

PHI251 Fall 2025 Syllabus

This syllabus may be subject to change. Any changes made to the syllabus will be announced on Blackboard.

Instructor Information

Name: Bertram Probyn (please call me 'Bertie')

Email Address: bnprobyn@syr.edu

Office Hours: 2-3pm Mondays and Wednesdays in Pages Café, Bird Library. If you can't make either of these times and would like to meet to talk about something related to the course, please email me to arrange an alternative time to meet.

Email Policy: I intend to answer all emails sent to me relating to course matters within 24 hours. If I have not answered your email after 24 hours, please send me a follow-up email to remind me of your message.

Class Meeting Time

Mondays and Wednesdays, 3:45pm-5:05pm, Eggers Hall 113

Course Description

This class provides an introduction to formal logic. Formal logic is the study of patterns of reasoning. Certain patterns of reasoning have certain interesting properties, and formal logic teaches us to identify and describe these properties. In this class, students will learn two new languages: truth-functional logic (TFL) and first-order logic (FOL). Students will learn these languages because they represent the structure of natural language sentences well for ways that matter to the study of patterns of reasoning. Learning these languages is also helpful for students because of their applications in other fields including mathematics, computer science and linguistics.

To begin with, students will learn basic concepts related to reasoning. In this section, students will learn how to explain and apply these concepts in English. Next, students will be introduced to TFL; they will learn how to translate English sentences into sentences of TFL, they will learn the syntax of TFL (i.e. how to form grammatical sentences of TFL), the semantics of TFL (i.e. how sentences of TFL are evaluated for truth and falsity) and natural deduction proofs for TFL. Finally, students will learn FOL. Like with TFL, the FOL material will start again with translations from English to FOL and syntax for FOL. This will be followed by natural deduction proofs for FOL and the course will finish by covering semantics for FOL.

Course Textbook

In this course, we will be using the following textbook:

forallx@syrr: An Introduction to Formal Logic (2025 Edition) by Michael Rieppel, Tim Button and P.D. Magnus

A copy will be available on Blackboard.

Course Assessment

This course will be assessed by a mixture of assignments. These will be weighted as follows:

Quizzes and homework: 35% (7 assignments @ 5% each)

Mid-term Exam: 30%

Final Exam: 35%

Each assessment will be graded out of 100. The corresponding letter grades for this score are as follows:

A	94-100
A-	90-93
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D	60-69
F	0-59

Final (numeric) grades will be a weighted average of all of your numeric grades for all assignments for the course rounded up to the nearest whole number.

Quizzes and Homework

There will be a quiz or homework assignment for each chapter of the textbook that we cover in the course. We will cover seven chapters in total. The assignments for chapters 1, 2, and 5 will be quizzes to be taken over Blackboard. The assignments for chapters 3, 4, 6 and 7 will need to be submitted in person during class. Due dates for the assignments are listed below in the course schedule. Each assignment may be attempted **only once**.

You are **not** permitted to collaborate with anyone else on any quiz or homework assignment – any collaboration on quizzes or homework assignments will be considered a violation of academic integrity. If you would like assistance with your assignments, please come to my office hours. In addition, as per the Artificial Intelligence Statement below, the use of generative AI for the purposes of completing assignments for this course is prohibited.

Unless you get in touch with me before the deadline to ask for an extension, you will receive a 0 for any assignment not submitted by the due date.

Exams

The two exams will both be 80 minutes long. They will be closed-book, except for a reference sheet that will be provided for you. **Do not bring in your own reference sheets.** The mid-term exam will take place during a class session, and the final will be in finals week at a time and date to be determined. Unless you have a contrary accommodation agreed with the Center for Disability Resources (CDR), the exam will be hand-written.

Classroom Etiquette

The use of laptops and tablets is permitted during class for class-related purposes. Please do not use phones during class except to take pictures of the board.

SYRACUSE UNIVERSITY STUDENT POLICIES & SERVICES

University Attendance Policy

It is a federal requirement that students who do not attend or cease to attend a class to be reported at the time of determination by the faculty. Faculty should use “ESPR” and “MSPR” in Orange SUccess to alert the Office of the Registrar and the Office of Financial Aid. A grade of NA is posted to any student for whom the Never Attended flag is raised in Orange SUccess. More information regarding Orange SUccess can be found here, at <http://orangesuccess.syr.edu/getting-started-2/>.

Students should also review the University’s religious observance policy and make the required arrangements at the beginning of each semester.

Syracuse University Policies:

Syracuse University has a variety of other policies designed to guarantee that students live and study in a community respectful of their needs and those of fellow students. Some of the most important of these concern:

Diversity and Disability (ensuring that students are aware of their rights and responsibilities in a diverse, inclusive, accessible, bias-free campus community) can be found here, at: <https://www.syracuse.edu/life/accessibilitydiversity/>.

Religious Observances Notification and Policy (steps to follow to request accommodations for the observance of religious holidays) can be found here, at: http://supolicies.syr.edu/studs/religious_observance.htm

Orange SUccess (tools to access a variety of SU resources, including ways to communicate with advisors and faculty members) can be found here, at: <http://orangesuccess.syr.edu/getting-started-2/>

Disability-Related Accommodations: Syracuse University values diversity and inclusion; we are committed to a climate of mutual respect and full participation. There may be aspects of the instruction or design of this course that result in barriers to your inclusion and full participation in this course. I invite any student to meet with me to discuss strategies and/or accommodations (academic adjustments) that may be essential to your success and to collaborate with the Center for Disability Resources (CDR) in this process.

