Vitae

Matthew A. Isom

Born: 24 September, 1963
Citizenship: U.S.A.
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Education

Ph.D., Educational Mathematics, University of Northern Colorado, Aug. 1996
M.A., Mathematics, University of Northern Colorado, May 1993
B.A., Mathematics, Humboldt State University, May 1991

Employment/ Work Experience

- Arizona State University, the Polytechnic Campus; Mathematics and Science faculty; College of Integrative Sciences and Arts: Senior Lecturer 2007 - Present
- Arizona State University, Department of Mathematics and Statistics: Director, First-Year Mathematics, June 2000 - 2007
- Arizona State University, Department of Mathematics and Statistics: Mathematics Liaison, fall 1998- spring 2000
- Lead Evaluator for NSF funded Local Systemic Change Project; Changing the High School System: Implementing the Interactive Mathematics Program, 1996 - 2001
- Arizona State University, Department of Mathematics and Statistics: Lecturer, fall 1996 - spring 1997
- University of Northern Colorado, Department of Mathematical Sciences: Teaching Assistant, fall 1991- spring 1996
- Finish Carpenter; 1985 – 1996; built my own house 2005
- California Air National Guard: Crew Chief / Mechanic, F-4 fighter, 1984 - 1986, Honorable Discharge: September 1986
- United States Air Force: Crew Chief / Mechanic, F-15 fighter, 1981 - 1984, Honorable Discharge: April 1987
- High School Graduation, Garden Grove High School; Garden Grove, California 1981

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Research / Presentations / Conferences

- Dissertation Title: The Effect of a Writing-Influenced Mathematics Curriculum on Student Beliefs about Mathematics and Mathematics Achievement.
- Invited Talk - United States Air Force Academy, May 2002: Writing in Mathematics.
- Co-PI NSF Grant, Web-Based Math Homework, December 2001
- Co-Chair MAA/ArizMATYC Conference, April 2000
- Invited Talk - Mathematics Instruction Colloquium, 26 January 1999: ASU's Mathematics Department is Taking Serious Steps in the Direction of Outreach and Teacher Preparation
- Fifth Arizona Conference on Mathematics Education, 17 October 1998: Trials and Tribulations of Implementing a Reform Mathematics Curriculum from an Evaluators Point of View.
- Secondary Math Education Conference June 1998: Integrating Writing into Curricular Activities.
- MAA/AMATYC Joint Regional Conference, April 1998: On the use of Vocabulary Oriented Writing Assignments to Enhance Students Mathematical Understanding.
- Invited Talk - Mesa Public School Teachers, 9 June 1997: Implementing Writing in the Mathematics Curriculum.
- MAA-Joint Meeting, Rocky Mountain and Intermountain Sections, 19 April 1996: Writing in Mathematics.
- University of Northern Colorado Research Day, 11 April 1996: A writing-Influenced Mathematics Curriculum.

Affiliations / Awards

- Faculty Excellence Award – Teaching and Instruction, 2011
- Member of National Numeracy Network (NNN) 2009-2011
- Member of the MAA, 1990 - 2006
- Governor's Award for Excellence: First-Year Mathematics, November 1998

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Published work:

Literacy & Mathematics: A contemporary approach to quantitative literacy; Co-Authored with Jay Abramson:2005; Kendall/ Hunt publishing company.

Pre-Calculus Course A, NovaNet, Pearson, Publication date: Fall, 2011.

Pre-Calculus Course B, NovaNet, Pearson, Publication date: March, 2012.

Trignometry, NovaNet, Pearson, Publication date: Spring, 2012.

Mathematics Courses Taught:

Intermediate Algebra, College Mathematics, College Algebra, Brief Calculus, Pre-Calculus, Calculus I, II & III (Harvard and Traditional), Mathematics of Change I, II & III, Calculus for Engineers I, II & III, Differential Equations, Linear Algebra, Numeracy in Technology, Theory of Interest, Theory of Elementary Mathematics, Mathematics in the Secondary School, Special Topics-Advanced Methods of Teaching Secondary Mathematics and Analysis for Teachers.

Outreach / Service

I have been an active liaison between ASU and the Maricopa Community College District serving as both an active and invited participant of the Mathematics Instructional Council (a committee of the Maricopa Community College District). I have been the Chair for ASU's General Studies council (2009-2010). This followed two different stints as interim Chair for the GSC during the spring '06 semester and the 08-09 academic year. I have also served active rolls on committees such as the Full-time Contract Faculty committee (appointed by the Provost) and the Cooperative University School Program (C.U.S.P.). This program invites master teachers from public secondary schools to the university for one year to teach First-Year Mathematics courses and to help supervise pre-service high school mathematics teachers. Other connections to the community include participation as a Faculty Ambassador from ASU where I review curriculum and meet with mathematics teachers in rural areas of the state to discuss current reforms in mathematics education. I have worked as a university supervisor for many (20+) pre-service mathematics teachers during their student teaching experience. I have also worked with many honors students in mathematics courses, taught and mentored new graduate students through their first teaching experiences as well as conducted workshops on the art or craft of teaching. I have also been able to actively participate in graduation ceremonies as the reader of names as the graduates cross the stage. I have also volunteered and worked as an executive board member of the PTO for my children's elementary school. Some of these activities include: running club, science night, PTO meetings, etc...

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Teaching Philosophy

I have worked as a full-time mathematics teacher at the university every year since I earned a PhD in Educational Mathematics (modulo the seven years I was the Director for the First-Year mathematics program at ASU where I taught 1-2 courses each semester). Of all the various jobs I have worked in academics, teaching is by far the most rewarding. And it has taken many years to hone the skills required to motivate an 18 year-old to study calculus or to instill a desire within the nontraditional returning student from a College Mathematics course to engage with a spread sheet to investigate and answer a meaningful question. For me, it is not just all about the mathematics, it is about providing the right environment for students to have the opportunity and desire to engage, it is about trust and instilling confidence in students to think mathematically and be successful.

The vision I bring into the classroom each day is that:

- ALL Students can succeed
- Teach to all students
- Monitor students' knowledge

The notion that ALL students can succeed seems to be inherent in my own being. I just do not believe any human being that can read is unable to perform basic algebra tasks. The difficult part is to figure out what a student knows so you can motivate them to be successful and own the mathematics presented.

I have to teach to all the students every time I am in the classroom. Reading their eyes, listening to their questions, making them feel comfortable enough to ask questions and encouraging them to do so is what I believe has provided me much success in the classroom. While teaching I conduct a lot of monitoring of student performance. Periodic Sense-Making is how I refer to my daily conversations with students.

Knowledge of students' understanding of a topic or concept provides me the avenue to adjust my delivery/conversation in a class meeting. My success is knowing students who have gained the confidence to take their mathematical skills with them as life-long learners.