KU Department of Mathematics
Sneak Peek 2020

Welcome to the KU Math Department!

Key links

KU Math	mathematics.ku.edu
Graduate Admissions	gradapply.ku.edu
Graduate Studies	graduate.ku.edu

Key people

Prof. Geng Chen (Grad Admissions Director)	gengchen@ku.edu
Kate Pleskac (Graduate Advisor)	kate.pleskac@ku.edu
Prof. Mat Johnson (Associate Chair)	matjohn@ku.edu
Gloria Prothe (Office Manager)	gprothe@ku.edu
Prof. Jeremy Martin (Graduate Director)	jlmartin@ku.edu

KU Ph.D. Program Overview

- 35 faculty in many areas of pure and applied mathematics
- 68 graduate students
- Typical time to degree: 5–7 years
- Most PhD students supported as GTAs
- Program milestones: **quals**, prelim, orals, final defense
- Qual support: class sequences, study groups, exam archive
- Summer fellowships for post-qual students (thanks to generous alumni!); typically 3 years of support/student
- Other resources: internal fellowships, teaching training and support, GSO, AWM, conferences, summer schools, ...

Research and Advisors

- Focus on research and advisor choice typically begins **after passing quals** (but you can start going to seminars/colloquia early)
- Some students are sure of their specialty area coming in, others are less sure. Either is OK.
- **Advisor's responsibilities** include: helping you find problems to work on, figuring out what additional background you need, introducing you to other professionals, looking out for job/fellowship opportunities for you, ...
- **Advisors' styles** vary greatly. Find someone you are comfortable working with.
- Seek out **other faculty mentors** besides your advisor.

Why Get a PhD in Mathematics?

- $\sim$50 years ago, the main reason to get a PhD was to become a professor. You still can, but...
- **Bad news:** job market in academia is very tough right now (financial challenges, COVID-19, ...)
- **Good news:** there are lots of rewarding, lucrative, challenging, honorable jobs for mathematicians outside academia
  - Programming knowledge essential!
  - Knowledge of statistics and data science highly recommended
  - KU resources: national labs, alumni/ae, local companies, IMA boot camp, Math In Industry, ...

Graduate School vs. College

How is being a grad student different from being an undergrad?

- **Intensity**. You take multiple advanced math classes at a time. Graduate classes move fast and professors expect more of you. You are now a fellow mathematician (in training).
- **Motivation**. You should **like mathematics** enough that nobody has to force you to work on it! Be ready to take lots of **time outside class** to do what you need to do to succeed.
- **Employment**. Most PhD students are **employed as GTAs**. (No student loans necessary!) You don't need prior teaching experience, but be willing to **learn how to teach**.
- **Community**. Your **fellow students** are one of your most important resources, particularly your entering cohort. Visit prospective schools (if possible) and talk to current students.