## 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.

OUTCOMES	Competence in the theory of and application of classical first-order logic. Ly Fulfills the logic requirement for the <u>Philosophy Major Program</u> .		
INSTRUCTION	Monday/Thursday 1:00-2:20 <sub>PM</sub> 📠 ECS 123 FACE-TO-FACE		
INSTRUCTOR	Professor Mike Raven ( <u>raven@uvic.ca</u> • <u>raven.site</u> ) <b> </b>		
ASSISTANTS	Chris Leeman (cleeman@uvic.ca)Neve Sugars-Keen (nevesugarskeen@uvic.ca)TUTORIAL • Thu 3:00-4:20 PM m CLE C116TUTORIAL • Mon 11:30 AM-12:50 PM m CLE C111		
LMS	<ul> <li>bright.uvic.ca/d2l/home/366788 (Consult for updates and current course documents.)</li> <li>Carnap (free online software for exams and problem sets; requires a stable internet connection)</li> </ul>		
TEXTS	Required • Raven, Form: Introducing Formal Logic		

## **EVALUATION**

Completing all essential work (**>**) completes the course. Omitting essential work earns GRADES a failing N course grade. There is no extra credit or make-up work. Grades earned are assessed for craftsmanship (RUBRIC). Integrity in Practice DUE: LMS (see SCHEDULE) ▶ INTEGRITY WORK 2 equal-weight cumulative timed online exams (EXAM GUIDE) ▶ PERFORMANCE [<sup>2</sup>/<sub>3</sub>] EXAM 1 OPEN: FEB 27-MAR 1 EXAM 2 OPEN: APR 15-17 Best 10 of 12 equal-weight problem sets (**PRACTICE GUIDE**)  $\triangleright$  PRACTICE [1/2] ▷ PROBLEM SETS 1-2 DUE: FEB 3 ▷ PROBLEM SETS 3-6 DUE: FEB 24 Late work receives 1/2 credit, rounded down ▷ PROBLEM SETS 7-9 DUE: MAR 24 ▷ PROBLEM SETS 10-12 DUE: APR 14 POLICIES Enrolling binds you to a social contract with your instructor and classmates. Create RESPECT a respectful, inclusive, and productive learning environment. Don't bully or distract others. Use devices only for class purposes. No guests without instructor's permission. Know course documents. Read texts before class. Budget time for email replies. PREPARE

- ENGAGE Class attendance is expected. Use office hours and tutorials.
- INTEGRITY Know UVic's academic integrity policies. GenAI is prohibited (unless explicitly allowed).
- PLANS <u>Academic concessions</u> must be by official request. <u>Accommodation of religious</u> <u>observance</u> must be in advance. Inform instructor of <u>CAL</u> plans (these are not blanket extensions and do not replace grace points, concessions, or other accommodations).
- PRIVACY Classes are not recorded/streamed. No unauthorized recording/streaming.

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INFO	Information for all students   student conduct   non-academic student misconduct
	equity and human rights   sexualized violence   discrimination and harassment

RESOURCES Learn Anywhere | Student Wellness | IACE | Ombudsperson

## <u>SCHED</u>ULE

**Required texts** (•) *must* be read *before* each class. **Optional texts** (<sup>a</sup>) are also most usefully read *before* each class. Dates are tentative; consult LMS for updates. See <u>www.uvic.ca/calendar/dates/</u> for important dates (last add/drop dates).

