UNIVERSITY OF CALGARY

PHIL 379 Lec 01
"Logic II"
Winter Term 2015

Course Outline

Lectures: TR 11:00 - 12:15 in Math Sciences 217

Instructor:	**Dr. Nicole Wyatt**
Office:	**Social Sciences 1256A**
Office Phone:	**403-220-3166**
Email:	**nicole.wyatt@ucalgary.ca**
Office Hours:	**Mondays and Wednesdays 10:30-11:30, or by appointment**

Recommended Textbooks

There are three textbooks you might consider for this class. If you are comfortable with basic mathematical concepts (e.g. sets, functions, countability), and did well in Logic I, then you will probably find the Open Logic Text sufficient by itself. Yaqub's *Introduction to Metalogic* will be helpful to students who need more mathematical background or more review of first-order logic. Finally, if you are anxious about the mathematics in this course Steinhart's *More Precisely* offers a gentle survey.

Open Logic Project. 2014 *Open Logic Text.* (A pdf of this textbook will be available on D2L.)

Yaqub, Aladdin. 2015. *An Introduction to Metalogic*. Broadview Press. (Available from the university bookstore or direct from Broadview Press: broadviewpress.com)

Steinhart. Eric. 2009. *More Precisely: the math you need to do philosophy*. Broadview Press (Available direct from Broadview Press: broadviewpress.com)

Peer Assisted Study Sessions

This course is supported by the PASS (Peer Assisted Study Sessions) program. PASS provides students with free, organized study groups facilitated by a student who has been successful in the course before. Attending PASS can help you build your understanding of course content as well as learn valuable study skills which will help you to succeed in the course. You will meet your PASS leader and receive more information in the first weeks of classes.

Course Description

A formal logic consists of a symbolic language together with a semantics, which captures the possible meanings or truth-conditions of the sentences of the language, and a deductive system, which aims to capture which inferences are correct. In this course we study the scope and limits of formal logic by examining the relationship between these three parts of a logic. The major results to be presented include soundness ("the deductive system captures only truths") completeness ("the deductive system captures all the truths") undecidability ("there is no mechanical procedure for establishing whether or not an argument is valid"), and the Löwenheim-Skolem theorems (which concern some of the limits on the expressive power of first-order logic). Along the way we will study some set theory, recursive functions, Turing-machines, and the limits of computation. The course is fast paced and students are expected to supplement lectures with significant independent study.

Logic II is a course in metalogic. It builds upon the material in Logic I (Phil 279 or Phil 377), but is very different in character. In Logic II, we prove theorems about logical systems (and not in logical systems, i.e., there will be very few formal proofs). Doing well in Logic I is no guarantee that this will come easy to you. Some of the material we will be covering is discussed in your 279/377 text—if you used the *Logic Book*, review chapters 8 and 11; in Chellas' *Elementary Formal Logic*, review chapters 7 and 9 and the appendices; in *Language, Proof and Logic*, review chapters 15, 16, 18.1-18.3; in *Formal Logic: Its Scope and Limits*, sections 2.7-2.10, 313-3.15, 4.13-4.15.

Course Requirements
Grades in this class will be based eight assignments, an in-class midterm exam, and a Registrar-scheduled final exam.

Due Dates

Assignment 1	January 22nd
Assignment 2	January 29th
Assignment 3	February 5th
Assignment 4	February 12th
Midterm Exam	February 26th
Assignment 5	March 12th
Assignment 6	March 19th
Assignment 7	March 26th
Assignment 8	April 2nd

The final exam will be scheduled by the Registrar.

Homework and assignments may be submitted either in-class, to the class drop box located in the Philosophy Department (12th floor Social Sciences), or electronically via D2L. Submissions via email are NOT accepted.

Grading
- *Ceteris paribus*, the assignments will be collectively worth 40%, the midterm exam will be worth 25%, and the final exam will be worth 35%.
- When calculating your final grade the lowest assignment grade will be dropped.
- Students must receive a passing grade (D or better) on the final exam to pass the course.
- Exams and assignments will be graded on both technical accuracy *and* quality of presentation, including spelling and grammar. As noted below in the grading rubric, an A answer must be correct but also reasonably direct and elegant.

Grading Rubric
On each assignment and test question you will receive a letter grade reflecting the level of mastery of the material shown by the work you submit. According to the *Calendar* letter grades are defined as follows:
A   Excellent—superior performance, showing comprehensive understanding of subject matter. (A solution to an assigned problem shows that you understand the problem, is complete and rigorously correct, and is reasonably direct and elegant.)
B   Good—clearly above average performance with knowledge of subject matter generally complete. (You work demonstrates that you understand the problem and you give a complete solution, although there may be minor gaps in the proof, or the solution is correct but circuitous.)
C   Satisfactory—basic understanding of the subject matter. (Your works shows that understand what the question is asking but your solution contains significant errors or gaps.)
D   Minimal pass—marginal performance. (It is not clear from your answer that you understand what the question is asking, or your proposed solution goes completely in the wrong direction.)

