

# Colton L. Kinstley

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## DEGREES

**University of Houston** - Master of Science in Applied Mathematics

**Austin Community College** - Associate of Science in Mathematics

**University of Texas at Arlington** - Bachelor of Business Administration

## EDUCATION

**Selected Courses** - University of Houston

- Functional Analysis ( $C^*$ -Algebras), Dr. Mark Tomforde  
*Theory of bounded linear operators on a Hilbert space, introduction to  $C^*$ -algebras*
- Abstract Algebra, Dr. Mark Tomforde  
*Introduction to the theory of groups, rings, fields and modules*
- Topological Groups, Dr. Alan Haynes  
*The field of  $p$ -adic numbers and topological groups*
- Probability and Statistics, Dr. Wenjiang Fu  
*Measure theoretic probability, statistical methodology and a paper presentation on the LASSO method of parameter estimation*

## TEACHING EXPERIENCE

**University of Houston** September 2016 to January 2018 (Houston, TX)

*Instructional Assistant*

- Developed and presented lectures for a Calculus 1 recitation of 60 students 3 hours weekly
- Evaluated and provided feedback to students in their performance on written assignments, MATLAB code and exams in Calculus 1, Linear Algebra and Discrete Mathematics
- Collaborated with colleagues to establish explicit and consistent metrics by which to rank student performance.
- Constructed written reports for each graded assignment and exam detailing the method by which credit was attributed and the most common errors or areas that needed improvement
- Responded to inquiries of students regarding the correctness of their solutions and provided feedback on how their responses could be made more accurate

**Austin Community College** January 2014 to December 2015 (Austin, TX)

*Senior Supplemental Instruction Leader*

- Lead group sessions with a focus on metacognition and developing effective learning strategies such as identifying valuable metrics by which to monitor progress
- Developed lesson plans covering material in the lecture portion of the course focused on active learning and group problem solving activities
- Performed tutoring tasks such as development of test reviews and answering homework questions in two weekly 1 hour 30 minute sessions over the semester with attendance ranging 4 to 16 students
- Developed emails, flyers, bookmarks and other marketing devices to improve attendance and increase retainment

### *Mathematics and Physics Tutor*

- Tutored elementary, intermediate and college algebra; trigonometry; precalculus; calculus 1, 2 and 3; ordinary differential equations; general and engineering physics
- Created emails, flyers, bookmarks and other marketing devices to improve attendance and increase retainment
- Identified commonly difficult topics in all courses and prepared compact metaphors, illustrative examples and summary notes to expedite student understanding

### *ALEKS Tutor and ACCelerator Math Tutor*

- ALEKS is an adaptive, artificially-intelligent learning system that provides students with an individualized learning experience tailored to their unique strengths and weaknesses
- Provided individual tutoring to over 100 students at any given time in the ALEKS program, each potentially at a unique stage in their progress
- Cultivated personal relationships with students over up to two semesters with an eye on developing growth and self reliance while being mindful to not foster overdependence
- Recognized and responded to individual student needs including students with special needs (hearing and visually impaired and various learning disabilities)

### *Bridge Program Teaching Assistant*

- Supported an intensive course in basic mathematics intended to rapidly bring returning students to TSI completion in eight 4 hour classroom meetings with a mix of lecture, group practice and individual study
- Presented lectures and instruction to a subset of students who needed a more intensive review of the subject matter
- Reviewed the work of the students and provided feedback on correctness of solutions and implementation of strategies learned in the course for factoring polynomials, arithmetic of rational numbers, polynomial long division, etc.

## **MISCELLANEOUS**

- Programming and Technical Skills
  - Python (tensorflow, numpy, scipy, pandas), LaTeX, MATLAB, Mathematica, Linux system admin, Bash scripting
- Volunteer facilitator with CHAMP (Cougars and Houston Area Math Program)
  - Guided high school students through activities intended to engage and expand their understanding of the role of mathematics in our modern world
- Treasurer of the Tabletop Gaming Association at UH
  - Received, budgeted and distributed all funds required for club operations
  - Developed fundraising strategies and secured university space reservations
  - Recruited members at club events and by marketing to the student body through print and social media