains me to have to explicitly state that academic dishonesty of any sort will not be tolerated. If you are unfamiliar with Texas A&M University’s rules regarding what constitutes academic dishonesty, please refer to the appropriate section of the Student Rules handbook. It may be viewed on-line at [http://student-rules.tamu.edu/rules20.htm](http://student-rules.tamu.edu/rules20.htm).

**Exam Schedule: (Tentative and subject to change)**

- Chapter 1 Exam: July 18, 2006
- Chapter 2 Exam: July 25, 2006
- Chapter 3 Exam: August 1, 2006
- Chapter 4 Exam: August 7, 2006

**Americans with Disabilities Act (ADA) Policy Statement:**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring accommodation, please contact the Department of Student Life, Disability Services in Room B118 of Cain Hall, or by calling them at (979) 845-1637.