MHF 4203/5207
FOUNDATIONS OF MATHEMATICS
SPRING 2015

Instructor: Dr. Christopher Porter
Meeting time and place: 127 Little Hall, MWF 8th period
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Goals

MHF 4203/5207 is an introduction to mathematical logic. We will cover the basics of proof theory, model theory, and computability theory (three of the four "pillars" of mathematical logic, the fourth being set theory). More specifically, we will cover

   (i) the syntax and semantics of propositional logic;
  (ii) the syntax and semantics of predicate logic (including Gödel's completeness theorem);
 (iii) basic computability theory; and
 (iv) Gödel's incompleteness theorems.

If time permits, we will cover additional topics (which may be determined by the interests of the class).

Course components

Text. We will primarily follow the notes "Foundations of Mathematics" by Douglas Cenzer and Jean Larson. Occasionally, we will draw upon Jindrich Zapletal's notes on the undergraduate logic sequence. I may also provide my own notes on certain topics. All of these resources will be made available on in the "Resources" section of the course Sakai website.

Homework. There will be a written assignment collected about every 2 weeks.

Exams. There will be a take-home mid-term and a take-home final exam, each worth 100 points. The tentative dates are:

   - Mid-term: Due Wednesday, February 25 at 3pm
   - Final: Due Tuesday, April 28 at 5pm

Class Project. Each student will do an in-depth project on a topic related to the foundations of mathematics. I will provide more details on the projects within the first month of class.

Attendance. Students are expected to attend class regularly, be prepared to answer questions on the reading, and participate in class discussions. If you miss class, you are responsible for finding out about homework and/or announcements made during the class. Requirements for make-up exams, assignments, and other work in this class are consistent with university policies and can be found at:

> `https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx`

Grading policy. Here is the official grading scheme:

- Homework: 100 points
- Tests: 2×100 points
- Paper: 80 points
- Participation: 20 points
- Total: 400 points

Course grades will be determined by the following scale: 92-100 A, 90-91 A-, 88-89 B+, 82-87 B, 80-81 B-, 78-79 C+, 72-77 C, 70-71 C-, 68-69 D+, 62-67 D, 60-61 D-, $\leq$ 59 E.

In addition to computing your grade by the scheme above, I may also do a second computation with an alternate scheme. If I compute two different scores, your grade will be based on the higher score.

Course Evaluations. Students are expected to provide feedback on the quality of instruction in this course based on ten criteria. These evaluations are conducted online at `https://evaluations.ufl.edu`. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at `https://evaluations.ufl.edu/results`.

Academic Honesty. The course will be conducted in accordance with the University honor code and academic honesty policy, which can be found on the web site of the Dean of Students.

Classroom Accommodation. Students with disabilities requesting classroom accommodation should first register with the Disability Resource Center (352-392-8565, `www.dso.ufl.edu/drc`) by proving appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.