

# Nathan Smith

May, 2026

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Tyler, TX 75799

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## Positions Held

September 2005 - present	Associate Professor of Mathematics, UT-Tyler
July 1999 - August 2005	Assistant Professor of Mathematics, UT-Tyler
May 1997 - May 1999	Senior Graduate Teaching Assistant, Virginia Tech
August 1994 - May 1997	Graduate Teaching Assistant, Virginia Tech

## Educational Background

May 1999	Ph.D. Mathematics	Virginia Polytechnic Institute and State University
May 1996	M.S. Mathematics	Virginia Polytechnic Institute and State University
May 1994	B.S. Mathematics	Virginia Polytechnic Institute and State University
May 1996	B.S. Horticulture	Virginia Polytechnic Institute and State University

## Publications

- “The Convention Bump Revisited,” in preparation, with Owens, M., Wink, K., and Beckham, R.
- “Circular Planar Nearings and Quandles,” in preparation.
- Smith, N. “Group Object Quandles and their Endomorphism Nearings,” Journal of Knot Theory and its Ramifications, Vol. 31, No. 07 (2022).
- John, G., Heffner, E., Carter, T., Beckham, R., and Smith N. “Augmented Renal Clearance in Patients with Acute Ischemic Stroke: A Prospective Observational Study.” Neurocrit Care (2022).
- Emge, J. and Smith, N. “A Preliminary Investigation Into the Effect of Bell Cover and Filter on Pitch of Wind Instruments,” Texas Music Education Research, pp. 3-14 (2022).
- Mann, C., McCarty, J., McLoud-Mann, J., Ranalli, R., and Smith, N., “Minimal Knotting Numbers”, Journal of Knot Theory and its Ramifications., Vol. 18, No. 8, pp. 1159-1179. (2009).
- Mahdavi, K., Merton, G., Nguyen, L., Schedler, T., and Smith, N. “Virtually biautomatic groups”, Communications in Algebra, Vol. 37, No. 7, pp. 2267-2273. (2009).

- Mann, C., McCarty, J., McLoud-Mann, J., Ranalli, R., and Smith, N., “Metrics in Three-Dimensional Lattices”, Journal of Geometry and Graphics, Vol. 12, No. 2, pp. 133-140. (2008)
- Smith, N. “Projective Resolutions from Tensoring Syzygies” Texas College Mathematics Journal, Vol. 1, pp. 10-21. (2002).

## Grants Funded

- Sherman, C., Alger, D. and Smith, N. (2018) “We Teach CS” grant from the Center for STEM Education at UT Austin. (Funded - \$75000)
- Sherman, C., Rainwater, S. & Smith, N. (2017) Texas Regional Collaborative in Computer Science. Texas Regional Collaborative (Funded -\$75,000)
- Smith, N., Sherman, C., Brown, F., Back, R. & Beckham, J. (2016). Teacher Quality Grant. Texas Higher Education Coordinating Board (Funded - \$126,817)
- Smith, N., Sherman, C., Brown, F., Back, R. & Beckham, J. (2016). Teacher Quality Grant. Texas Higher Education Coordinating Board (Funded - \$179,671)
- Sherman, C. & Smith, N. (2016) Texas Regional Collaborative in Mathematics. Texas Regional Collaborative (Funded -\$ 120,000)
- Sherman, C. & Smith, N. (2015). Texas Regional Collaborative in Mathematics. Texas Regional Collaborative (Funded - \$150,000)
- Smith, N., Sherman, C., Brown, F., Back, R. & Beckham, J. (2014-16). Teacher Quality Grant. Texas Higher Education Coordinating Board (Funded - \$626,000)
- Sherman, C. & Smith, N. (2014). Texas Regional Collaborative in Mathematics. Texas Regional Collaborative (Funded - \$160,000)
- Sherman, C. & Smith, N. (2013). Texas Regional Collaborative in Mathematics. Texas Regional Collaborative (Funded - \$160,000)
- Smith, N. & Sherman, C. (2013). Teacher Quality Grant. Texas Higher Education Coordinating Board (Funded - \$98,000)
- Lamb, J., Smith, N. & Sherman, C. (2012). Teacher Quality Grant. Texas Higher Education Coordinating Board (Funded - \$98,000)
- Lamb, J, Sherman, C. & Smith, N. (2012). Texas Regional Collaborative in Mathematics. Texas Regional Collaborative (Funded - \$187,752)
- Odell, M., & Smith, N. (2012) Secondary Mathematics Teacher Support Program. Texas Education Agency (Funded \$249,998)

- Lamb, J, Sherman, C. & Smith, N. (2011). Texas Regional Collaborative in Mathematics. Texas Regional Collaborative (Funded - \$154,308)
- Sherman, C., Smith, N. & Lamb, J. (2010). Beginning Teachers Induction and Mentoring. Texas Regional Collaborative (Funded – \$228,004).
- Lamb, J., Sherman, C. & Smith, N. (2010). Texas Regional Collaborative in Mathematics. Texas Regional Collaborative (Funded - \$134,390)
- Sherman, C., Smith, N. & Lamb, J. (2009). Beginning Teacher Induction and Mentoring. Texas Regional Collaborative (Funded – \$103,000).
- Lamb, J., Sherman, C, & Smith, N. (2009). “College and Career Readiness Initiative: Mathematics Faculty Collaborative Grant.” (Funded - \$9500)
- Lamb, J., Smith, N. & Sherman, C. (2009). Teacher Quality Grant. Texas Higher Education Coordinating Board (Funded - \$190,000)
- Lamb, J., Sherman, C., & Smith, N. (2009). Texas Regional Collaborative in Mathematics, Texas Regional Collaboratives. (Funded - \$103,443)
- Lamb, J., Sherman, C., & Smith, N. (2008). Texas Regional Collaborative in Mathematics, Texas Regional Collaboratives. (Funded - \$103,350)
- Lamb, J., Sherman, C., & Smith, N. (2007). Texas Regional Collaborative in Mathematics, Texas Regional Collaboratives. (Funded - \$169,000)
- Beverly, L. and Smith, N. (2004) “Algebra, Technology, and the Problem Solving Process” Teacher Quality Grant. Texas Higher Education Coordinating Board (Funded - \$92,500)
- Beverly, L. and Smith, N. (2003) “New Dimensions: Transforming Geometry through Technology” Teacher Quality Grant. Texas Higher Education Coordinating Board (Funded - \$78,132)

