

Winter 2015

[Description](#)

[Classes](#)

[Assignments](#)

[Policies](#)

[Resources](#)

[Scores](#)

[Contact](#)

Content

Understanding a statement requires knowing what would have to be the case for it to be true: its “truth condition.” Life is complex enough that we often deal with several statements at once: different things different people have said, or that one person has said. Understanding several statements at once requires knowing the relations among their truth conditions. Logical symbolism helps with this, because it expresses these relations precisely and unambiguously, whereas a natural language like English often obscures them with vagueness, ambiguity or rhetorical colouring.

Our primary aim in this course is to learn how to use the artificial language of modern symbolic logic. We will learn certain *connectives*, and how to do proofs that involve them; and we will learn certain *quantifiers*, and how to do proofs that involve them (as well as the connectives).

The benefit of a course in logic is that by seeing truth-conditional relations in a language designed to express them as clearly as possible, you get better at discerning and articulating them in English. This helps you to understand what others say and to express what you want to say.

Work

You will

- submit 11 weekly assignments;
- write three tests;
- write one final examination.

If you *come to class and work steadily throughout the course* you will do fine. If you don't, you will almost certainly do badly.

Textbook

The textbook for this course is [Language, Proof and Logic](#), by Dave Barker-Plummer, Jon Barwise and John Etchemendy.

The book comes with a set of programs on CD, to be installed to your computer. These programs let you play with the language in different ways, building files of sentences, and files that describe “worlds,” and submitting these files to the online grader. One good feature is that you can check the correctness of your submission before asking the grader to send the results to the instructor!

Lectures

Tuesdays and Thursdays, 2:30–3:50pm in [MacKinnon 029](#).

Grading

<i>Item</i>	<i>Value</i>
Homework assignments (all 11 are graded, best 9 count)	$9 \times 5 = 45$
Three tests	$3 \times 10 = 30$
Final exam	25

[Description](#)

[Classes](#)

[Assignments](#)

[Policies](#)

[Resources](#)

[Scores](#)

[Contact](#)

Classes

Please consult the latest version of this web page, since this schedule will probably be revised as the course proceeds.

The reading is to be done *before* the class, so that class time can be used for questions, exercises and (occasionally) discussion of especially tricky matters. This is much more productive than me re-explaining what the book already explains perfectly well.

The due dates for assignments are on the “Assignments” page, linked at left.

<i>Date</i>	<i>Topic</i>	<i>Textbook pages</i>
Jan 6	What is logic? What will we learn in this course? Atomic sentences and what they are made of	19–31
Jan 8	Validity & soundness of arguments	41–46
Jan 13	Proofs; principles involving identity; formal proofs; using Fitch	46–51, 54–61
Jan 15	Nonconsequence; counterexamples	63–65
Jan 20	Negation (\neg), conjunction (\wedge) and disjunction (\vee); their meanings and their roles in the challenge game	67–79
Jan 22	Parentheses; practice exercises; TEST 1	79–89
Jan 27	Using truth tables to check for tautology; tautological equivalence	94–109
Jan 29	Tautological consequence	110–13
Feb 3	Proof rules: \wedge Elim, \wedge Intro, \vee Intro	128–31; 143–50
Feb 5	\vee Elim; \neg Elim, \neg Intro; \perp Intro, \perp Elim	132–39; 150–64
Feb 10	Proof practice: subproofs; strategizing	165–73
Feb 12	Q & A; TEST 2	
Feb 24	\rightarrow and \leftrightarrow	178–89
Feb 26	The proof rules \rightarrow Elim, \rightarrow Intro, \leftrightarrow Intro and \leftrightarrow Elim	199–215
Mar 3	Variables and quantifiers	229–36
Mar 5	Meanings of \forall and \exists ; Aristotelian forms; translating complex noun phrases	237–39, 241–43; 245–53
Mar 10	Tautologies involving quantifiers	259–65
Mar 12	First-order consequence and validity; logically equivalent wffs	267–73, 277–82
Mar 17	TEST 3	
Mar 19	Understanding multiple quantification	298–306
Mar 24	Translating English into FOL	307–313
Mar 26	\forall Elim and \forall Intro	328–29, 332–34, 351–53
Mar 31	\exists Elim and \exists Intro	331–32, 329, 356–58
Apr 2	Common strategies	361–67
Apr 13	Final examination, 11:30–1:30, location TBA	

