Math 430: Mathematical Logic

UIC – Spring 2018

Instructor: Sherwood Hachtman
Time: MWF 2-2:50
Location: Adams Hall 302
Office Hour: W 3-4 in SEO 616
Course page: `http://math.uic.edu/~shac/math430-S18/`

Text: Robert S. Wolf: *A Tour through Mathematical Logic*, Mathematical Association of America, 2005.

Course topics: Propositional and first order logic: syntax and semantics. Model theory: Structures, isomorphisms, the completeness and compactness theorems, the Lowenheim-Skolem Theorem, and applications. Set theory: Russell's paradox, countability and uncountability, representing mathematical objects as sets. Computability: Primitive recursive functions, Turing machines, and computable functions; Gödel's incompleteness theorem; nonstandard models of arithmetic.

Prerequisites: A C or better in math 215 is a prerequisite. A grade of B or better in one of 215, 313, or 330 is recommended.

Grading: Final grades will be determined as follows:
- 20% Homework, a total of between 8 and 10 assignments, due on Fridays.
- 20% Midterm 1, given in class on Friday, March 2
- 20% Midterm 2, given in class on Friday, April 13
- 35% Final Exam, Wednesday May 9, 1:00-3:00 PM, Location TBD.
- 5% Participation (in-class and office hours.)

Homework: Between 8 and 10 assignments will be given during the semester, each at least 10 days in advance of its due date. You are encouraged to discuss the homework and course material with your classmates; however, your final write-up must be entirely your own work. It is recommended that you avoid using outside sources (e.g. the internet), but if you must, then any sources used must be cited in your write-up.

Make-up Exams: Make-ups for the midterms will be given only in extreme circumstances. Make-up exams will be more difficult, to compensate for the fact that a student making up the exam will have had more time to study.

The final exam is scheduled for Wednesday May 9, 1:00-3:00 PM. Students with a scheduling conflict (e.g. 3 exams scheduled on the same day) must contact the instructor as soon as possible **and before April 1** in order to reschedule.

Special accommodations: UIC is dedicated in its mission to provide equal access to education for all students. Students with disabilities can obtain special accommodations by consulting with the Disability Resource Center (DRC). Students who need exam accommodations must contact the DRC in the first week of the term to arrange a meeting with a Disability Specialist. Please contact DRC at (312)-413-2183 (voice) or (312)-413-0123 (TTY).

More information at the Disability Resource Center: `https://drc.uic.edu/`

Academic integrity: Students are expected to abide by the UIC guidelines for academic integrity, see:

`https://dos.uic.edu/docs/Guidelines%20for%20Academic%20Integrity.pdf`

Instances of academic misconduct (including cheating, fabrication, plagiarism, threats, examination by proxy) shall be handled pursuant to the student Disciplinary Policy, `http://go.uic.edu/disciplinarypolicy`