Alexander Berkovich

Department of Mathematics

College of Liberal Arts and
Sciences

Home

Courses

Spring 2025 – MHF 3202

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Number Theory Seminar

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Service

Spring 2025 MHF 3202

Sections

3255 & 8768

Time and Location

3255 : M W F Period 6 (12:50 pm - 1:40 pm) at LIT 235

8768 : M W F Period 7 (1:55 pm - 2:45 pm) at LIT 219

Canvas Page Link

3255 :

8768:

Textbook

How to Prove It (2nd Edition) by Daniel Velleman

Prerequisites

MAC 2312

Brief Description

This course is an introduction to formal mathematics. The emphasis in this course is not on learning facts, but rather on writing clear and rigorous proofs. Some of the material covered in this course may be quite familiar to you. The goal is to understand and write about this material in a formal mathematical way.

Homework

Homework will be assigned regularly but not collected. However, doing all the homework is essential for success in this class as the exams test your conceptual understanding of the homework assignments. Many homework problems involve doing proofs. Students are encouraged to check their proofs with their instructor.

Here is the tentative list of homework problems:

Introduction: 1, 2, 3, 4, 5.

1.1.6, 1.2.4, 1.3.6.

Other problems: 1.1.1, 1.1.5, 1.1.7, 1.2.1, 1.2.5, 1.2.7, 1.2.9, 1.2.11, 1.2.14, 1.2.16, 1.3.1, 1.3.3, 1.3.5, 1.3.7.

1.5.5, 2.1.3, 2.1.5.

Other problems: 1.4.1, 1.4.4, 1.4.8, 1.4.10, 1.4.12, 1.5.1, 1.5.4, 1.5.6, 1.5.8, 2.1.1, 2.1.4, 2.1.7, 2.2.1, 2.2.4, 2.2.6, 2.2.8, 2.2.11.

2.3.10, 3.1.8, 3.2.10.

Other problems: 2.3.1, 2.3.4, 2.3.8, 2.3.11, 2.3.13, 3.1.1, 3.1.4, 3.1.9, 3.1.11, 3.1.14, 3.2.1, 3.2.5, 3.2.8, 3.2.11, 3.2.14.

3.3.18, 3.4.19, 3.5.10.

Other problems: 3.3.1, 3.3.3, 3.3.7, 3.3.9, 3.3.12, 3.3.14, 3.3.17, 3.3.20, 3.3.22, 3.3.25, 3.4.1, 3.4.4, 3.4.7, 3.4.9, 3.4.12, 3.4.15, 3.4.17, 3.4.21, 3.4.23, 3.5.1, 3.5.4, 3.5.7, 3.5.11, 3.5.15, 3.5.19, 3.5.22, 3.5.23, 3.5.26, 3.5.28, 3.5.30.

3.6.8, 3.6.10.

Other problems: 3.6.1, 3.6.4, 3.6.6, 3.6.11, 3.7.1, 3.7.4, 3.7.9.

4.1.10, 4.2.8ab, 4.2.9.

Other problems: 4.1.1, 4.1.4, 4.1.6, 4.1.8, 4.1.12, 4.2.1, 4.2.4, 4.2.10.

4.3.14, 4.3.18, 4.4.6.

Other problems: 4.3.1, 4.3.3, 4.3.5, 4.3.7, 4.3.10, 4.3.13, 4.3.17, 4.3.20, 4.3.23, 4.4.1, 4.4.4, 4.4.8, 4.4.11, 4.4.14, 4.4.17, 4.4.21.

4.4.22, 4.6.13, 4.6.16a.

Other problems: 4.6.1, 4.6.3, 4.6.5, 4.6.9, 4.6.12, 4.6.15, 4.6.19, 4.6.21, 4.6.23.

5.1.17, 5.2.15, 5.3.12.

Other problems: 5.1.1, 5.1.3, 5.1.5, 5.1.7, 5.1.10, 5.1.12, 5.1.16, 5.1.18, 5.2.2, 5.2.5, 5.2.7, 5.2.10, 5.2.14, 5.2.17, 5.3.1, 5.3.3, 5.3.5, 5.3.9, 5.3.11, 5.3.14, 5.3.16.

6.1.2, 6.1.11, 6.2.3.

Other problems: 6.1.1, 6.1.3, 6.1.7, 6.1.10, 6.1.14, 6.1.19, 6.2.1, 6.2.4, 6.2.8, 6.2.10, 6.2.13.

6.3.9, 6.4.4, 7.1.3abc.

Other problems: 6.3.1, 6.3.6, 6.3.8, 6.3.12, 6.3.15, 6.3.18, 6.3.20, 6.4.1, 6.4.3, 6.4.6, 6.4.8, 6.4.10, 6.4.14, 6.4.18, 6.4.20, 7.1.1, 7.1.4, 7.1.6, 7.1.8, 7.1.17, 7.1.20.

Grading System

The course grade will be determined by three in-class exams (90 points each), the first two of which will be announced a week in advance and the third one will be on the last day of classes. **No electronic devices (including calculators) are**permitted during the exams. As well, there will be at least 3 quizzes unannounced in advance (each weighted 10 points). The resulting score which is equal to the sum of all individual scores divided by 3 determines the letter grade according to the following table.

Letter A A- B+ B B- C+ C C- D+ D Grade

Score	100 –	92 –	87 –	82 –	73 –	68 –	63 –	58 –	53 –	48 –
	93	88	83	74	69	64	59	54	49	40

Attendance

Attendance is mandatory. Also, please arrive at class before it starts; it is very disruptive when someone walks in late.

Make-ups

Make-up exams will not be administered unless it is supported by valid documentation.

Student Honor Code

Students are expected to abide by the Honor Code.

Accommodations

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting disability.ufl.edu/students/get-started. 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.

Disclaimer

I reserve the right to change the above policies if situations warrant.

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