

Introduction to Logic

Philosophy 201:01 (Spring 2019)

Instructor: Dr. Max Bialek

Email: mbialek@rutgers.edu

Lecture: MW 1:10–2:30pm

Office Hours: TBA

Location: FH-B2

Office Hours Location: Miller Hall 211

Course Description. “Introduction to formal logic, covering truth, functional propositional logic, and quantification theory. Emphasis on developing symbolic techniques for representing and evaluating arguments.”

This course will introduce students to two logical systems: Sentential Logic and First Order Logic. For each we discuss the syntax (what it means to construct a well formed sentence in the logic), the semantics (how one decides whether or not a sentence in the logic is true), how to translate between the logics and natural English, and a proof theory (how, if you know some true things, you can figure out what else is true).

Course Materials. We will be working primarily from the course textbook—*Formal Logic* by Paul A. Gregory (ISBN: 9781554812721)—and occasionally notes provided by the instructor that will be posted to the course website.

Course Website. The course website is done through Canvas, and is available directly at [TBA].

Course Requirements & Grading. There will be 7 assignments, each worth 5% of the course grade. The lowest assignment grade will be dropped, for a total of 30% of the course grade. These may range in style from quizzes and homework assignments to more unusual fare, like developing a potential exam problem.

Each module will end with an exam worth 20% of the course grade. A comprehensive final exam will be worth 20% of the course grade. The lowest exam grade will be dropped, for a total of 60% of the course grade coming from exams. This means that if you bomb an exam, you can make up for it with the final, or if you are happy with your grade going into the final, you can skip it.

In-class participation will count for 10% of the final course grade. This will be based primarily on turning in small in-class activities (e.g. an example problem from lecture or the record of some group discussion).

In short:

10% — Participation

30% — 6 Assignments at 5% each (best of 7)

60% — 3 Exams at 20% (best of 3 Module-Specific Exams and 1 Comprehensive Final)

Late Assignments. Any assignments turned in late will have 20% of the maximum potential score will be subtracted from the initial score (e.g. a late assignment that would have received 85/100 will instead get 65/100).

Attendance. Attendance is expected. If you miss a class, you might miss an activity counting towards the Participation grade. If you expect to miss any classes, please use the University absence reporting website (<https://sims.rutgers.edu/ssra/>) to indicate the date(s) and reason(s) for your absence.

Accessibility and Accommodations. Any needed accommodations or issues affecting your academic performance should be brought to the attention of the instructor as soon as possible. Consult with any of the following offices for help or more information.

- Academic Advising (<http://sasundergrad.rutgers.edu/advising/what-is-advising>)
- Health and Counseling (<http://health.rutgers.edu/medical-counseling-services>)
- Office of Disability Services (<http://ods.rutgers.edu>)

Unpleasantries. You should make sure you are familiar with the rules regarding proper academic conduct as detailed at <http://academicintegrity.rutgers.edu>

NOTE: You may be encouraged to work together on some assignments for this course, but material that is turned in must be prepared independently (e.g. don't just change the name at the top of the same paper), and the names of your collaborators should be listed.

Schedule. Below is a rough schedule for the course. Check the course website at least once a week for updates and any possible changes.

Sentential Logic. Jan 23 (first day of class) – Feb 20 (Exam 1)

Proofs. Feb 25 – Mar 27 (Exam 2)

First Order Logic. Apr 1 – May 1 (Exam 3)

Final Exam. May 14, 12–3pm, location TBA; Review day on May 6 (last day of class)