

Getting Ready for Graduate Study in Mathematics October 2016

1. Why graduate degree (Masters or PhD=Doctor of Philosophy): some careers require graduate degree in Mathematics
 - i. Academic positions: research-teaching (very competitive)
 - ii. Industry/government labs: some require PhD, some require MS
 - iii. Academic positions: four-year colleges: mostly teaching (competitive, may require PhD, require teaching experience)
 - iv. Teaching positions in community/two-year colleges and high-schools: MS may be sufficient
 - v. High-schools: may not need MS
2. What does MS/PhD study mean/entail?
 - a. MS or MA degree: 2 years, coursework + (some) research
 - b. PhD degree: 4-5-6 years: coursework, qualifying exams, ability to do independent research
3. How much does it cost?
 - a. If you get GTA/GRA (Graduate Teaching/Research Assistantship), not much
 - i. GTA/GRA = stipend plus tuition paid (sometimes fees need to be paid/or are covered)
 - ii. **GTA/GRA: it is a job!** (e.g., 0.4 FTE=16h a week: teaching, grading, office hours)
 - b. Some programs do not offer full support for all graduate students
4. How competitive it is to get to Grad School
 - a. **GPA:** OSU requires 3.0 minimum. Higher GPA is better!
 - b. **Coursework required:** advanced calculus, linear algebra, abstract algebra, ...
 - c. **GRE** (Graduate Record Examination) recommended: Verbal, Quantitative, Writing
 - i. GRE subject test required by top programs
 - ii. <http://www.gre.org/>
 - iii. Take in October senior year or at the latest in December
 - d. **CV & Statement of Objectives**
 - i. know/explore your goals and interests
 - ii. research experience, conferences, workshops, summer schools, tutoring/teaching, extracurricular showing leadership; mentors/mentees
 - e. **Letters of recommendations** (from Math professors):
 - i. provide them information, give them time (>2 w.), send (gentle) reminders
5. **How to apply/how competitive?** Graduate programs have different requirements/profile
 - a. <http://www.ams.org/programs/students/findgradprograms/findgradprograms>
 - b. <http://www.maa.org/a-graduate-school-primer>
 - c. <http://www.ams.org/programs/ams-fellowships/asst.pdf>

Our program: <https://math.oregonstate.edu/graduate-apply>
6. **How hard is graduate school?**
 - a. <http://blogs.ams.org/mathmentoringnetwork/2014/04/04/what-can-i-expect-during-my-first-year-of-a-ph-d-program/>
 - b. Research: essential for PhD