	INTRODUCTION •	Form I		
JAN 6	<ul> <li>Introduction</li> </ul>			
JAN 9	<ul> <li>Logical Form</li> </ul>	(Form I)		
	SENTENTIAL LOGIC •	Form II	PRACTICE TARGET	DUE
JAN 13	• Syntax	(Form II.2)	$\oplus$ problem set 1	
JAN 16	<ul> <li>Semantics</li> </ul>	(Form II.3)		
JAN 20	f		$\oplus$ problem set 2	
JAN 23	•	<i>i</i> –		
JAN 27	Derivations	( <i>Form</i> II.4)	$\oplus$ problem set 3	
JAN 30	ľ		<b>A</b>	▶ INTEGRITY
FEB 3	•		⊕ PROBLEM SET 4	▷ PROBLEM SETS 1-2
	Applications	(Form 11.5)		
EER 13			T PROBLEM SET 5	
FEB 17	NO CLASS – READING I	SREAK		
FEB 20	NO CLASS – READING I	SRFAK	U PROBLEM SET U	
				DUE
	MONADIC LOGIC •	FOITH III		502
FEB 24	• Syntax	$(Form \parallel 16)$		DEPORIEM SETS 3-6
FEB 24 FEB 27	<ul><li>Syntax</li><li>Semantics</li></ul>	(Form III.6) (Form III.7)		▷ PROBLEM SETS 3-6 ► EXAM 1 OPENS
FEB 24 FEB 27 MAR 1	Syntax     Semantics     NO CLASS	(Form III.6) (Form III.7)		<ul> <li>PROBLEM SETS 3-6</li> <li>EXAM 1 opens</li> <li>EXAM 1 closes</li> </ul>
FEB 24 FEB 27 MAR 1 MAR 3	• Syntax • Semantics • NO CLASS	(Form III.6) (Form III.7)	⊕ PROBLEM SET 7	<ul> <li>PROBLEM SETS 3-6</li> <li>EXAM 1 opens</li> <li>EXAM 1 closes</li> </ul>
FEB 24 FEB 27 MAR 1 MAR 3 MAR 6	<ul> <li>Syntax</li> <li>Semantics</li> <li>NO CLASS</li> <li>Derivations</li> </ul>	(Form III.6) (Form III.7) (Form III.8)	⊕ problem set 7	<ul> <li>PROBLEM SETS 3-6</li> <li>EXAM 1 opens</li> <li>EXAM 1 closes</li> </ul>
FEB 24 FEB 27 MAR 1 MAR 3 MAR 6 MAR 10	<ul> <li>Syntax</li> <li>Semantics NO CLASS</li> <li>Derivations</li> </ul>	(Form III.6) (Form III.7) (Form III.8)	$\oplus$ problem set 7 $\oplus$ problem set 8	<ul> <li>PROBLEM SETS 3-6</li> <li>EXAM 1 opens</li> <li>EXAM 1 closes</li> </ul>
FEB 24 FEB 27 MAR 1 MAR 3 MAR 6 MAR 10 MAR 13	<ul> <li>Syntax</li> <li>Semantics NO CLASS</li> <li>Derivations</li> <li>Applications</li> </ul>	(Form III.6) (Form III.7) (Form III.8) (Form III.9)	⊕ problem set <b>7</b> ⊕ problem set <b>8</b>	<ul> <li>PROBLEM SETS 3-6</li> <li>EXAM 1 opens</li> <li>EXAM 1 closes</li> </ul>
FEB 24 FEB 27 MAR 1 MAR 3 MAR 6 MAR 10 MAR 13 MAR 17	<ul> <li>Syntax</li> <li>Semantics NO CLASS</li> <li>Derivations</li> <li>Applications</li> </ul>	(Form III.6) (Form III.7) (Form III.8) (Form III.9)	<ul> <li>⊕ PROBLEM SET 7</li> <li>⊕ PROBLEM SET 8</li> <li>⊕ PROBLEM SET 9</li> </ul>	<ul> <li>PROBLEM SETS 3-6</li> <li>EXAM 1 opens</li> <li>EXAM 1 closes</li> </ul>
FEB 24 FEB 27 MAR 1 MAR 3 MAR 6 MAR 10 MAR 13 MAR 17	<ul> <li>Syntax</li> <li>Semantics NO CLASS</li> <li>Derivations</li> <li>Applications</li> </ul>	(Form III.6) (Form III.7) (Form III.8) (Form III.9)	<ul> <li>PROBLEM SET 7</li> <li>PROBLEM SET 8</li> <li>PROBLEM SET 9</li> </ul>	<ul> <li>PROBLEM SETS 3-6</li> <li>EXAM 1 opens</li> <li>EXAM 1 closes</li> </ul>