### **Refereed Conference Papers**

- Emge J., and Smith, N., “A Preliminary Investigation Into the Effect of Bell Cover and Filter on Pitch of Wind Instruments,” Texas Music Education Association, February 10, 2022.
- Fletcher, C. and Smith, N., “We Teach CS: Strategies for Scale,” 100 K in 10 Partner Summit, New York, NY, April 2017.
- Smith, N. “Nearrings of endomorphisms of group objects in the category of quandles,” Joint Mathematics Meetings, Seattle, WA, January 2016.

- Smith, N. “The postage stamp problem and systems of equations,” UTeach Conference, Functions and Modeling Regreat, Austin, TX, May 2013.
- Lamb, J., Sherman, C., and Smith, N., “Teaching TEKS with a Tablet: iPad Algebra Apps,” Conference for the Advancement of Mathematics Teaching, Houston, TX, July 2012.
- Lamb, J., Sherman, C., and Smith, N., “Teaching TEKS with a Tablet: iPad Geometry Apps,” Conference for the Advancement of Mathematics Teaching, Houston, TX, July 2012.
- Lamb, J., Sherman, C., and Smith, N., “Fostering algebraic and geometric thinking in 5-minute bursts,” 18th Annual Texas Regional Collaboratives Conference, Austin, TX, June 2012.
- Bailey, B., Gray, N., Lamb, J., Lewis, M., Odell, M., Sherman, C., and Smith, N. “Replication of UTeach at a Small University: Lessons Learned,” 2011 NMSI/UTeach Conference, Austin, TX. May 2011.
- Lamb, J., Sherman, C., and Smith, N. “Questioning and algebraic reasoning: an online educational module.” College and Career Readiness Initiative Mathematics Conference, November 2010, Austin, TX.
- Lamb, J., Sherman, C., and Smith, N. “Problem based learning and college and career readiness standards: Connecting reasoning to mathematics content.” Mathematics and Science Summit, September 2010, San Antonio TX.
- Lamb, J., Sherman, C., and Smith, N. “Fostering algebraic thinking in pre-service and beginning elementary teachers.” Conference for the Advancement of Mathematics Teaching, July 2010, San Antonio, TX.
- Lamb, J., Sherman, C., and Smith, N. “Concrete to abstract connections related to systems of equations.” Conference for the Advancement of Mathematics Teaching, July 2010, San Antonio, TX.
- Lamb, J., Sherman, C., and Smith, N. “Middle and high school mathematics teachers focus on fostering algebraic thinking and student achievement improves.” U.S. Department of Education Mathematics and Science Partnership Regional Conference, February 2010, San Diego, CA.
- Lamb, J., Sherman, C., and Smith, N. “An online instructional model and its effect on teacher content knowledge.” Fifteenth Annual Texas Regional Collaboratives for Excellence in Science and Mathematics Teaching Conference, June 2009, Austin, TX.
- Mann, C., McCarty, J., McLoud-Mann, J., Ranalli, R., and Smith, N., “Minimal Knotting Numbers”, Joint National Meetings of the American Mathematical Society and the Mathematical Association of America, January 2006 in New Orleans, LA.

- Mann, C., McCarty, J., McLoud-Mann, J., Ranalli, R., and Smith, N., “Distance in Three-Dimensional Lattices”, Joint National Meetings of the American Mathematical Society and the Mathematical Association of America, January 2006 in New Orleans, LA.
- Beverly, L., Sawyer, C., and Smith, N. “Incorporating on-line testing and tutorials in the calculus curriculum: helping students become more self directed learners,” presented at the Joint National Meetings of the American Mathematical Society and the Mathematics Association of America, January 2004 in Phoenix, AZ.
- Kane, T. and Smith, N. “Exempting Earners from the Federal Personal Income Tax and the Relative Size of the Federal Government: An empirical study,” presented at the Southwestern Social Science Association Meeting, April 2003 in San Antonio, TX.
- Beverly, L. and Smith, N. “Calculus: Balancing Theory, Applications, Mechanics, and Technology,” presented at the Mathematics Association of America Texas Section Meeting, April 2002 in Mesquite, TX.
- Beverly, L. and Smith, N. “The Overlap Product and Cohomology,” presented at the Mathematics Association of America Texas Section Meeting, April 2002 in Mesquite, TX.

### Software

- *TASCK*, the Teacher Assessment of Specialized Content Knowledge. With Lamb, J. and Sherman, C. An online assessment for high school teachers measuring content knowledge and specialized content knowledge for teaching. Our assessment has been used by various teacher professional development programs throughout the state of Texas to measure and document teacher growth.

### Awards

- National Society of Leadership and Success “Excellence in Teaching Award,” December, 2019.
- UT Tyler “Crystal Quill” award, joint award with Sherman C., February 2018.
- University of Texas at Tyler Office of Sponsored Research “Researcher of the Year” for the 2012-2013 year.

### M.S. Theses Supervised

- Grant Campbell “Item response models for dichotomous and polytomous data in the context of generalized linear models with applications.” May, 2012.
- Amber Lee. “Generalized Linear Models.” May, 2005.