

## PHIL 203: Elementary Formal Logic (1.5 units)

### **Course Information:**

PHIL 203 A01 (CRN 12616)

Course Schedule: TWF 10:30-11:20 in (Room TBA)

Prerequisites: None

### **Instructor Information:**

Name: Dr. Audrey Yap (she/they) (you can call me Dr. Yap, Professor Yap, or Audrey)

Email: [ayap@uvic.ca](mailto:ayap@uvic.ca)

Appointments: Th 9-11am over Zoom (booking link: <https://calendly.com/ayap/office>) or email to make alternative arrangements

### **Territorial Acknowledgement (Contributed by Scow and Underwood):**

The University of Victoria is situated on the unceded territory of the ləkʷəŋən and W̱SÁNEĆ peoples. This is their land—a reality that all of us who have come here must acknowledge. We must also recognize how our presence here interrupts ancient ways of being in this world. We all have a responsibility to prevent further intrusion into ləkʷəŋən and W̱SÁNEĆ lives and, if called upon, to support expressions of ləkʷəŋən and W̱SÁNEĆ nationhood. We must also recognize that we are living on someone's home—spread across Greater Victoria are the hunting and fishing grounds, village sites and ceremonial places of Salish people, and we must acknowledge how our presence here can either disrupt or repair the relationships between the original people and their territory.

### **Course Logistics and Technologies:**

Course website through Brightspace (<https://bright.uvic.ca/d2l/home>)

Assignments completed on Carnap.io (<https://carnap.io/>)

Textbook is an abridged version of Forall x Calgary (<https://forallx.openlogicproject.org/>) available as a PDF on Brightspace

While this is designed to be a face-to-face course, all assignments and tests will be completed online, and attendance will not be taken. In a typical week, Tuesday classes will be an in-class lecture that will be recorded and posted on Brightspace. Wednesday classes may involve going through additional examples and material that did not get covered during Tuesday's class, and you will be expected to spend class time working through the posted modules so that instructors and teaching assistants can answer any questions that you have about the material. Friday classes will be work blocks where you can work through posted practice questions or tests, again with the instructor and teaching assistants available to assist you.

Bringing a computer and paper notebook or tablet to class on Wednesdays and Fridays is highly recommended. It will be helpful to write your answers down by hand as well as have a device that you can use for entering them in.

## Learning Objectives and Strategies:

You will learn the basic terminology and concepts of formal logic and apply them to the formal languages we will learn using truth-functional connectives and quantifiers. The main skills you will learn will be:

- symbolizing English sentences in a formal language,
- using truth tables for evaluating sentences and arguments, and
- constructing logical proofs using a formal system.

In more general terms, the skills you will practice will require you to take a fixed set of rules and apply them to solve given problems.

The emphasis will be on problem-solving skills, and not on memorization. Each week will have assigned readings from the textbook, but the textbook is primarily intended to serve as a reference. Lectures will explain the theories we cover and problem-solving strategies we will use, but the primary way you will learn in this course will be to work through the material (modules, practice questions, quizzes, and tests). The best way to do this will be to come to the class sessions and ask for assistance from the instructional team whenever you need it. You are also welcome to email me with questions or make one-on-one appointments with me. Remember, though, that we will not know if you need help unless you ask for it!

## Assessment:

To supplement my practice questions and the ones from the book, you will also be generating practice questions for each other. You can receive up to 8 marks for engagement by posting original (not duplicates of textbook questions or those in the practice assignments) practice questions and solutions for your classmates on Brightspace. Guidelines for the questions and solutions will be posted weekly and they will be due on Thursdays by 11:59pm. These will be graded on a credit/no credit basis, and any submission that meets the guidelines will receive credit. If you post an incorrect submission, I will edit the Brightspace post when I see it with feedback, and if you have time before the deadline, you can edit that submission or post a new one for another attempt to get credit.

