GREEN COURSES 2017-2018

Modern Symbolic Logic

PHL245H1F

Instructor: Alex Koo
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Jackman Humanities Building, 170 St. George St., Room 512

Lectures: M10-noon in TBA, W10-11 in PB B150

Office Hours: Wednesday 3:00-4:00 or by appointment in JHB 512

Course Description:

Modern symbolic logic is an introductory course in first-order logic. The first half of the course will be dedicated to sentential logic. Students will be introduced to arguments, semantics, symbolization, and derivation techniques. The second half will expand these skills into predicate logic. While the obvious goal of the course is to master the technical work, students who complete the course will also have developed their abstract reasoning and argument analysis abilities dramatically.

PHL245 is a **hybrid course**. A large amount of the lectures will be delivered through videos posted online. Class on Mondays will briefly review the lecture material, but will mostly focus on demonstrations of problems and answering student questions. You should watch the videos and attempt some problems prior to class in order to get the most out of the demonstration sessions on Mondays.

There will typically not be a class on Wednesday. The Wednesday time slot will be used for testing and you should use the free time to watch the online lectures and practice. See the week-to-week schedule below for specifics.

Communication:

Email is a good way to contact me; I will do my best to respond within 24 hours. However, I will not answer emails with questions about particular logic problems. If you have such questions you will have to post them to the Piazza discussion board to get them answered (see below). I will also not answer questions where the answer can easily be found on Blackboard or in other course materials. If you do have administrative questions or broader questions about logic or philosophy, feel free to email me.

Blackboard (REQUIRED):

All course materials will be posted on Blackboard. This includes announcements, lecture slides, online lectures, video demonstrations, readings, test solutions, and quizzes. Check Blackboard regularly to make sure you get all the content for the course.

Logic2010 (REQUIRED):

Logic2010 is a logic program developed by Terrance Parsons and David Kaplan at UCLA. This free program will be made available to students for practice purposes and for assignments. You can download the software for free. All links and instructions can be found here: https://logiclx.humnet.ucla.edu/.

> You must **SUBMIT** each of your quiz problems to Logic2010 to get credit.
> You can **CONFIRM** your submitted questions on the Logic2010 website.

Course Texts (OPTIONAL and ONLINE):

This course is an adaptation of Terrance Parsons' *Intro Logic Text*. An up to date version of the *TerryText* can be found through Logic2010. We will also be making use of Niko Scharer's symbolic logic text. Both of these texts are posted on Blackboard

Parsons' text is a modernization of Kalish, Montague, and Mar, *Logic: Techniques of Formal Reasoning.* You can find the KMM book in the library, but be warned: it is a challenging read.

Piazza (RECOMMENDED):

Piazza is an online discussion board with lots of helpful features. If you have questions about course material, such as difficulties with logic problems, post your questions on the Piazza board. **Good questions** will be answered by your fellow students, teaching assistants, and myself. This is an excellent resource for getting extra-help throughout the course.

What is a good question? It should include the problem in it – don't expect people to go search for the problem you are working on. It should include some of your own work that shows where you got stuck – it's not helpful to just get the full solution. It should not just be about basic course issues that are answered in the syllabus or in course announcements – all this stuff is in the syllabus. If your answer isn't answered by a teaching assistant, odds are it's not 'good' in the senses above.

Mentimeter (RECOMMENDED):

Mentimeter is an online voting platform that I will be using in class to get real-time feedback and responses from students. You can respond to questions using a phone or internet connected device with no registration required – just go to www.menti.com and enter the question code that will be on the screen. All responses are optional, anonymous, and have no bearing on your mark.

Logic Lab (RECOMMENDED):

The Philosophy Department is offering weekly drop-in help sessions and limited individual appointments. The Logic Lab will have regular weekly hours where a tutor will help you with your questions. Even if you don't have specific problems, you can go to the Lab to do your homework just in case something comes up. The Logic Lab hours will be posted on Blackboard. Email logiclab.uoft@gmail.com if you have any questions.

Evaluation:

There will be four 50 minute tests during the semester that will always be on Wednesday from 10-11am. All tests will be in the Exam Center at 255 McCaul St. See the schedule below for exact room details. Your best three tests will each be weighted 15%. Your worst test that you actually write will be worth 5%. Tests that you do not write will be weighted 15%.

Quizzes will be submitted through Logic2010 except for Quiz 1, which will be on Blackboard. See Blackboard or the Logic2010 assignments page for details and due dates. Each weekly quiz is weighted the exact same regardless of how many marks it is actually out of.

The final exam will take place during the examination week at the end of the semester. It will be cumulative and three hours in length.

Four In-Class Tests	50%
Weekly Online Quizzes	10%
Final Exam	40%

Missed Tests:

Students who miss a test need to let me know as soon as possible. If you have a **legitimate** excuse for medical or other reasons together with the proper documentation, then you can contact me for approval to write the make-up test. Proper medical documentation means filling out the UofT medical note found here: http://www.illnessverification.utoronto.ca/. You may email me the completed form or hand it to me in person.