FEB 24 FEB 27 MAR 1 MAR 3 MAR 6 MAR 10 MAR 13 MAR 17	<ul> <li>Syntax</li> <li>Semantics NO CLASS</li> <li>Derivations</li> <li>Applications</li> </ul> FIRST-ORDER LOGIC •	(Form III.6) (Form III.7) (Form III.8) (Form III.9)	<ul> <li>PROBLEM SET 7</li> <li>PROBLEM SET 8</li> <li>PROBLEM SET 9</li> </ul>	<ul> <li>PROBLEM SETS 3-6</li> <li>EXAM 1 opens</li> <li>EXAM 1 closes</li> </ul>
FEB 24 FEB 27 MAR 1 MAR 3 MAR 6 MAR 10 MAR 13 MAR 17 MAR 20	<ul> <li>Syntax</li> <li>Semantics NO CLASS</li> <li>Derivations</li> <li>Applications</li> <li>FIRST-ORDER LOGIC •</li> <li>Syntax &amp; Semantics</li> </ul>	(Form III.6) (Form III.7) (Form III.8) (Form III.9) Form IV 5 (Form IV.1-2)	<ul> <li>PROBLEM SET 7</li> <li>PROBLEM SET 8</li> <li>PROBLEM SET 9</li> </ul>	<ul> <li>PROBLEM SETS 3-6</li> <li>EXAM 1 opens</li> <li>EXAM 1 closes</li> </ul>
FEB 24 FEB 27 MAR 1 MAR 3 MAR 6 MAR 10 MAR 13 MAR 17 MAR 20 MAR 24	<ul> <li>Syntax</li> <li>Semantics NO CLASS</li> <li>Derivations</li> <li>Applications</li> <li>FIRST-ORDER LOGIC •</li> <li>Syntax &amp; Semantics</li> <li>Derivations</li> </ul>	(Form III.6) (Form III.7) (Form III.8) (Form III.9) Form IV 5 (Form IV.1-2) (Form IV.3)	<ul> <li>PROBLEM SET 7</li> <li>PROBLEM SET 8</li> <li>PROBLEM SET 9</li> </ul> PRACTICE TARGET PROBLEM SET 10	<ul> <li>PROBLEM SETS 3-6</li> <li>EXAM 1 opens</li> <li>EXAM 1 closes</li> </ul> DUE DUE PROBLEM SETS 7-9
FEB 24 FEB 27 MAR 1 MAR 3 MAR 6 MAR 10 MAR 10 MAR 13 MAR 17 MAR 20 MAR 24 MAR 27	<ul> <li>Syntax</li> <li>Semantics NO CLASS</li> <li>Derivations</li> <li>Applications</li> </ul> FIRST-ORDER LOGIC • <ul> <li>Syntax &amp; Semantics</li> <li>Derivations</li> </ul>	(Form III.6) (Form III.7) (Form III.8) (Form III.9) Form IV 5 (Form IV.1-2) (Form IV.3)	<ul> <li>PROBLEM SET 7</li> <li>PROBLEM SET 8</li> <li>PROBLEM SET 9</li> </ul> PRACTICE TARGET PROBLEM SET 10	<ul> <li>PROBLEM SETS 3-6</li> <li>EXAM 1 opens</li> <li>EXAM 1 closes</li> </ul> DUE PROBLEM SETS 7-9
FEB 24 FEB 27 MAR 1 MAR 3 MAR 6 MAR 10 MAR 10 MAR 13 MAR 17 MAR 27 MAR 27 MAR 31	<ul> <li>Syntax</li> <li>Semantics NO CLASS</li> <li>Derivations</li> <li>Applications</li> <li>FIRST-ORDER LOGIC</li> <li>Syntax &amp; Semantics</li> <li>Derivations</li> <li>Applications</li> </ul>	(Form III.6) (Form III.7) (Form III.8) (Form III.9) Form IV 5 (Form IV.1-2) (Form IV.3) (Form IV.4)	<ul> <li>PROBLEM SET 7</li> <li>PROBLEM SET 8</li> <li>PROBLEM SET 9</li> </ul> PRACTICE TARGET PROBLEM SET 10 PROBLEM SET 11	<ul> <li>PROBLEM SETS 3-6</li> <li>EXAM 1 opens</li> <li>EXAM 1 closes</li> </ul> DUE PROBLEM SETS 7-9
