# Syllabus for Math 500, Teaching Assistant Training, Fall 2021

**Course:** The course meets **Thursdays, 2 – 3 PM, in AP&M B402A**. The course counts for 2 units (if 25% TAship) and 4 units (if 50% TAship), with S/U grading. First class meeting will be **September 23**. No meeting on November 25 (Thanksgiving holiday). Students must pass this course in order to serve as Math Department TAs during the 2021-22 academic year. The course covers the duties and responsibilities of a mathematics TA at UCSD, campus resources that can assist you, appropriate interaction with faculty and students, and research-based teaching methods and strategies. In addition to making you a more successful TA, the skills you learn will help you in future teaching, conference presentations, and invited seminar talks.

**Instructors:** Jeffrey Rabin (Math Department TA Training Coordinator), Jason O'Neill and Ryan Schneider (Senior TAs), Gregory Patchell and Andrés Rodríguez (Junior TAs)

**Attendance:** Math 500 is mandatory and passing the class requires that you miss no more than **two** of the class sessions, and complete all the homework assignments. Contact an instructor in advance or as soon as possible if circumstances beyond your control force you to miss a class meeting. Additional homework pertaining to material from that class will be provided for students with valid, excused, absence.

**Covid policy:** In accordance with UC San Diego policies, masks must be worn – covering both the mouth and nose – for the duration of the class. There will be no eating nor drinking in the classroom. The instructors reserve the right to ask any mask-less student to leave the classroom and the student will be marked as absent for the class.

**Office Hours:** We will have office hours throughout the quarter for any questions that you may have. Feel free to contact us with TAing relating inquiries outside of these office hours.

**Other Campus TA Training:** The Teaching and Learning Commons has workshops throughout the quarter, especially during the first few weeks. Information is on their website.

**Teaching Observations:** During the Fall quarter, you will have the opportunity to observe experienced TAs in their sections. Your own section will also be observed at least once by one of the course instructors who will then provide written feedback. This is an opportunity to fine-tune those aspects of your teaching that are working well, and to correct any more serious problems. We expect that you will be comfortable in section and teaching effectively by the end of the quarter, but in exceptional cases observations may continue into the Winter. Uncorrected serious teaching problems may have consequences for your continued employment as a TA.

**Academic Integrity:** You should familiarize yourself with the UCSD Policy on Integrity of Scholarship. This applies both to your own behavior and to the students in your sections. Regarding your own conduct in Math 500, doing homework for another student or signing an attendance card for another student will be treated as violations of the Academic Integrity policy.

**Tentative Schedule:**

- Sept. 23rd – Being a TA in the math department
- Sept. 30th – Reflections on first section
- October 7th – Experienced TA Panel
- October 14th – Grading Midterms
- October 21st – Academic Integrity
- October 28th – Effective office hours
- November 4th – Reflections from Other TAs
- November 11th – Veteran's Day (No Class)
- November 18th – Presentation skills
- December 4th – Review sessions, end of quarter duties

**Resources for Teaching Mathematics:**


- M. Carlson and C. Rasmussen, *Making the Connection: Research and Teaching in Undergraduate Mathematics Education*, Mathematical Association of America 2008.
- S. Krantz, *How to Teach Mathematics, 3rd Edition*, American Mathematical Society 2015.
- A. Schoenfeld, *Mathematical Problem Solving*, Academic Press 1985.
- G. Polya, *How to Solve It*, Princeton University Press, 1945 (originally – still a classic!)
- K. Bain, *What the Best College Teachers Do*, Harvard University Press 2004.
- K. Bain, *A Handbook for Mathematics Teaching Assistants*, Mathematical Association of America, online.
- K. Bain, *Instructional Practices Guide*, Mathematical Association of America, online.
- B.S. Edwards and M.B. Ward, *Surprises from Mathematics Education Research: Student (Mis)Use of Mathematical Definitions*, American Mathematical Monthly, May 2004 (pp. 411-424).
- D. Tall and S. Vinner, *Concept Image and Concept Definition in Mathematics with Particular Reference to Limits and Continuity*, Educational Studies in Mathematics 12 (1981) 151-169.