



**Philosophy 2254A (570)**  
**INTRODUCTION TO LOGIC**  
**Fall/ Winter 2025-2026**

**Instructor:** M. Tait

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**Course Information**

**Calendar Description:**

A study of sentential and predicate logic designed to train students to use procedures and systems (trees, natural deduction, axiomatic systems) for determining logical properties and relations, and to give students an understanding of syntactic and semantic meta-theoretical concepts and results relevant to those procedures and systems.

**Antirequisite(s):** Philosophy 2250, Philosophy 2252W/X.

**Extra Information:** 3 hours.

**Course Weight:** 0.50

**Breadth:** Category B

**Subject Code:** PHILOSOP

Notice: Unless you have either the requisites for this course (fulfilment of pre-requisites, no anti-requisite conflicts), or special permission from your Dean to enrol in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

**Phil 2254A: Introduction to Logic**

**Fall, 2025**

**Professor Morgan Tait: mtait8@uwo.ca**

**Mode of instruction: In-person**

***Office Hours information can be found on Brightspace***

This is an introductory course in formal deductive logic. We will study sentential and predicate logic systems, focusing on the methods and procedures of logical analysis such as truth trees and natural deduction systems, as well as the formal techniques relevant to effective argumentation. We will also study logical properties and relations, and develop an understanding of syntactic and semantic concepts and results. No previous knowledge of logic is presupposed.

The course has three main objectives:

- i) To familiarize students with formal language systems and the techniques of logical deduction, and to apply these techniques in the evaluation of arguments;
- ii) To develop a general facility for the formal analysis of argumentation, including translating between written arguments and formal language systems;
- iii) To apply relevant logical concepts such as validity, soundness, logical truth, necessity and contingency to the analysis of reasoning and inference, and to develop a logical vocabulary for the formal analysis of language in any subject area.

*Tentative Schedule of Readings (References to Sections are from The Logic Book, 6<sup>th</sup> Edition (hereafter 'TLB'))*

*Week 1 (September 9<sup>th</sup>):* The Purpose of a Course in Logic; Sentences, Arguments, Truth and Falsity; Validity and Soundness; TLB Sections 1.1-1.3;

Induction vs. Deduction; Consistency and Equivalence; Special Cases of Validity; Introduction to Symbolization; TLB Sections 1.3, 2.2

*Week 2 (September 16<sup>th</sup>):* Introduction to Symbolization (continued); Complex Symbolizations; TLB 2.2, 2.3; Complex Symbolizations (continued); Non-Truth-Functional Connectives; TLB 2.3, 2.4

*Week 3 (September 23<sup>rd</sup>):* Introduction to Truth Tables; Truth Functional Truth, Falsity and Indeterminacy; Truth Functional Equivalence; TLB 3.1- 3.3

Truth-Functional Consistency, Entailment and Validity; Other Truth-Functional Properties; Introduction to Truth Trees; TLB 3.4-3.6, 4.1

*No class on September 30<sup>th</sup>: National Day for Truth and Reconciliation*

*Week 4 (October 7<sup>th</sup>):* Introduction to Truth Trees (continued); Truth Trees for Conditionals and Biconditionals; Complex Truth Trees; Testing Truth-Functional Properties With Truth Trees; TLB 4.2

*Week 5 (October 14<sup>th</sup>):* Testing Truth-functional Properties with Truth Trees (continued); Introduction to Derivations; TLB 4.2-4.3, 5.1 Introduction to Derivations (continued); TLB 5.2

*Week 6 (October 21<sup>st</sup>):* Using Derivations to Develop Basic Concepts of Sentential Logic; Strategies for Derivations; TLB 5.2-5.3; Strategies for Derivations (continued); SD+; TLB 5.3-5.4.