At the end of each week, there will also be either a quiz on the week's material (4% x 8 total) or a unit test (15% x 4 total) covering the last several weeks of material. These will be completed on Carnap.io, and are untimed, which means that they only need to be turned in by the due date. You will, however, need an internet connection to submit them.

Quizzes and tests will be released on Friday mornings at 12:01am and will be due by 11:59pm on Sunday nights. If you attempt **at least half of the quizzes and tests**, you will be considered to have **completed the course**. Failure to complete at least half of these will result in an N grade regardless of the cumulative percentage on other elements of the course.

However, I know that sometimes things do not go as planned. You may have 2 days' worth of extensions on quizzes or tests. This means you can take 2 extra days to complete a single assignment or have 1 extra day on two different assignments. Please let me know before the due date if you are using an extension, though you do not need to tell me why you need it. If you end up needing more than 2 days' worth of extensions during the semester, I highly encourage you to make an appointment with me to talk about how we can plan for you to keep up with the course schedule.

No extensions will be given on engagement points since they are for the benefit of the other students in the class. However, you will only need to post 8 out of a possible 12 during the semester, so missing 1 or 2 weeks should not be a problem.

Gradeable Item	Description	Value	Total
<b>Engagement</b>	Posting practice questions on the class discussion boards	1% x 8 weeks	8%
<b>Quizzes</b>	Answering questions about the week's material	4% x 8 quizzes	32%
<b>Tests</b>	Answering questions about material from one unit	15% x 4 tests	60%
		<b>Total</b>	<b>100%</b>

Final course grades will be given as percentile marks, in accordance with the standard university grading scheme:

<https://www.uvic.ca/calendar/future/undergrad/index.php#/policy/S1AAgoGuV?bc=true&bcCurrent=16%20-%20Grading&bcGroup=Undergraduate%20Academic%20Regulations&bcItemType=policies>.

### **Academic Integrity:**

You are welcome and encouraged to work with others on modules and practice questions. When it comes to quizzes and tests, you can talk with others about general problem-solving strategies and refer to any past lectures, course material, or notes. That means quizzes and tests are completely open book, with the understanding that you are figuring out the solution to the problems yourself.

I teach this course under the assumption that you are here to learn. If you are having trouble with the material, then my expectation is that you will ask me or a TA for help – this is why over half of the class time is set aside for that precise purpose.

Some students have found it useful to draw on material from outside the course, like YouTube videos on logic. If you do this, just keep in mind that material you find online might be designed for different classes that use different logical systems and may be of limited application to this course. In some cases, it might even make things more confusing to get conflicting information. So while this is not a violation of academic integrity, it may not actually help you learn.

Use of generative AI on graded items is a violation of academic integrity, however. Using it will not help you learn the problem-solving skills that we focus on in this course.

You can find UVic's policy on Academic Integrity here:

[https://www.uvic.ca/calendar/future/undergrad/index.php#/policy/Sk\\_0xsM\\_V](https://www.uvic.ca/calendar/future/undergrad/index.php#/policy/Sk_0xsM_V)

### **Conduct and Communication:**

I do not run a formal classroom and I do not insist on titles. You can refer to me as Dr. Yap, Professor Yap, or Audrey, and I genuinely have no preference which you use. She and they are both correct pronouns for me, and if you think I wouldn't know which pronouns you use, please don't hesitate to make me aware.

Email is the best way to get in touch with me outside of class time, particularly if you have any official requests. If you ask me a question over email, you can expect a reply within about 1 working day. If you don't hear back from me after that time frame, feel free to try again in case your message went astray. If you are nervous about sending me an email or asking a question, feel free to include a picture of a puppy (or cute animal of your choice) with your request. This will not affect whether I will be able to help you with your request but will give you an excuse to look for pictures of puppies or other cute creatures. In fact, it will make me happy to know that you have read the course outline to this point, so feel free to send me a picture of a cute animal now.

I also consider you to be the best authority on your needs in the classroom. That means if you need to do things like eat or drink during class, leave the room, knit, stim, or anything else, the only thing I ask is that you respect others in the room and try not to distract them.

