

Philosophy 251
Spring 2022
HB CROUSE AUDITORIUM
TuThu 2:00-3:20pm

Instructor: Stacy Kohls slkohls@syr.edu

Office Hours: Weds 2-4pm Fri 12-1pm on ZOOM (likely to change later in semester)

Course Description: Logic is the language of truth. In this course, we will learn how to understand and utilize this language to identify valid reasoning within our ordinary, everyday language. We will begin with an introduction to formal logic, then move into learning sentential—also known as propositional—logic. The semester will wrap up by expanding into predicate logic.

Course Goals:

- To strengthen student's reasoning skills by practicing within a formal structure.
- To develop a fuller appreciation of the meanings of English sentences by analyzing their formal structure and tracing their logical consequences.
- To improve skills in written and oral communication by accomplishing the first two tasks.

Required Text: Paul A. Gregory, *Formal Logic*. 2017 Broadview Press ISBN 978-1-55481-272-1

Students are expected to bring their text to class with them.

Course Assessment:

- Two midterm exams (non-cumulative) 300 points
- Final exam (cumulative) 200 points
- Ten Problem-Set Exercises 500 points

**Extra credit will not be offered*

Attendance, Late Work and Make Up Exam Policies:

- Due to the circumstances caused by the COVID-19 pandemic, attendance will not be counted as part of the final grade.

- Students that test positive for COVID should inform the instructor as soon as possible so that make up arrangements and extensions can be provided.
- Students that need to miss class due to illness or emergency should inform the instructor prior to missing class.
- Make up exams will be scheduled for students that miss class due to illness or emergency.

Classroom Policy:

- Students are expected to properly wear their face masks for the entirety of class time—this includes over the mouth and nose. Refusal to comply will result in the student being removed from the classroom by the instructor.
- Smart phone devices should be put away during class time. Laptop use is allowed, but not recommended for this course.

Academic Integrity: Students are expected to work independently on assignments and exams. Students observed collaborating, copying from others, or using unauthorized materials to improve their exam performance will be reported to the Office of Academic Integrity for review.

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 Office of Disability Services (ODS) in this process.

If you would like to discuss disability-accommodations or register with ODS, please visit their website at: <http://disabilityservices.syr.edu>. Please call (315) 443-4498 or email disabilityservices@syr.edu for more detailed information.

Tentative Course Schedule

Date	Topic	Reading/Assignments
T Jan 25	Introduction Arguments, Deduction, and Induction	None
Th Jan 27	Validity, Soundness	Gregory—Ch 1 pp. 1-24
T Feb 1	The Language S Simple/Compound Sentences Negation, Conjunction, Disjunction	Gregory—Ch 2.1.1-2.1.4 pp. 31-37 Ex 1 Due.
Th Feb 3	The Language S Conditional, Biconditional	Gregory—2.1.5-2.2.4 pp.38-45
T Feb 8	Syntax of S Wffs and Symbolizations for Negation, Conjunction and Disjunction	Gregory—2.3.1-2.4.1 pp 45-56 Ex 2 Due
Th Feb 10	Syntax of S Wffs and Symbolizations for Conditional, Biconditional, Necessary and Sufficient, Complex translation.	Gregory—2.4.3, 2.4.5 pp 57-62, 62-64
T Feb 15	Formal Semantics of S: Truth Tables,	Gregory 3.1-3.2 pp. 71-77 Ex 3 Due
Th Feb 17	Formal Semantics of S: Using truth tables to detect validity	Gregory—3.3 pp. 77-83
T Feb 22	Truth Tables: Short Cut Method	No reading Ex. 4 Due
Th Feb 24	Review/Catch Up	No Reading
T Mar 1	Exam 1	No Reading
Th Mar 3	Natural Deduction in SD Reiteration, Wedge, and Arrow Rules	Gregory 4.1.1-4.1.3 pp. 105-112
T Mar 8	Natural Deduction in SD Hook, Vee and Double Arrow Rules, Proof Strategies.	Gregory 4.1.4-4.1.6, 4.2 pp 112-117, 119-125 Ex 5 Due

Th Mar 10	Natural Deduction Proofs Theory, Replacement Rules	Gregory 4.3, 4.4.1, 4.4.3 pp. 125-129, 131-133, 134-137
Mar 15, 17	Spring Break	No Reading
T Mar 22	Review/Catchup	No Reading Ex. 6 Due
Th Mar 24	Exam II	No Reading
T Mar 29	Quantificational Logic: The Language and Syntax of P	Gregory—5.1 1-5.2.2 pp. 143-157
Th Mar 31	Symbolizations for P	Gregoy—5.3.1, 5.3.3, 5.4.1, 5.5.3 pp.161- 168, 169-178,180- 187,188-195
T Apr 5	Formal Semantics for P	Gregory 6.1-6.2, 6.3, pp. 201-218, 219-222, Ex 7 Due
Th Apr 7	Formal Semantics for P	Gregory—6.4 6.5 pp. 223-230
T Apr 12	Natural Deduction in P Universal Elimination and Existential introduction	Gregory 7.1-7.1.2 pp. 237-243 Ex. 8 Due
Th Apr 14	Natural Deduction in P Universal Introduction and Existential Elimination	Gregory 7.1.3-7.1.4 pp. 243-249
T Apr 19	Natural Deduction in P Strategies and Proof Theory	Gregory 7.2-7.3 pp. 250-259 Ex 9 Due
Th Apr 21	Natural Deduction in P Replacement Rules	Gregory 7.4-7.4.1 pp. 260-263
T Apr 26	Modal Logic (Tentative)	Gregory 9.1 pp.299- 302 Ex 10 Due
Th Apr 28	Modal Logic (Tentative)	Gregory 9.2 pp. 303- 304
T May 3	Review/Catch UP	

Final Exam: May 6 12:25-2:45

**Syllabus and course timeline is subject to change at the instructor's discretion.*

**Students are responsible for keeping track of whatever important dates and major changes made to the schedule throughout the semester.*

