Symbolic Logic

PHI 3130 Spring 2025
Prof. Ray

PHI 3130 - Syllabus

The course is designed to provide the student with a basic working knowledge of first-order logic and semantics, develop a comprehensive skill in systematically proving results, and familiarize the student with some basic metalogical theorems. We will cover basic topics in elementary logic including: propositional, quantificational, and modal logics, formal semantics, soundness and completeness. We will also formulate the philosophical underpinnings of our subject with special care.

The learning goals for PHI 3130 are broadly spelled out here (https://catalog.ufl.edu/ugrad/current/liberalarts/alc/philosophy.aspx). Check them out!

More broadly, in terms of its general educational import: logic -- a study and a practice that grew out of early philosophy -- isolates and systematizes an essential methodology at work in all theoretical disciplines, including philosophy itself, and uncovers the central core of what it is to reason well. The skills of analysis and deduction learned in this course are fundamental to all science and systematic human endeavors generally.

General Education Credit:

This course counts toward General Education Mathematics credit (GE-M). A minimum grade of C is required for General Education credit. You can learn more about the objectives for GE-M courses *here* (https://undergrad.aa.ufl.edu/general-education/gen-ed-courses/structure-of-gen-ed-courses/slos-and-performance-indicators/student-learning-outcomes/).

Course Work:

Weekly homework (25%) and three tests (20%,25%,30%).

Course Materials:

All course materials will be made available either via Canvas or companion web site (if applicable). Some course materials may be posted as password protected pdf. In order to open them you need to know a password — which will be given to you in class...

This course does not require a textbook. There are no reading assignments per se, but

support material provided (e.g., rules of proof) will be essential for skill development through practice problems and homework.

Some interactive course materials, like online practice problems and sample derivation demonstrations, will be made available to you. You are strongly urged to make use of these helpers throughout the course.

Rules of Engagement:

1) The materials on the Canvas site or companion site (as applicable) do not belong to you. You may not give access to or share them with anyone outside the class. 2) The use of recording devices in the classroom is circumscribed by law (https://aa.ufl.edu/policies/in-class-recording/), and permitted under three particular auspices. Students may not share, transmit, circulate, distribute to any person any such recording, nor upload such to any media platform. 3) The use in class of any digital device for any unsanctioned or non-class-related purpose (e.g. messaging, surfing, social media, searching the internet for info) is strictly prohibited. All digital devices are unsanctioned by default. Thank you.

Nota bene:

Students who do not get assignments in on time are subject to the Devilish Lateness Policy™

Academic honesty violations are not tolerated and will result in i) immediate failure in the course and ii) referral to the Dean of Students for further action. All assignments are to be completed on your own. It is your responsibility to know and understand the UF Student Honor Code (http://www.dso.ufl.edu/judicial/honorcode.php).

Note for Students with Disabilities:

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

UF General Policy:

Course Evaluation:

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations (https://ufl.bluera.com/ufl/). Evaluations are typically open during the last two or three weeks of the semester. UF emails students with specific times when they are open. Summary results (https://gatorevals.aa.ufl.edu/public-results/) of these assessments are made available to students. UF has specific guidance (https://gatorevals.aa.ufl.edu/students/) on how to give professional (and respectful) feedback.

Conformality:

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with prevailing university policy (https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx).

Grade Points:

Information on how UF calculates grade points from grades can be found here (https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx).

Minimum Requirement:

Please note that a minimum course grade of C is required to get general education credit for taking it (if this course is a listed Gen Ed class).

Useful Disclaimer:

Our schedule of topics/readings/assignments are subject to change. So, stay informed as we go along.

Personnel & Contact

- Prof. Greg Ray, 300 FLO
  Class Professor
  gregray.ufl.edu 352-392-2084
- Marcus Davis, 303 FLO
  Graduate Assistant
  lucydavis.ufl.edu

Office Hours

- Weds 2:00-5:00 [MD] 303 FLO
- Tue 11:00-1:00 [GR] 300 FLO
- And by appt [GR] 300 FLO

Topical Schedule:

- 01/13- Logical Properties.
- 01/20- HOLIDAY.
- 01/27- Formal Language.
- 02/03- Translation & Analysis.
- 02/10- Formal Semantics.
- 02/17- SC Derivation.
- 03/03- EXAM 1
- 03/10- L Derivation
- 03/17-03/21- SPRING BREAK.

- 03/31- EXAM 2
- 04/07- Modal Logic
- 04/14- Metalogic
- 04/21- EXAM 3

Tentative Due Dates:

- (Check Canvas for current info)
- 02/05- LANG due.
- 02/12- TRANS due.
- 02/19- SEM due.
- 02/26- SC-DERV due.
- 03/03- EXAM 1 (LANG/SEM/TRANS).
- 03/12- SC-DERV2 due.
- 03/26- L-DERV due.
- 03/31- EXAM 2 (SC-DERV).
- 04/09- L-DERV2 due.
- 04/16- MODAL due.
- 04/21- EXAM 3 (L-DERV/MODAL/META).

Section Meetings:

- Lecture--Mon 1:55-3:50 [GR] AND 134
- 14282--F 4th [MD] FLG 275
- 16421--F 6th [MD] MAT 004
- 16422--F 7th [MD] MAT 004