

Student Success in Math PhD program: The Middle Years

Instructor

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Course Description

Students will consider concrete steps toward building community and skills toward success PhD program in Mathematics, with an emphasis on the requirements and challenges for students preparing for the comprehensive exam or beginning to do research. This is planned as a one-unit seminar course without a book but possibly with readings. There will be brief homework (typically reflective or a short reading) and class discussion will be essential.

Topics

Some collection of the following topics will be discussed. Which specific ones to be covered will be dependent on interest.

- Discussion of Comprehensive Exams and Dissertation Defenses
- Individual Development Plans as a tool for planning academic and career goals
- Developing SMART Goals
- Program requirements and how to use them to achieve professional goals
- Professional and Community Development requirement
- Building community outside your research group
- Building and working with your mentor universe
- Transition from taking courses to doing research
- What it means to do research in the mathematical sciences, including what makes a good dissertation or dissertation problem.
- Technical writing for Comprehensive exam, Dissertation, and publication
- How to publish research
- Working with your advisor and assertiveness
- Writing a Curriculum Vitae (CV)
- Developing a teaching portfolio
- Growth mindset
- Approach to research seminars and colloquia
- Giving technical talks
- Job application process and interviews
- Developing writing skills

Prerequisites

This class is aimed at students in the middle years of the PhD program in Mathematics, typically post qualifying exams to early dissertation work. It is expected the student will be in the PhD program in Mathematics, and they can self-identify if this is an appropriate time to address these topics.

Expected Learning Outcomes

- Organize and appraise techniques to be successful in the Math PhD program.
- Develop and evaluate professional goals.
- Assess and develop critical capital.
- Appraise, reformulate, and challenge one's own Math Identity.
- Describe the main aspects of the graduate program.
- Identify concrete steps toward building community within the program.