[Description](#)

[Classes](#)

[Assignments](#)

[Policies](#)

[Resources](#)

[Scores](#)

[Contact](#)

Policies governing this course

This course is governed both by College of Arts policies and by my general policies for every course I teach. They are as follows.

College of Arts Policy Statements

E-mail communication

As per university regulations, all students are required to check their <uoguelph.ca> email account regularly: email is the official route of communication between the university and its students.

When you cannot meet a course requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and email contact. [See the Undergraduate Calendar](#) for information on regulations and procedures for Academic Consideration.

Drop date

The last date to drop one-semester Winter 2015 courses, without academic penalty, is *Friday, March 6*. For regulations and procedures for Dropping Courses, [see the Undergraduate Calendar](#).

Copies of out-of-class assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

Student Rights and Responsibilities

Each student at the University of Guelph has rights which carry commensurate responsibilities which, broadly, being a civil and respectful member of the University community. The Rights and Responsibilities are [detailed in the Undergraduate Calendar](#).

Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact Student Accessibility Services as soon as possible. For more information, contact CSD at 519-824-4120 ext. 56208 or email sas@uoguelph.ca or refer to the [SAS website](#).

Academic misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and enjoins all members of the University community—faculty, staff, and students—to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. The Academic Misconduct Policy is [detailed in the Undergraduate Calendar](#).

Recording of materials

Presentations which are made in relation to course work—including lectures—cannot be recorded in any electronic media without the permission of the presenter, whether the instructor, a classmate or guest lecturer.

Resources

The [Undergraduate Calendar](#) is the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate programs. If you find yourself

in difficulty, contact the undergraduate advisor in your program, or [the BA Counseling Office](#).

My general policies

If there is a conflict between the following policies and the University's policies on such matters as [students' academic responsibilities](#) and [undergraduate degree regulations and procedures](#), or the above-quoted College of Arts policies, then those policies prevail.

Office hours

These are for any sort of consultation that you might want: questions about the course material, discussion of your progress in the course, questions about assignments, and so on. You do not need to make an appointment, just come by. If the office hours conflict with your schedule then you can make an appointment with me for a meeting at some other time.

Disability

If you need accommodations for a disability you must first register with the [Center for Students with Disabilities](#) (x6208). They will send me a letter saying what is required. Nonetheless I would like it if you schedule an appointment with me to discuss such accommodations.

Personal emergencies

Reasonable accommodation will be made for personal emergencies *that are documented*. I know that it can be troublesome to produce such documentation but there is no other way to ensure the fair administration of this provision.

Format of essays

Essays (as opposed to brief writings submitted on the course website) are to be formatted as follows.

- 12-point standard font (e.g. Times Roman), double-spaced
- Citations are to be in the form (Mill 1863, 128), which gives the author's name, date of publication of the work, and page number(s) from the work.
- At the end of your paper list the work(s) you cited, in the appropriate form:

Journal article:

[author's last name], [author's first name]. [year of publication]. [title of article (unenclosed in quotation marks)]. [title of journal, italicized] [volume number of journal]: [page numbers of article].

Book:

[author's last name], [author's first name]. [title of book (italicized, unenclosed in quotation marks)]. [year of publication]. [location of publisher]: [name of publisher].

- Do not have a title page. Put the title and your name at the top of the first page of the paper.
- Number the pages.
- Staple the paper at the top left corner.

For further details concerning citations, see Kate Turabian's book *A Manual for Writers of Term Papers, Theses and Dissertations*, chapter 8: "Parenthetical references and reference lists."