In computing your assignment or exam grade, your marks on individual questions will be converted to grade points as defined in the calendar (A = 4, B = 3, C = 2, D = 1, F = 0). There will be no +/– grades, but "slash" grades are possible and have grade point values 0.5 below the higher grade (e.g. A/B = 3.5). Each assignment or exam grade will be equal to the average of the grade point value of the questions (e.g. a 3 question assignment with grades A, B, B would receive a grade point score of 3.33). Your course GPA will be calculated according to the weights given above. *Ceteris paribus,* the final mark is the letter grade corresponding to the course GPA plus a margin of 0.1. For the final grade, +'s and –'s are possible too; as defined in the *Calendar*, +/– adds/subtracts 0.3 grade points. In other words, a course GPA of 3.9 or higher receives an final grade of A, at least 3.6 and less than 3.9 an A–, and so on. There is no D– grade. A+ is reserved for truly exceptional performance.

Late policy

Assignments will not normally be accepted after the deadlines unless special permission has been given by the instructor. Failure to submit an assignment on time will normally result in a mark of zero. Students who cannot submit an assignment due to medical reasons or other reasonable grounds should contact the instructor as soon as possible.

Students who miss the midterm exam for medical or other reasonable grounds will have the weight of the midterm transferred to the final exam.

Collaboration

Collaboration on homework and assignments is encouraged. However, you must write up your own solutions, and obviously you must not simply copy someone else's solutions.

You may also choose to submit assignments as a group. Groups should be 2-4 people in size, must be formed before the first assignment is submitted, and must persist throughout the course (allowing for changes due emergencies, or to someone withdrawing from the class).

Plagiarism

You might think that it's only plagiarism if you copy a term paper off the Internet. However, you can also plagiarize in a logic course. This could be by copying a proof verbatim from an online source or a textbook, but it could also be by copying a proof verbatim from lecture notes or our textbook, changing only the details to make it fit the assigned question. The point of logic problems which are similar to the proofs in the text or notes is to make you work through those proofs, understand them, and then prove a similar result on your own. Hence, all assignment solutions must be in your own words; copying or paraphrasing closely from the text will be treated as plagiarism.

Academic Honesty
Cheating or plagiarism on any assignment or examination is regarded as an extremely serious academic office, the penalty for which may be an F on the assignment, an F in the course, academic probation, or requirement to withdraw from the University. See the relevant sections on 'Academic Misconduct' in the current University Calendar. Intellectual honesty requires that your work include adequate referencing to sources. Plagiarism occurs when you do not acknowledge or correctly reference your sources. If you have questions about correct referencing, consult your instructor.

Academic Accommodation
It is the student's responsibility to request academic accommodation. If you are a student with a permanent disability or temporary impairment who may require academic accommodation, you must first register with the Student Accessibility Resource Office located in MacEwan Student Centre 452; phone 403-220-8237; email access@ucalgary.ca. Students who have not registered with the Student Accessibility Office are not eligible for academic accommodation. You are also required to discuss your needs with your instructor no later than fourteen (14) days after the start of this course. Go to http://www.ucalgary.ca/access/ for further information.

D2L Help
Desire2Learn is the University of Calgary's learning management system which has now replaced BlackBoard. Go to http://www.elearn.ucalgary.ca/desire2learn/ for help in using Desire2Learn.

Student Advising and Information Resources

- General Academic Concerns and Program Planning– Have a question but not sure where to start? The Arts Students' Centre (ASC) is your information resource for everything in the Faculty of Arts. Drop in at SS110, call 403-220-3580, or email artsads@ucalgary.ca. Advisors in the ASC can also provide assistance and advice in planning your program through to graduation. You can visit the Faculty of Arts website at http://arts.ucalgary.ca/undergraduate/ for more information on common academic concerns.
- **Advice on Philosophy Courses** - You may find answers to your more specific questions about a philosophy degree on the Department of Philosophy's website http://phil.ucalgary.ca or contact one of Philosophy's current Undergraduate Advisors (see below)
- **Registration Overload/Prereq Waivers** – If you are seeking to register in a Philosophy course that is full or to get permission to waive the prereqs for a course, email the instructor of the course.

Protection of Privacy

The University of Calgary is under the jurisdiction of the provincial Freedom of Information and Protection of Privacy (FOIP) Act. The Department of Philosophy ensures the student's right to privacy by requiring all graded assignments be returned to the student directly from the instructor.

Student Ombudsperson and Students' Union Representatives

The Student Ombuds Office provides independent, impartial, and confidential support for students who require assistance or advice in addressing issues and concerns related to their academic careers. For more information, see www.ucalgary.ca/provost/students/ombuds. For the Students' Union Faculty of Arts rep: arts1@ucalgary.ca.

Safewalk

Call 403-220-5333 (24/7/365) for a Safewalk volunteer to accompany you safely to your destination on campus including parking lots, housing, and the LRT station or use a Campus Help Phone.

PHILOSOPHY DEPARTMENT

The Department of Philosophy is located on the 12th floor of the Social Sciences Building and on the web at www.phil.ucalgary.ca

PHILOSOPHY UNDERGRADUATE PROGRAM ADVISORS FOR WINTER 2015:
Chris Framarin (Undergrad Director) chris.framarin@ucalgary.ca
Reid Buchanan buchanar@ucalgary.ca
Mark Migotti (Honours Program Advisor) migotti@ucalgary.ca

For assistance with registration issues in Philosophy courses, contact
Merlette Schnell (schnell@ucalgary.ca)