

Nathan Karl Potratz

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Education

❖ **Masters Degree**

Middle Tennessee State University, Murfreesboro, TN
2019-2022 M.S. in Mathematics

❖ **Bachelor's Degree**

Asbury University, Wilmore, KY
2006-2010 B.A. in Computational Mathematics

❖ **Graduate Studies**

Middle Tennessee State University, Murfreesboro, TN
2022-2023 Three completed semesters towards PhD in Mathematics Education

❖ **Graduate Studies**

Florida State University, Tallahassee, FL
2011-2013 Three completed semesters towards M.S. in Scientific Computing

Presentations

- ❖ "Clustering-Based Site Selection by Characterization of Groundwater Hydrology" Poster Presentation at 8th IAHS International Groundwater Quality, April 2013 Conference in Gainesville, Florida
- ❖ "Cell Phone Growth and Energy Consumption" Presentation at Annual Meeting of the Kentucky Chapter of the Mathematical Association of America KYMAA (April 2009)

Experience Highlights

❖ **Teaching Assistant (Instructor of Record)**

Middle Tennessee State University, Murfreesboro, TN
2021-2023

Comprehensive teaching experience that included developing a syllabus, crafting and delivering lectures, customizing homework assignments for each class, creating exams, and delivering in-depth feedback to students on assessments. I taught precalculus for three semesters and finite math for one semester.

❖ **Director/Assistant Director**

Mathnasium Learning Center, Murfreesboro, TN
2016-2019

Entrusted by absentee owner with management operations including but not limited to staff scheduling, teaching/tutoring, hiring, instructor training, billing, sales, customer relations, curriculum customization. The center's revenue doubled within one year.

❖ **Tutor**

Achieve Learning, Murfreesboro, TN
2014-2016

Provided customized teaching to students in various subjects frequently including reading and math, especially focused on tutoring high school students that were preparing for the ACT.

❖ **Teacher**

Anderson Campus for Educational Excellence, Murfreesboro, TN
2014-2015

Lectured, graded, and managed classroom behavior while teaching Pre-Algebra, U.S. History, Grammar, and Vocabulary to 8th-10th grade students in a daytime tutorial. Met with other students for individual tutoring in the evening.

❖ **Teaching Assistant/Research Assistant**

Florida State University, Tallahassee, FL
2011-2013

Maintained office hours for students that needed personalized instructions and graded coursework as a teaching assistant. As a research assistant, worked alongside a postdoctoral student and thesis adviser on a project related to investigating the sources of nitrate contamination in the groundwater in Jacksonville, FL.

❖ **Teaching Assistant**

Mathematics Department, Asbury University, Wilmore, KY
2008-2010

Tutored other mathematics majors in high level courses as well as students taking basic math courses.

❖ **Training**

The following workshops focused on improving teaching methods: “Teaching Philosophy Statement,” “Align Learning to Activities and Assessments,” “Introduction to Intelligent Agents,” “Teaching and Zooming.”

Micro Teaching Experiences- Planned and taught two 10-minute lessons to teachers and received constructive criticism.

❖ **COMAP Mathematics Modeling Competition**

Honorable Mention (top 50%) 2008 and 2009

This is an international math modeling competition involving well over a thousand three-person teams from many top tier schools, including MIT and Harvard.

Hard and Soft Skill Highlights

❖ **Technical Proficiencies:**

Advanced: Microsoft Excel, Microsoft Word, LaTeX

Intermediate: Matlab, C++, Maple

Beginner: R, Python, Fortran, Microsoft Access, HTML, Java, Linux, ArcGIS

❖ **Reform-Oriented Instruction:**

Training and experience in teaching in active, student-centered methods. Though I am still a novice at putting these methods in practice, I am passionate about implementing approaches other than pure lecture because of the effectiveness I have witnessed and read about in research literature.

❖ **Communication:**

Honed interpersonal communication skills through math education, math teaching/tutoring, and management experience. This includes disseminating knowledge in a tailored and understandable manner in one-on-one or presentation environments. Excel at breaking complicated problems down into basic steps.

❖ **Problem Prevention:**

Through a keen sense of empathy, management experience, and extensive tutoring experience, I have developed an above average ability to imagine different perspectives and how people might react, thereby seeing potential issues before they happen.

❖ **Creativity:**

Creative problem solving, especially with math problems and interpersonal conflict.

Scholarships

Full Tuition Graduate Assistant with Stipend at Middle Tennessee State University for the Department of Mathematics (2019-2022)

Full Tuition Graduate Assistant with Stipend at Florida State University for the Department of Scientific Computing (2011-2013)

Asbury University awarded me a prestigious 50% tuition scholarship after competing in their scholarship weekend (2006-2010)