

Owen D. Byer

1350 Shands Trl. Rockingham, VA 22802 • 540-908-2927 • byer@emu.edu

Education

Master of Applied Statistics, Penn State University, 2020

M.S. and Ph.D. in Mathematics, University of Delaware, Newark, DE, 1991 and 1996

B.A. in Mathematics, with secondary certification, Messiah College, Grantham, PA, 1989

Summa cum laude

Teaching Experience

Professor of Mathematics: Eastern Mennonite University, Harrisonburg, VA, 2006-present

Instructor: MathPath summer camp, 2011, 2012, 2014, 2015, 2018, 2019, 2020, 2021, 2022

Instructor: North Sichuan Medical College, Nanchong, China, Fall 2006 (while on Sabbatical)

Associate Professor of Mathematics: Eastern Mennonite University, 2001-2006

Assistant Professor of Mathematics: Eastern Mennonite University, 1999-2001

EMU courses taught: Discrete Mathematics, Calculus I, II, and III, Linear Algebra, Abstract Algebra, Introduction to Analysis, Differential Equations, Probability, Number Theory, History of Mathematics, Inferential Statistics, Statistics for the Natural Sciences, Regression and ANOVA, Math Research, Math Portfolio; Foundations of Math, College Algebra, Math for Social Decision Making, Finite Math, Math and Liberal Arts, Elements of Calculus, Bridge (honors course), Statistics module for Adult Degree Completion Program, Student-teacher supervision, Special Methods in Secondary Math Education

Select EMU Service:

- Mathematical Sciences Department Chair (2000-2006 , 2012-present)
- President of Faculty Senate (2007-2009, 2014-2016), which included membership on President's Cabinet and Strategic Planning Committee
- Academic Council (2000-2005, 2012-present); co-chair 2003-2005, 2017-2019, 2022-
- Faculty/Staff Fall Conference Workshop Planning Committee (2011-2014)
- Faculty Scholarship Committee (2010-2012)
- Faculty Status Committee (2009-2011, 2013-2016)
- General Education Committee (2001-2007)
- New Faculty Mentor (2002, 2003, 2006, 2009, 2011, 2013)
- Committee on Teacher Education (1999-2002, 2006-2013)
- Member of numerous search committees (Computer Science, Physics, Dean of Student Life, Education Department, Chemistry, Mathematics, Engineering)

Assistant Professor: Northwestern College, Orange City, IA, 1996-1999

Lead Instructor of RISE Academy (a 5-week bridge program for incoming first-year engineering students from historically underrepresented backgrounds): University of Delaware, July 1995

Instructor: Eastern Mennonite College, 1991-1992 (Sabbatical replacement)

Teaching Assistant and Instructor: University of Delaware, 1989-1991, 1992-1996

Recipient of Baxter-Sloyer Outstanding Graduate Teaching Assistant Award (1995)

