

## Syllabus

Spring 2020, MATH 689-602

Special Topics in Professional Preparation  
(Mathematics Teaching and Communication)

MW 2:20-3:35pm, Room – Blocker -624

Office Hours: Tuesdays 2-3pm. Additional office hours by appointment.

Instructor: Peter Kuchment, office Blocker 614A

<http://www.math.tamu.edu/~kuchment>, [kuchment@math.tamu.edu](mailto:kuchment@math.tamu.edu)

### Course description

The goal of the course is to prepare graduate students for their professional careers in the following areas important both in academia and industry:

- Teaching mathematics (in general, and especially to undergraduates)
- Scientific writing
- Scientific presentations for various audiences at technical seminars, colloquia, public lectures, interview talks.
- Career advices: preparing job application materials, preparing for job interviews.

### Recommended resource materials

- *The Elements of Style*, by William Strunk Jr. and E. B. White. Timeless small classics. Available for \$5 from Amazon. Highly recommended.
- Steven G. Krantz, *How to Teach Mathematics*, AMS. 3<sup>rd</sup> edition.  
Extremely useful. Purchase it from the AMS bookstore. It is inexpensive, especially in electronic form.
- Leonard Gillman. *Writing Mathematics Well*. Math. Assoc. of America, 1987
- N. J. Higham, *Handbook of Writing for the Mathematical Sciences*, 3<sup>rd</sup> edition, SIAM 2019
- Steven Krantz, *A Primer of Mathematical Writing: Being a Disquisition on Having Your Ideas Recorded, Typeset, Published, Read, and Appreciated*, AMS 2017
- Four wonderful books by E. Tufte on how to present information visually
- Steven G. Krantz, *A Mathematician's Survival Guide: Graduate School and Early Career Development*, AMS. This book, as well as partially "How to teach mathematics" and "A Primer of Mathematical Writing" offer CV, interview, and other carrier advices.

#### ▪ Some on-line sources on math. writing:

1. How to Write Mathematics, N. E. Steenrod, et al.
2. P. Halmos, How to write mathematics
3. Mathematical writing, by D. Knuth et al
4. Terence Tao, On writing
5. J.-P. Serre, How to write mathematics badly

6. [The simple rules for mathematical writing](#)
7. 24 tips to teach writing
8. AMS Author Handbook
  - **Some on-line sources on presenting mathematics:**
    1. Terence Tao: Talks are not the same as papers.
    2. How to give a good colloquium talk
    3. Bryna Kra, Giving a talk
    4. The (Martial) Art of Giving Talks, Matilde Marcolli
    5. Do's and Don'ts of giving a math talk
    6. Math Talk: Preparing Your Conference Presentation

### **Assignments and Grading**

**Grading** will be based upon attendance (20%), class participation (20%), and assignments on teaching, writing, and presentation (60%)

The **grading scale**: A – 90% and higher, B – 80% and higher, C – 70% and higher, D – 60% and higher.

### **Americans with Disabilities Act (ADA) Policy Statement**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Resources, currently located in the Disability Resources building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information visit <http://disability.tamu.edu/>

### **Academic Integrity Statement and Policy**

*“An Aggie does not lie, cheat or steal, or tolerate those who do.”* For additional information, please visit: <http://aggiehonor.tamu.edu>.

### **Title IX and Statement on Limits to Confidentiality**

Texas A&M University and the College of Science are committed to fostering a learning environment that is safe and productive for all. University policies and federal and state laws provide guidance for achieving such an environment. Although class materials are generally considered confidential pursuant to student record policies and laws, University employees — including instructors — cannot maintain confidentiality when it conflicts with their responsibility to report certain issues that jeopardize the health and safety of our community. As the instructor, I must report (per Texas A&M System Regulation 08.01.01) the following information to other University offices if you share it with me, even if you do not want the disclosed information to be shared:

- Allegations of sexual assault, sexual discrimination, or sexual harassment when they involve TAMU students, faculty, or staff, or third parties visiting campus.

These reports may trigger contact from a campus official who will want to talk with you about the incident that you have shared. In many cases, it will be your decision whether or not you wish to speak with that individual. If you would like to talk about these events in a more confidential setting, you are encouraged to make an appointment with the Counseling and Psychological Services (<https://caps.tamu.edu/>).

Students and faculty can report non-emergency behavior that causes them to be concerned at <http://tellsomebody.tamu.edu>.

**The following books are on reserve**

**on the 1<sup>st</sup> floor of the Evans Library Annex**

<b>Handbook of Writing for the Mathematical Sciences</b>	Nicholas J. Higham
<b>How to teach mathematics</b>	Steven G. Krantz
<b>How to write mathematics</b>	Norman E. Steenrod ... [and others].
<b>Mathematical writing</b>	Donald E. Knuth, Tracy Larrabee, and Paul M. Roberts.
<b>Primer of mathematical writing: being a disquisition on having your ideas recorded, typeset, published, read, and appreciated</b>	Krantz, Steven G.
<b>Writing mathematics well</b>	Gillman, Leonard.