A SHORT GUIDE TO THE USC MATH DEPARTMENT PH.D. PROGRAMS

INTRODUCTION

Welcome to the USC Math Department. This guide is intended to be a brief outline of major points; more details are in the catalog. For applied math click here and for math click here.

We have two Ph.D. programs, math (MATH) and applied math (AMAT). The two programs have different requirements, and it is important to know the requirements for your program. A very quick summary of the difference is that the written exams for MATH cover six semesters of coursework and the written exams for AMAT cover four semesters, but then more work is required for the AMAT oral qualifying exam than for the MATH oral qualifying exam.

Written Exams

All students must take at least two of the exams by August before their 2nd year in the program.

All AMAT students should complete the written exams after 4 semesters (that is, August before their 3rd year). MATH students should complete their written exams after 5 semesters (that is, January of their 3rd year). A student may be given an additional semester if they are mostly done, and their (temporary) advisor recommends it.

Copies of old written exams are on our website, at https://dornsife.usc.edu/mathematics/graduate-exams/.

Advisors

All students are assigned a temporary advisor, in the general area of their interests. You should try to find a regular advisor in your 2nd year, and certainly by early in your 3rd year. To find an advisor, you should go to classes taught by various faculty, attend the area seminars, or discuss their advisor with older students. You can also go to a faculty member and ask to do a reading course on a topic not covered in a scheduled class. Officially this is Math 590 Directed Research. There is no one way to find an advisor.

Oral qualifying exam

For the oral exam in MATH, the student prepares a 10-page written research proposal, approved by their committee, and their oral consists of defending/discussing this proposal. No original research is required. It should be taken within 6 months after finishing the written exams. It must be taken by the end of the 7th semester at the latest.
In AMAT, the oral is more demanding: the student has to have done enough research for a partial thesis. They should present this work and their proposal for the rest of their research within 3 semesters of finishing the written exams. It must be taken by the end of their 4th year at the latest.

To take the oral exam, you first have to find four other faculty for your committee, in addition to your advisor; one of your committee members has to come from outside the Math department. After all committee members have signed the form agreeing to be on your committee, give the form to Amy who will submit it to the graduate school. You may then schedule your oral exam.

You should submit your research proposal to your committee 2 weeks before your oral exam.

**Final Oral/Thesis Defense**

The student must give a public lecture (thesis defense) on their research, to be approved by their dissertation committee. The Dissertation committee consists of at least three faculty members, including their advisor and a faculty member from another department. This defense should take place at least two months before the end of the semester in which they intend to receive their degree, so that they can complete all of the graduate school requirements on time.