FEB 24 FEB 27 MAR 1 MAR 3 MAR 6 MAR 10 MAR 13 MAR 13 MAR 17 MAR 20 MAR 24 MAR 27 MAR 31 APR 3	<ul> <li>Syntax</li> <li>Semantics <i>NO CLASS</i></li> <li>Derivations</li> <li>Applications</li> </ul> <b>FIRST-ORDER LOGIC</b> • <ul> <li>Syntax &amp; Semantics</li> <li>Derivations</li> <li>Applications</li> </ul>	(Form III.6) (Form III.7) (Form III.8) (Form III.9) Form IV 5 (Form IV.1-2) (Form IV.3) (Form IV.4)	<ul> <li>PROBLEM SET 7</li> <li>PROBLEM SET 8</li> <li>PROBLEM SET 9</li> </ul> PRACTICE TARGET PROBLEM SET 10 PROBLEM SET 11	<ul> <li>PROBLEM SETS 3-6</li> <li>EXAM 1 opens</li> <li>EXAM 1 closes</li> </ul> DUE PROBLEM SETS 7-9
FEB 24 FEB 27 MAR 1 MAR 3 MAR 6 MAR 10 MAR 10 MAR 10 MAR 10 MAR 20 MAR 24 MAR 27 MAR 21 MAR 31 APR 3 APR 7	<ul> <li>Syntax</li> <li>Semantics NO CLASS</li> <li>Derivations</li> <li>Applications</li> <li>FIRST-ORDER LOGIC •</li> <li>Syntax &amp; Semantics</li> <li>Derivations</li> <li>Applications</li> <li>NO CLASS</li> </ul>	(Form III.6) (Form III.7) (Form III.8) (Form III.9) Form IV 5 (Form IV.1-2) (Form IV.3) (Form IV.4)	<ul> <li>PROBLEM SET 7</li> <li>PROBLEM SET 8</li> <li>PROBLEM SET 9</li> </ul> PRACTICE TARGET <ul> <li>PROBLEM SET 10</li> <li>PROBLEM SET 11</li> <li>PROBLEM SET 12</li> </ul>	<ul> <li>PROBLEM SETS 3-6</li> <li>EXAM 1 opens</li> <li>EXAM 1 closes</li> </ul> DUE PROBLEM SETS 7-9
FEB 24 FEB 27 MAR 1 MAR 3 MAR 6 MAR 10 MAR 10 MAR 13 MAR 17 MAR 20 MAR 24 MAR 27 MAR 21 MAR 31 APR 3 APR 7 APR 14	<ul> <li>Syntax</li> <li>Semantics NO CLASS</li> <li>Derivations</li> <li>Applications</li> <li>FIRST-ORDER LOGIC</li> <li>Syntax &amp; Semantics</li> <li>Derivations</li> <li>Applications</li> <li>NO CLASS NO CLASS</li> </ul>	(Form III.6) (Form III.7) (Form III.8) (Form III.9) Form IV 5 (Form IV.1-2) (Form IV.3) (Form IV.4)	<ul> <li>PROBLEM SET 7</li> <li>PROBLEM SET 8</li> <li>PROBLEM SET 9</li> </ul> PRACTICE TARGET PROBLEM SET 10 PROBLEM SET 11 PROBLEM SET 12	<ul> <li>▷ PROBLEM SETS 3-6</li> <li>▷ EXAM 1 OPENS</li> <li>▷ EXAM 1 closes</li> </ul> DUE ▷ PROBLEM SETS 7-9 ▷ PROBLEM SETS 10-12
FEB 24 FEB 27 MAR 1 MAR 3 MAR 6 MAR 10 MAR 13 MAR 13 MAR 17 MAR 20 MAR 24 MAR 27 MAR 31 APR 3 APR 7 APR 14 APR 15	<ul> <li>Syntax</li> <li>Semantics NO CLASS</li> <li>Derivations</li> <li>Applications</li> <li>FIRST-ORDER LOGIC</li> <li>Syntax &amp; Semantics</li> <li>Derivations</li> <li>Derivations</li> <li>Applications</li> <li>NO CLASS NO CLASS</li> <li>NO CLASS</li> </ul>	(Form III.6) (Form III.7) (Form III.8) (Form III.9) Form IV. 5 (Form IV.1-2) (Form IV.3) (Form IV.4)	<ul> <li>PROBLEM SET 7</li> <li>PROBLEM SET 8</li> <li>PROBLEM SET 9</li> </ul> PRACTICE TARGET PROBLEM SET 10 <ul> <li>PROBLEM SET 11</li> <li>PROBLEM SET 12</li> </ul>	<ul> <li>▷ PROBLEM SETS 3-6</li> <li>▷ EXAM 1 opens</li> <li>▷ EXAM 1 closes</li> </ul> DUE DUE ▷ PROBLEM SETS 7-9 ▷ PROBLEM SETS 10-12 ▷ EXAM 2 opens