*Week 7: (October 28<sup>th</sup>):* Midterm Exam

***Reading Week: November 3<sup>rd</sup> -9<sup>th</sup>***

*Week 8 (November 11<sup>th</sup>):* Derivations in Sentential Logic: Overview; TLB 5.4; Introduction to Predicate Logic (PL); TLB 7.1-7.2

*Week 9 (November 18<sup>th</sup>):* Quantifiers; The Syntax of PL; AEIO Sentences; Introduction to Symbolization in PL; TLB 7.3; Introduction to Symbolization in PL (continued); Multiple Quantifiers with Overlapping Scope; TLB 7.4

*Week 10 (November 25<sup>th</sup>):* Identity and Other Logical Relations; Introduction to Semantics for PL; Quantification Properties of Sentences; TLB 7.5 (no functors), 8.1- 8.3; Quantification Properties of Sentences (continued); Truth-Functional Expansions; TLB 8.4-8.5

*Week 11 (December 2<sup>nd</sup>):* Identity in PL; Formal Semantics for PL; the Semantic Properties of PL; TLB 8.6 (no functors); Introduction to derivations in PL; TLB 10.1

*Week 12 (December 9<sup>th</sup>):* Using Derivations to Establish Syntactic Properties of PD; TLB 10.1-10.2; Using Derivations to Establish Syntactic Properties of PD; TLB 10.2; Derivations in PD+ and PD with Identity; TLB 10.3-10.4

### **Course Materials:**

TEXTS: Bergmann, M., Moor, J., and Nelson, J. [2014]. The Logic Book, 6th Edition. McGraw Hill, New York; digital or physical versions are acceptable. The following link contains current pricing for the digital and hard copies: [https://bookstore.uwo.ca/textbook-search?campus=KC&term=W2025A&courses%5B0%5D=570\\_KC/PHI2254A](https://bookstore.uwo.ca/textbook-search?campus=KC&term=W2025A&courses%5B0%5D=570_KC/PHI2254A)

Note that older editions of the Logic Book may be used at reduced cost, though the page and section numbers in the syllabus refer exclusively to the 6<sup>th</sup> edition.

Additional materials may be made available on Brightspace at no additional cost.

### **Methods of Evaluation:**

Participation (5 periodic in-class 'exit slips'):	10%
5 biweekly problem sets (lowest grade dropped):	25% (see dates below)
Midterm Exam:	25% (in class, October 28 <sup>th</sup> )
Final Exam:	40% (December exam period)

The late penalty for assignments is 5% per day late in line with departmental policy. Assignments will not be accepted after the last class. All extensions or make-up/special exams will only be granted where the student is able to provide the Academic Dean's Office with appropriate documentation.

## A Note Regarding Exit Slips

Periodically throughout the term the instructor will set aside 10 minutes of class time to pose 'exit slips', a question posed to the class related to the lecture material. There are no 'right answers' for the exit slips, however students are expected to answer the posed questions thoughtfully in the allotted time, in class. At the end of the term the completed slips will be tallied to determine a participation grade (slips answered divided by slip assigned).

## Biweekly Problem Sets

Beginning in the second week of classes, biweekly problem sets will be assigned through OWL. The problem sets will be released (at least) one week prior to the due date. Each problem set is weighted equally, with the lowest grade dropped (meaning that your 25% grade for this component is based on your four best scores, 6.25% each). You may choose to collaborate with classmates if you wish to do so. Listed below is the schedule of the problem sets:

Assignment	Release date	Due date
Problem Set 1	September 19 <sup>th</sup>	September 26 <sup>th</sup> , 11:59 PM
Problem Set 2	October 3 <sup>rd</sup>	October 10 <sup>th</sup>
Problem Set 3	October 17 <sup>th</sup>	October 24 <sup>th</sup>
Problem Set 4	November 14 <sup>th</sup>	November 21 <sup>st</sup>
Problem Set 5	November 28 <sup>th</sup>	December 5 <sup>th</sup>

## SUPPORT SERVICES

Students who are in emotional/mental health distress should refer to Mental Health@Western: <http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help.

