

Professor Rod Bertolet

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Office Hours: MW 1-2, and by appointment

Text: W. Gustason and D. Ulrich, *Elementary Symbolic Logic* (Waveland Press, 2<sup>nd</sup> edition 1989, ISBN 0-88113-412-X)

### COURSE DESCRIPTION

This is a course in modern deductive logic. Our two main tasks will be to figure out how to represent natural language arguments in symbolic notation, and to develop techniques for determining whether those arguments are “good” or “bad.” (Our *first* order of business will be to find a better way of talking about arguments than calling them “good” or “bad.”) We’ll start with arguments involving ‘and,’ ‘or,’ ‘not,’ ‘if...then,’ and ‘if and only if,’ developing two different, but equivalent, methods for dealing with such arguments. Later in the semester, we’ll move on to arguments involving quantifiers – words such as ‘all’ and ‘some’ – including those with multiple quantifiers, relations and identity. While we’ll have occasion to look at some of the interesting properties of the systems that we study, our primary concern will be learning to work with those systems.

### COURSE REQUIREMENTS

Course grades will be determined by your performance on three 50-minute in-class exams spaced about five weeks apart, the last one being given during finals week. Each will constitute one-third of your course grade. The exams will require that you work problems of the sort assigned as homework exercises, and that are discussed in the readings and in class. The exams are open-book, though you may not consult any additional notes or sources while taking them. These exams are not cumulative except insofar as the material is. I do not take attendance, but you will be responsible for everything covered in class. Reading assignments will be short, typically (after the first introductory chapter) only 5-6 pages per class. I will assign homework problems for you to work for almost every class meeting. These will *not* be collected and your work on them will *not* be graded, though I’ll be happy to look at your answers if you wish. The point of these exercises is for you to practice the techniques on which you will be tested, and experience indicates that you *will* need to practice them to do well on the exams.

Anyone with a disability requiring special arrangements should see me as soon as possible. Here are some other matters that need to be mentioned. 1. Academic dishonesty, which in this context will typically be cheating on an exam, will be rewarded with a failing grade for the exam and perhaps for the course as well, and may be reported to the Office of the Dean of Students. For details on academic dishonesty see “Academic

Integrity: A Guide for Students” on the Office of the Dean of Students website, <http://www.purdue.edu/ODOS/osrr/integrity.htm>. (Again, you may use your textbook, but not additional notes, for the exams. The use of cell phones, pagers, or any other form of communication is not permitted. Nor, of course, is the low-tech method of looking at another student’s answers permitted.) 2. You will not be able to make up a missed exam unless you have a legitimate and documented medical or other excuse. Unless an emergency makes this impossible, you must notify me *in advance* if you cannot be present for an exam. Having a big physics exam or a Shakespeare paper due at the same time is not an *excuse*, but rather the way college works. 3. In order to earn a passing grade in the course you must take all three exams, even if you’re taking it P/NP. 4. In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor’s control. I expect to convey any revisions that become necessary via the course email distribution list maintained by ITaP. Any University-wide emergency announcements will be on Purdue’s home page, which also has a link enabling you to sign up for emergency text messages.

## EXAM SCHEDULE

Announcements of reading assignments and which exercises to work for each meeting will be made in class. The schedule of exams is as follows.

September 25: first exam

October 30: second exam

finals week: third exam (we will use one of the two hours for which the University schedules a final exam)