The make-up test will be administered at the end of the semester and will be cumulative. The mark you earn on it will substitute for the test that you missed, and will count in the weighting system detailed above.

Make-up Test	December 8 in TBA

Accessibility Accommodations:

UofT has an excellent accessibility services: http://www.studentlife.utoronto.ca. If you need any accommodations, please contact accessibility services and then we can work together to make the course a positive experience for you.

Academic Integrity:

The University of Toronto treats cases of academic misconduct very seriously. Academic integrity is a fundamental value of learning and scholarship at the UofT. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that your UofT degree is valued and respected as a true signifier of your individual academic achievement.

The University of Toronto's Code of Behaviour on Academic Matters outlines the behaviours that constitute academic misconduct, the processes for addressing academic offences, and the penalties that may be imposed. You are expected to be familiar with the contents of this document. Potential offences

include, but are not limited to:

- On tests and exams: Using or possessing any unauthorized aid, including a cell phone. Looking at someone else's answers. Letting someone else look at your answers. Misrepresenting your identity. Submitting an altered test for re-grading.
- Misrepresentation: Falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes. Falsifying institutional documents or grades.

How to Succeed:

1) Watch the video lectures **BEFORE** class

With the exception of Units 1 and 2, class will be entirely dedicated to doing example problems and answering questions. The assumption will be that you have watched the lectures and tried to do some of the work ahead of time. If you don't, it's going to be very difficult to understand what is happening during class time, and you're also likely to fall behind.

2) **Do** the video demonstration problems – don't just watch them

It's not good enough to just watch me do a problem on YouTube. Pause the video and try the question yourself. Once you get stuck or you finish the problem, then watch the rest of my video to see how you did. It's also quite helpful to watch these demonstrations multiple times. You'll learn something different from each view.

3) Don't fall behind

Technical courses such as this one move quickly and the material always builds upon itself. If you fall behind early, either in your coursework or your understanding, later content will be nonsensical. It is crucial to make sure that you understand the weekly material so that you will grasp the new content in the following week.

4) Practice!

Unlike essay based classes, technical courses require you to do problems almost every day. If you leave the homework problems until the days before the test, this will not give you enough time to digest the skills required. Try to do logic problems as often as you can. This is not to say that you have to work for hours every day of the week. One or two problems a day is often enough and it will keep the material fresh in your mind. Logic is a skill, and skills take practice to get good at!

5) Learn from your mistakes

Do not get frustrated when you get the answer wrong or get stuck. This is inevitable! When you do practice problems most of your learning will actually come from staring at an incorrect solution and trying to figure out what went wrong or what to do next. Do not just move to the next question! Compare your approach to what was done in lecture, in the text, or from videos and figure out what went wrong. This is far more useful than doing another problem. To that end, rushing to take a look at the solutions is often a mistake. It's far more useful for you to keep trying to solve a challenging problem than just looking at the solution and moving on.

6) Make use of all the extra resources

Post good questions on Piazza. Practice on Logic2010. Watch all the videos on Blackboard. Go to the Logic Lab for help with your quizzes and homework. Talk to your peers and try to work together on the homework. And of course, come to class! All these things will make it much easier to stay on top of the material.

7) Use pencil and paper in class

Logic does not lend itself to taking notes on a computer. Put your laptops away and just come to class with a pad of paper, pencil, and eraser. All the notes will be posted digitally after class, but you need to work through the problems by hand to learn. Some people like pen, but pen can be really messy when you have to correct mistakes.

Tentative Weekly Schedule:

Week	Date	Topic and Notes
1	Sep 11	Introduction. Unit 1: Arguments
	Sep 13	Unit 2: Semantics in Sentential Logic
2	Sep 18	Unit 3: Symbolization in Sentential Logic
	Sep 20	No Class
3	Sep 25	Unit 3 continued
	Sep 27	Test 1: up to and including Unit 3 Part I and II – EX100
4	Oct 2	Unit 4: Derivations in Sentential Logic
	Oct 4	No Class
5	Oct 9	No Class – Thanksgiving
	Oct 11	Unit 4 continued
6	Oct 16	Unit 5: Single-Place Symbolization in Predicate Logic
	Oct 18	Test 2: Units 3 and 4 – EX100
7	Oct 23	Unit 6: Single-Place Derivations in Predicate Logic
	Oct 25	No Class
8	Oct 30	Units 5 and 6 continued
	Nov 1	No Class
9	Nov 6-10	No Class – Reading Week
10	Nov 13	Unit 7: Multi-Place Symbolization in Predicate Logic
	Nov 15	Test 3: Units 5 and 6 – EX200
11	Nov 20	Unit 8: Multi-Place Derivations in Predicate Logic
	Nov 22	No Class
12	Nov 27	Units 7 and 8 continued
	Nov 29	Test 4: Units 7 and 8 – EX100
13	Dec 4	Unit 9: Semantics in Predicate Logic
	Dec 6	No Class
	Dec 7	Make-Up Monday – 10am-noon in TBA