## AUDIT

Students wishing to audit the course should consult with the instructor prior to or during the first week of classes.

**KING'S UNIVERSITY COLLEGE**  
**GENERAL COURSE POLICIES**  
**2025-2026**

**1. Academic Accommodations, Consideration for Absences**

**Academic Accommodation (Accessibility)**

Accessibility Services works to ensure that academic programs are accessible to all students, and supports students who may have a condition related to, but not limited to, vision, hearing, mobility, different ways of learning, mental health, chronic illnesses, chronic pain, autism spectrum disorder, ADD/ADHD, and temporary conditions (beyond short-term academic consideration). Accessibility Services provides recommendations for accommodation based on medical documentation or psychological and cognitive assessment. The accommodation policy can be found here [Academic Accommodation for Students with Disabilities](#). Information on Accessibility Services at King's can be found [here](#).

**Academic Consideration for Student Absence**

If a student is unable to meet a course requirement due to substantial but temporary extenuating circumstances (medical or compassionate), they should follow the procedures below.

In some cases, where instructors have built flexibility into their assessments, this flexibility will already address consideration needs.

Requests for academic consideration should be directed to the Academic Advising Office of your faculty/college of registration. Requests must be made as soon as possible and no later than 48 hours after the missed assessment.

As a rule, documentation is required for academic consideration. For academic consideration requests on medical grounds, the Student Medical Certificate is available at [https://www.kings.uwo.ca/kings/assets/File/currentStudents/courses\\_enrollment/exams\\_and\\_tests/SMC-Feb-2025.pdf](https://www.kings.uwo.ca/kings/assets/File/currentStudents/courses_enrollment/exams_and_tests/SMC-Feb-2025.pdf).

Students are permitted one academic consideration request without supporting documentation per term per course.

Instructors may designate one assessment per half-course weight as requiring formal supporting documentation. Please refer to the course outline for each course.

For further information, please see:

[https://uwo.ca/univsec/pdf/academic\\_policies/appeals/academic\\_consideration\\_Sep24.pdf](https://uwo.ca/univsec/pdf/academic_policies/appeals/academic_consideration_Sep24.pdf)

**Absences from Final Examinations**

If you miss the Final Exam, contact the Academic Advising Office of your faculty/college of registration as soon as you are able to do so. They will assess your eligibility to write the Special Examination (the name given by the University to a makeup Final Exam).

You may also be eligible to write the Special Exam if you are in a “Multiple Exam Situation” (e.g., more than 2 exams in 23-hour period, or more than 3 exams in a 47-hour period).

If a student fails to write a scheduled Special Examination, the date of the next Special Examination (if granted) normally will be the scheduled date for the final exam the next time this course is offered. The maximum course load for that term will be reduced by the credit of the course(s) for which the final examination has been deferred. See the Academic Calendar for details (under Special Examinations).

### **Religious Accommodation**

Students should consult the University's list of recognized religious holidays, and should give notice in writing to the instructor and Academic Advising Office if a course requirement will be affected by a religious holiday/observance. Notice must be given as early as possible, and no later than two weeks prior to an examination, and one week prior to a midterm test date. It is the responsibility of such students to inform themselves concerning the work done in classes from which they are absent and to take appropriate action.

## **2. Support Services**

Accessibility, Counselling and Student Development at King's University College:  
<https://www.kings.uwo.ca/current-students/student-services/>

Students experiencing emotional or mental health distress can access services at King's University

College: <http://www.kings.uwo.ca/current-students/campus-services/student-supportservices/personal-counselling/>

Good2talk is a good online and phone 24/7 resource for students and is available in English, Mandarin, and French: <https://good2talk.ca>, 1-866-925-5454

MentalHealth@Western provides a complete list of options about how to obtain help:  
[https://www.uwo.ca/health/mental\\_wellbeing/](https://www.uwo.ca/health/mental_wellbeing/)

Academic Support Services at King's University College:  
<https://www.kings.uwo.ca/current-students/academic-resources/>

### **GBSV Support:**

King's is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at:  
<https://www.kings.uwo.ca/about-kings/safe-campus/gender-and-sexual-violence/>

You can reach someone supports at Kings by emailing [Care@kings.uwo.ca](mailto:Care@kings.uwo.ca) or calling 519-930-4640 to reach a social worker who can offer help.