Student teacher: Camp Hill High School, Camp Hill, PA, Fall 1988

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Publications

1. “The Noodle Problem,” *Proceedings of the 23rd Conference of the ACMS*, 2022 (to appear).
2. Methods for Euclidean Geometry, 2nd edition, coauthored with Deirdre L. Smeltzer and Felix Lazebnik, Dover Publications, May 2021.
3. Journey into Discrete Mathematics, an undergraduate textbook co-authored with Deirdre L. Smeltzer and Kenneth L. Wantz, AMS/MAA Textbooks, November 2018.
4. “Finding polygonal areas with the Corset Theorem,” with Stuart M. Anderson, *The College Mathematics Journal*, Vol. 48, No. 3 (May 2017), pp 171-178.
5. Mathematics Competency, 6th ed., an unpublished textbook used in the Foundations of Math course at EMU, 2016. (The first four editions were co-authored with Deirdre L. Smeltzer)
6. “Mutually Tangent Spheres in n-space,” with Deirdre L. Smeltzer, *Mathematics Magazine*, Vol. 88, No. 2 (April 2015), pp 146-150.
7. “A 3-D Analog of Steiner’s Porism,” with Deirdre L. Smeltzer, *Mathematics Magazine*, Vol. 87 (April 2014), pp 95-99.
8. Methods for Euclidean Geometry, a 460-page undergraduate textbook, coauthored with Deirdre L. Smeltzer and Felix Lazebnik, Mathematical Association of America, August 2010.
9. *Introduction to Statistics: From means to T-tests*, a module utilized for math instruction in EMU’s summer STEM bridge program, Summer 2009. (Used annually throughout the duration of the 5-year grant that funded the program)
10. “Exploring Loci in Geometry,” *Proceedings of the Sixteenth Conference of the ACMS* (2007), with Deirdre L. Smeltzer, pp. 114-140.
11. “Edge bounds in nonhamiltonian k-connected graphs,” *Discrete Mathematics*, Volume 307 (2007), with Deirdre L. Smeltzer, pp. 1572-1579.
12. “Observations on the Indeterminacy of the Sample Correlation Coefficient,” *The College Mathematics Journal*, Volume 33 (September 2002), pp. 320-322.
13. “Mental Arithmetic, Finding Squares,” *Mathematics Teacher*, Vol 6 (September 2002), p. 406.
14. “Maximum Number of 3-paths in a Graph,” *ARS Combinatoria*, Volume 61 (2001), pp. 73-79.
15. “Two-Path Extremal Graphs and an Application to a Ramsey-type Problem,” *Discrete Mathematics*, Volume 196 (1999), pp. 51-64.
16. “Some New Bounds on the Maximum Number of Vertex Colorings of a (v,e)-Graph,” *Journal of Graph Theory*, Volume 28 (1998), pp. 115-128.
17. “Maximum Number of 4-cliques in a 4-partite Graph,” *Bulletin of ICA*, Volume 21 (1997), pp. 27-32.

Presentations (since 2004 only)

1. *Martin Gardner, Marjorie Rice, and a Tiling Tale*, Virginia Academy of Science Undergraduate Research Meeting, Eastern Mennonite University, October 29, 2022.
2. *Our Top-Ten Problems*, with Deirdre L. Smeltzer, 22nd biennial ACMS Conference, Indiana Wesleyan University, May 30, 2019.
3. *The Corset Theorem*, 21st biennial ACMS Conference, Charleston Southern University, June 2, 2017.
4. *Just how do they calculate NFL passer ratings, anyway?* Virginia Council Teacher of Mathematics conference, James Madison University, March 14, 2014.

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5. *Applications of Circular and Spherical Inversions*, with Deirdre L. Smeltzer, Joint Meeting of the AMS and MAA, New Orleans, January 6, 2011.
6. *Applications of Circular and Spherical Inversions*, with Deirdre L. Smeltzer, Sectional Meeting of the MAA, George Mason University, November 6, 2010.
7. *NFL Passer Ratings: Are they really rocket science?* Invited speaker at Mathematics Colloquium, Longwood University, March 16, 2010.
8. *Applications of the Central Limit Theorem*, Presentation at MAA Sectional meeting, Mary Washington University, Fredericksburg, VA, April 18, 2009.
9. *Exploring Loci in Geometry*, presentation at MAA sectional meeting at Roanoke College, April 14, 2007, repeated at ACMS biennial meeting at Messiah College, June 1, 2007 (joint with Deirdre L. Smeltzer).
10. *Probability Potluck*, invited speaker to Mathematics Department seminar, Washington and Lee University, March 8, 2006.
11. *Why God would want me to teach Mathematics*," presentation at Eastern Mennonite High School National Honor Society induction ceremony, March 29, 2004.

Select Professional Service (broadly interpreted)

1. Member of MAA Selection Committee for Earle Raymond Hedrick Lecture Series, 2020 – present
2. Reviewer for Math Reviews, American Math Society, 2008 – present
3. Coach of Math Olympiads team for 5th and 6th graders at Calvary Christian Academy (2006) and Mountain View Elementary School (2007), and coach of Eastern Mennonite Middle School Mathcounts Team (2011–2013)
4. Question writer for Quantitative portion of GRE exam (2008–2012)
5. Grader for Advanced Placement Calculus Exams, Louisville, KY (2001–2008)
6. Judge for WVPT Pop Quiz show for local high schools (2001–2007)
7. Panelist to review NSF proposals for the Computer Science, Engineering, and Mathematics Scholarships (CSEMS) program, April 23–26, 2003

Association Memberships

1. The Mathematical Association of America (MAA)
2. The Association of Christians in the Mathematical Sciences (ACMS)

Personal/hobbies

I enjoy playing board games and cards, especially Bridge (long-time member of the ACBL). I am an active disc golf player and still play basketball at the local rec center.