Analysis Qualifying Exam Guidelines, August 2021

Exam committee: Thomas Gilsdorf, Jordan Watts, Dmitry Zakharov (Chair).

Exam format: The following instructions will be included with the exam.

1. The exam will have 6 problems from Complex Analysis (MTH 636), and 6 problems from Real Analysis (MTH 632).

2. You will be required to complete five problems from the Real Analysis (MTH 632) part, and another five problems from the Complex Analysis (MTH 636) part.

3. In either section, if you attempt solutions to all six problems, then only the first five problems will be graded.

4. Begin each problem on a separate sheet of paper, and clearly write the problem number and your name before beginning your solution.

5. No calculators or other electronic devices are allowed.

6. No questions may be asked during the exam. If a problem appears ambiguous to you, interpret it in a way that makes sense to you, but not in a way that makes it trivial.

7. Give proper mathematical justification of all your statements.

Exam Content:
For **MTH 632**: The exam will cover material from the textbook by Royden and Fitzpatrick, "Real Analysis, 4th Edition":
All of Chapters 1-4.
Chapter 5, sections 5.2, 5.3.
Chapter 6: sections 6.1, 6.2.
All of Chapter 7.

For **MTH 636**: The exam will cover the foundations of complex analysis. The relevant material is:
Ullrich, "Complex Made Simple", Chapters 0-5 and Appendices 1-3

Exam grade: A grade of 70% or better on each part of the exam separately will be considered to be a passing score.