You can also reach Western's Gender-Based Violence & Survivor Support Case Manager by email or by calling 519-661-3568.

Further supports can be found on this website: <https://www.kings.uwo.ca/about-kings/safecampus/gender-and-sexual-violence/>

See also [https://www.uwo.ca/health/student\\_support/survivor\\_support/get-help.html](https://www.uwo.ca/health/student_support/survivor_support/get-help.html)

University Students' Council offers many valuable support services for students, including the health insurance plan: <http://westernusc.ca/services/>

### **3. Statement on Use of Electronic Devices**

Use of Electronic Devices: Unless explicitly stated otherwise, you are not allowed to have a cell phone, or any other electronic device, with you during tests or examinations. Unauthorized possession of such a device during a test or examination constitutes an academic offence.

Use of Laptops, Tablets, and Smartphones in the Classroom: King's University College at Western University acknowledges the integration of new technologies and learning methods into the curriculum. The use of electronic devices such as laptop computers, tablets, or smartphones can contribute to student engagement and effective learning. At the same time, King's recognizes that instructors and students share jointly the responsibility to establish and maintain a respectful classroom environment conducive to learning.

The use of electronic devices by students during lectures, seminars, labs, etc., shall be for matters related to the course at hand only. Students found to be using electronic devices for purposes not directly related to the class may be subject to sanctions under the Student Code of Conduct; see <https://www.kings.uwo.ca/current-students/student-affairs/code-of-student-conduct1/>

Inappropriate use of electronics (e.g., laptops, tablets, smartphones) during lectures, seminars, labs, etc., creates a significant disruption. As a consequence, instructors may choose to limit the use of electronic devices in these settings. In addition, in order to provide a safe classroom environment, students attending in-person class sessions are strongly advised to operate laptops with batteries rather than power cords.

### **4. Statement on Academic Offences**

King's is committed to academic integrity. Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, is posted at

[http://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/scholastic\\_discipline\\_undergrad.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf)

It is expected that students will submit work that is truly their own, completed without external assistance (human or artificial) except as explicitly permitted by the course instructor. Check with you instructor on what tools, including generative AI (ChatGPT, translation tools, grammarchecking tools) are permitted in the course. Because a tool is permitted in one course, that does not mean it is permitted in other courses.

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system; see <https://elearningtoolkit.uwo.ca/tools/Originality Reports - TurnItIn.html>.

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

### **5. Copyright of Course Material**

Lectures and course materials, including PowerPoint presentations, tests, outlines, and similar materials are protected by copyright. Faculty members are the exclusive owner of copyright in those materials they create. Students may take notes and make copies for their own use. Students may not allow others to reproduce or distribute lecture notes and course materials publicly (whether or not a fee is charged) without the express written consent of a faculty member. Unauthorized sharing of class content is subject to academic discipline.

Similarly, students own copyright in their own original papers and exam essays. If a faculty member wishes to post a student's answers or papers on the course website, they should ask for the student's written permission.

### **6. Use of Recordings**

Participants in this course are not permitted to record the sessions, except where recording is an approved accommodation and/or the participant has the prior written permission of the instructor. Unauthorized recording and/or sharing of class content is subject to academic discipline.

### **7. Policy on Attendance**

Any student who, in the opinion of the instructor, is absent too frequently from class or laboratory periods in any course, will be reported to the Dean of the Faculty offering the course, after due warning has been given. On the recommendation of the department concerned, and with the permission of the Dean of that Faculty, the student will be debarred from taking the regular examination in the course.