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Curriculum Vitae

EDUCATION

Institute for Management and Leadership in Education, Harvard University, 2014.

Ph.D. Mathematics, Lehigh University, Bethlehem PA, May 1999.

- Focus: Real Algebraic Geometry

M.S. Mathematics, Lehigh University, Bethlehem PA, January 1996.

B.S. Mathematics, