Huron University College
Undergraduate Course Outline—Intersession 2022

Philosophy 2250: Introduction to Logic

Intersession Term 2022
Mon – Thurs 9:30–12:30
Room: W6 (Huron College)

Instructor: Emerson Doyle
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Description & Objectives

This course is intended to introduce students to the art and science of logical reasoning. To the first end, we will develop syntactic and semantic methods to test the validity of arguments using the two most basic and popular systems of modern logic: the logic of sentences, and the logic of first-order predicates with identity and definite descriptions. To the second end, we will investigate the properties of these systems (called *meta-theory*). This will help us to explain why and how these systems capture and characterize the essential aspects of our valid reasoning, especially in application to science, mathematics, computation, and everyday life.

The study of formal logic provides excellent preparation for intellectual work in almost all other disciplines. Everyone can benefit from learning, in a systematic way, various methods of sound reasoning—methods that prize precision, clarity, rigour, practice, and patience. Students in this course should expect to develop an enhanced ability to engage in disciplined argument and to critically evaluate the arguments of others, especially in philosophical and scientific contexts. Students should also be prepared to confront and hopefully overcome personal concerns about "math-phobia", or the paralyzing aversion to mathematical or technical material. Finally, to succeed students will need to learn to *try, try, and try again.* Learning how to approach an uncertain problem and to persist in the face of adversity is the primary skill this course will impart. The course assumes no prior knowledge of logic.

Requirements

- Participation: 5% (class/forum discussion, reporting textbook errors)
- 8 Homeworks: 16% (2% each – graded for completion)
- Daily Quizzes: 24% (1–3% each, most days via OWL Tests & Quizzes area)
- Midterm: 25% (in class)
- Final Exam: 30% (during the June 2022 exam period)

Quizzes reinforce content and require daily engagement. Homeworks are more substantial, encouraging consistent practice. They'll be corrected but graded for completion only—try your best to answer each question assigned. You must pick up homework when returned in class. Late assignments receive 50% credit; those picked up late lose 50% credit.

Students are expected to attend class having completed the readings, to reflect upon the ideas we discuss, and to regularly complete textbook exercises outside of class. Students ***cannot*** do well in this course without substantial practice outside the classroom.

Texts

- Merrie Bergmann, J. Moore, & J. Nelson (2014). *The Logic Book*, 6th ed. McGraw-Hill. (E-book available from Bookstore, physical available from Amazon; see OWL for a special note!)
- Various supplementary readings to be made available on OWL.

Schedule

This is a six-week accelerated course, running three hours per day (*plus time for homework*) four days per week—a full-year course in an extremely compressed timeframe. The material requires attention every single day, not just for learning but more importantly for ***skills practice***. Expectation is 2–3 hours of practice per day, in addition to course hours. The pace will be quick, the workload extremely heavy, but the rewards great.

We are not scheduled to meet on Fridays, but I will hold weekly *Tutorials* in the classroom during the normal meeting time. These drop-in sessions will be much less structured than regular class. The idea is to facilitate further opportunity for in-depth questions, homework completion, additional practice, and general discussion. They will also act as office hours.

Everybody is capable of getting near 100% in this course. But it requires a serious work ethic and time investment. Dedication and practice are key. I'll endeavour to be as accessible as possible, but it's up to you to put in the effort and time required.

Monday	Tuesday	Wednesday	Thursday	Friday
"First Term"				
May 16 §1.1–1.3	May 17 §2.1–2.2 **Homework 1**	May 18 §2.3–2.4	May 19 §3.1–3.3 + Set Theory	May 20
May 23 **Long Weekend!!**	May 24 §3.4–3.5 **Homework 2**	May 25 §5.1	May 26 §5.2–5.4	May 27
May 30 §3.6 + Proofs & Induction	May 31 §6.1–6.2 **Homework 3**	June 1 §6.3–6.4	June 2 Computation **Homework 4**	June 3 **Midterm Review!**
"Second Term"				
June 6 *Drop Date* **Midterm!**	June 7 §7.1–7.3	June 8 §7.4 **Homework 5**	June 9 7.5 + Relations & Descriptions	June 10
June 13 §8.2–8.3	June 14 §8.4, §8.6 **Homework 6**	June 15 §10.1–10.2	June 16 §10.3–10.4	June 17
June 20 §8.1, §8.5 + Truth Definition	June 21 §11.1–11.2 **Homework 7**	June 22 §11.3–11.4	June 23 Infinity & Math **Homework 8**	June 24 **Exam Review!**

Final Exam: Either June 27th or 28th, as scheduled by the Registrar.