## **ELEMENTARY FORMAL LOGIC**

PHIL203 (AO1)

Explores the fundamentals of good reasoning by means of symbolic techniques in both propositional and predicate logic. Students will learn to translate English sentences into logical notation, as well as how to use truth tables and derivations to demonstrate the validity of arguments.

INSTRUCTOR Dr. Mike Raven (⋈ raven@uvic.ca • ☐ raven.site)

⊕ **OFFICE HOURS** • via ZOOM Mon/Thu 2:30-3:30<sub>PM</sub> or by appointment on weekdays.

ASSISTANT Chris Leeman (⋈ cleeman@uvic.ca)

⊕ TUTORIALS • informal "drop-in" sessions via ZOOM Tue/Wed 1:00-2:15 PM.

LMS / ZOOM <u>bright.uvic.ca/d2l/home/50947</u> (Consult for updates and current course documents.)

SSO / @uvic.ca credentials required for zoom, recommended for LMS and email.

**INSTRUCTION** Remote instruction with asynchronous ( $\leftrightarrows$ ) and synchronous ( $\textcircled{\ominus}$ ) components.

⊕ Class meetings are held on Mon/Thu 1:00-2:20<sub>PM</sub> on ZOOM:

www.uvic.ca/systems/services/avmultimedia/zoomvideoconferencing/index.php

(≒ Recordings available next day on KALTURA MEDIA GALLERY; slides also on LMS.)

TEXTS 

Magnus & Button et al, forall x: Calgary (Open Logic Project)

**SOFTWARE** Carnap (free online software for problem sets and exams; requires a stable internet connection) Enroll using your names that UVic has on file.

#### **EVALUATION**

**RUBRIC** Grades (☐ <u>UVic's scale</u>) you earn are determined by your work for this course.

WORK  $\nearrow$  PRACTICE [ $^{1}/_{3}$ ]  $\leftrightarrows$  12 equal-weight online PROBLEM SETS, best 10 submissions counted

(see **PRACTICE GUIDE**)

**PERFORMANCE**  $[^2/_3]$   $\leftrightarrows$  2 equal-weight cumulative timed online **EXAMS** 

(see EXAM GUIDE)

LATENESS Work submitted after a due date is penalized 60% (see ACCESSIBILITY for exceptions).

#### **POLICIES**

CONDUCT

Enrolling binds you to a social contract with your instructor and classmates:

- Be prepared. Consult course documents. Read assigned text before class.
- Be engaged. Attend class. Use office hours and tutorials.
- **Be respectful**. Don't bully or distract others (mute mic, avoid excess chats).
- Be professional. Check sources first. Follow etiquette. Allow ≥1 day for replies.

ACCESSIBILITY

Arrange accommodations with <u>CAL</u>. Other accommodations (e.g. extra credit, extensions, alternate/makeup work) will *not* be considered, except by instructor's discretion for extraordinary cases (e.g. *not* computer/wi-fi problems) and when the request and any needed documentation are received within 3 days of the due date.

Guests permitted only with instructor's prior consent.

INTEGRITY

Plagiarism, cheating, sharing your work, or submitting others' work is an academic integrity violation. Ignorance is no excuse. Familiarize yourself with the policies:

www.uvic.ca/current-students/home/academics/academic-integrity/

## COPYRIGHT

All course content and materials are made available by instructors for educational purposes and for the exclusive use of students registered in their class. The material is protected under copyright law, even if not marked with a  $\odot$ . Any further use or distribution of materials to others requires the written permission of the instructor, except under fair dealing or another exception in the Copyright Act. Violations may result in disciplinary action under the Resolution of Non-Academic Misconduct Allegations policy (AC1300).

## **SCHEDULE**

Read all assigned chapters before each class.

Consult  $\sqsubseteq$  LMS for updates.

# **TRUTH-FUNCTIONAL LOGIC**

<b>(</b>	JAN 11	• Introduction		
<b>(</b>	JAN 14	<ul> <li>Key notions of logic</li> </ul>	1-3	
<b>(</b>	JAN 18	Truth-functional logic	4-6	¬ DUE: PROBLEM SET 1
<b>(</b>	JAN 21	1	7-8	
<b>(</b>	JAN 25	• Truth-tables	9-10	¬ DUE: PROBLEM SET 2
<b>(</b>	JAN 28	i i	11-12	
<b>(</b>	FEB 1	1	13-14	¬ DUE: PROBLEM SET 3
<b>(</b>	FEB 4	<ul> <li>Natural deduction</li> </ul>	15-16,19	
<b>(</b>	FEB 8	1	17-18	
<b>(</b>	FEB 11	!	20	¬ DUE: PROBLEM SET 4
	FEB 18	no class (Reading Break)		□ DUE: PROBLEM SET 5
	FEB 19	no class (Reading Break)		
<b>(</b>	FEB 25	Metatheory &	21	¬ DUE: PROBLEM SET 6
<b>(</b>	FEB 25	• Review	EXAM GUIDE	
≒	FEB 26-27	<b>+</b> Exam 1	1-20	

# **FIRST-ORDER LOGIC**

(1)	MAR 1	• First-order logic	22-23					
<b>(</b>	MAR 4	!	26					
<b>(</b>	mar 8	i .	24	¬ DUE: PROBLEM SET 7				
<b>(</b>	MAR 11	i	25,27-28					
<b>(</b>	MAR 15	<ul> <li>Interpretations</li> </ul>	29-30	¬ DUE: PROBLEM SET 8				
<b>(</b>	MAR 18	-	31					
<b>(</b>	MAR 22	i .	32					
<b>(</b>	MAR 25	i .	33	¬ DUE: PROBLEM SET 9				
<b>(</b>	MAR 29	<ul> <li>Natural deduction</li> </ul>	34-35					
<b>(</b>	APR 1	i .	36-37	¬ DUE: PROBLEM SET 10				
<b>(</b>	APR 5	no class (Easter Monday)						
<b>(</b>	APR 8	<b>!</b>	38-39	¬ DUE: PROBLEM SET 11				
<b>(</b>	APR 12	Metatheory & Review						
	APR 15	no class		☐ DUE: PROBLEM SET 12				
≒	APR 16-17	<b>+</b> Exam 2	1-39					