### **Course Schedule:**

#### **Unit One: Introduction to Truth-Functional Logic**

Week One (Sep 4, 6): Introduction to Arguments and Formal Logic (Chap 1-2)

Week Two (Sep 10, 11, 13): Symbolizing English (Chap 4-6)

Practice Questions One posted by Sep 12

Quiz One completed by Sep 15

Week Three (Sep 17, 18, 20): Introduction to Truth Tables (Chap 8-10)

Practice Questions Two posted by Sep 19

Quiz Two completed by Sep 22

Week Four (Sep 24, 25, 27): Truth Tables, Continued (Chap 11- 13)

Practice Questions Three posted by Sep 26

Test One (Symbolization and Truth Tables) completed by Sep 29

## **Unit Two: Natural Deduction for Truth-Functional Logic**

Week Five (Oct 1, 2, 4): Natural Deduction (Chap 14-15)

Practice Questions Four posted by Oct 3

Quiz Three completed by Oct 6

Week Six (Oct 8, 9, 11): Natural Deduction (Chap 15-16)

Practice Questions Five posted by Oct 10

Quiz Four completed by Oct 13

Week Seven (Oct 15, 16, 18): Natural Deduction (Chap 16)

Practice Questions Six posted by Oct 17

Test Two (Natural Deduction) completed by Oct 20

## **Unit Three: Introduction to First-Order Logic**

Week Eight (Oct 22, 23, 25): Introduction to First-Order Logic (Chap 21-22)

Practice Questions Seven posted by Oct 24

Quiz Five completed by Oct 28

Week Nine (Oct 29, 30, Nov 1): More Complex Symbolization (Chap 23-24)

Practice Questions Eight posted by Oct 31

Quiz Six completed by Nov 3

Week Ten (Nov 5, 6, 8): Interpretations (Chap 27-28)

Practice Questions Nine posted by Nov 7

Test Three (First-Order Logic) completed by Nov 10

## **Unit Four: Natural Deduction for First-Order Logic**

Week Eleven (Nov 15): Natural Deduction in FOL (Chap 32-33)

Note: Nov 15 will be a lecture class

Week Twelve (Nov 19, 20, 22): Natural Deduction in FOL (Chap 32-33)

Practice Questions Ten posted by Nov 21

Quiz Seven completed by Nov 24

Week Thirteen (Nov 26, 27, 29): Natural Deduction in FOL (Chap 34-36)

Practice Questions Eleven posted by Nov 28

Quiz Eight completed by Dec 1

Week Fourteen (Dec 3, 4): Review of Natural Deduction in FOL (Chap 32-36)

Practice Questions Twelve posted by Dec 5

Test Four completed by Dec 8

## Other Resources:

### Student Resources

- a. [UVic Learn Anywhere](#). UVic Learn Anywhere is the primary learning resource for students that offers many learning workshops and resources to help students with academics and learning strategies.
- b. [Library resources](#). Information for students wishing to use the UVic library.
- c. [Student wellness resources](#)
- d. [Ombudsperson](#) A resource to help resolve disputes or complaints.
- e. Indigenous student services ([ISS](#))
- f. Centre for Academic Communication ([CAC](#))
- g. Math & Stats Assistance Centre ([MSAC](#))
- h. Learning Strategies Program ([LSP](#))
- i. [Other student groups and resources](#)
- j. [Academic Concession Regulations](#)
- k. [Academic Concession and Accommodation](#)
- l. Academic accommodation & access for students with disabilities – [Policy AC1205](#)

### University statements and policies

- a. University Calendar - Section "[Information for all students](#)"
- b. [Creating a respectful, inclusive and productive learning environment](#)
- c. [Accommodation of Religious Observance](#)
- d. [Student Conduct](#)
- e. [Non-academic Student Misconduct](#)
- f. [Accessibility](#)
- g. [Diversity / EDI](#)
- h. [Equity statement](#)
- i. [Sexualized Violence Prevention and Response](#)
- j. Discrimination and Harassment [Policy](#)