If you would like to discuss disability-accommodations or register with CDR, please visit Center for Disability Resources. Please call (315) 443-4498 or email disabilityresources@syr.edu for more detailed information.

CDR is responsible for coordinating disability-related academic accommodations and will work with the student to develop an access plan. Since academic accommodations may require early planning and generally are not provided retroactively, please contact CDR as soon as possible to begin this process. <https://disabilityresources.syr.edu/>

Academic Integrity Policy:

As a pre-eminent and inclusive student-focused research institution, Syracuse University considers academic integrity at the forefront of learning, serving as a core value and guiding pillar of education. Syracuse University's Academic Integrity Policy provides students with

the necessary guidelines to complete academic work with integrity throughout their studies. Students are required to uphold both course-specific and university-wide academic integrity expectations such as crediting your sources, doing your own work, communicating honestly, and supporting academic integrity. The full [Syracuse University Academic Integrity Policy](#) can be viewed by visiting the [Syracuse University Policies](#) website.

Upholding Academic Integrity includes the protection of faculty's intellectual property. Students should not upload, distribute, or share instructors' course materials, including presentations, assignments, exams, or other evaluative materials without permission. Using websites that charge fees or require uploading of course material (e.g., Chegg, Course Hero) to obtain exam solutions or assignments completed by others, which are then presented as your own violates academic integrity expectations in this course and may be classified as a Level 3 violation. All academic integrity expectations that apply to in-person assignments, quizzes, and exams also apply online.

Students found in violation of the policy are subject to grade sanctions determined by the course instructor and non-grade sanctions determined by the School or College where the course is offered. Students may not drop or withdraw from courses in which they face a suspected violation. Any established violation in this course may result in course failure regardless of violation level.

Artificial Intelligence Statement (Zero tolerance for artificial intelligence use)

All generative-AI tools are prohibited in this course because their use inhibits achievement of the course learning objectives. This policy applies to all stages of project and writing processes including researching, brainstorming, outlining, organizing, and polishing. Do not use Generative-AI tools to create any content (i.e., images and video, audio, text, code, etc.). If you have any questions about a feature and whether it is considered Generative-AI, ask your instructor.

Class Schedule

n.b. The date of the reading indicates the date **before** which you should do the reading.

n.b. The class schedule may be subject to change. Any changes to the class schedule will be posted on Blackboard.

Week	Date	Topic of Class	Reading (all readings refer to forallx@syr textbook chapters)	Assignments
Week 1	August 25	Class Syllabus	None	None
Week 1	August 27	Arguments	1.1-1.3	None
Week 2	September 1	NO CLASS	NO CLASS	NO CLASS
Week 2	September 3	Formal Validity	1.4	Chapter 1 Assignment Available (Blackboard Quiz)
Week 3	September 8	Symbolising in TFL	2.1-2.7	None
Week 3	September 10	Symbolising in TFL	Continued from previous class	Chapter 1 Assignment Due
Week 4	September 15	Symbolising in TFL	2.8-2.9	Chapter 2 Assignment Available (Blackboard Quiz)
Week 4	September 17	Truth Tables	3.1-3.7	None
Week 5	September 22	Truth Tables	Continued from previous class	Chapter 2 Assignment Due
Week 5	September 24	Partial Truth Tables	3.8-3.9	Chapter 3 Assignment Available (Hard Copy Assignment)
Week 6	September 29	Introduction to Natural Deduction	4.1-4.4	None
Week 6	October 1	Natural Deduction	4.5-4.6	Chapter 3 Assignment Due
Week 7	October 6	Natural Deduction	4.7-4.10	None
Week 7	October 8	Derived Rules and Natural Deduction Practice	4.11	Chapter 4 Assignment Available (Hard Copy Assignment)
Week 8	October 13	NO CLASS	NO CLASS	NO CLASS
Week 8	October 15	Mid-term Exam Review	Mid-term Exam Study Guide	None

Week 9	October 20	MID-TERM EXAM	None	None
Week 9	October 22	Symbolising in FOL	5.1-5.3	Chapter 4 Assignment Due
Week 10	October 27	Symbolising in FOL	5.4-5.8 and 5.10	None
Week 10	October 29	Symbolising in FOL	Continued from previous class	Chapter 5 Assignment Available (Blackboard Quiz)
Week 11	November 3	Natural Deduction Rules for FOL	6.1-6.2	None
Week 11	November 5	Natural Deduction Rules for FOL	6.3-6.4	Chapter 5 Assignment Due
Week 12	November 10	FOL Natural Deduction Practice	Continued from previous class	Chapter 6 Assignment Available (Hard Copy Assignment)
Week 12	November 12	Semantics for FOL: Interpretations	7.1-7.5	None
Week 13	November 17	Semantics for FOL: Countermodels	7.6-7.8	Chapter 6 Assignment Due
Week 13	November 19	Semantics for FOL Practice	Continued from previous class	Chapter 7 Assignment Available (Hard Copy Assignment)
BREAK	BREAK	BREAK	BREAK	BREAK
Week 14	December 1	Semantics for FOL: Decidability and Other Semantic Concepts	7.9-7.10	Chapter 7 Assignment Due
Week 14	December 3	Final Review	Final Study Guide	None
Week 15	December 8	Final Review	Continued from previous class	None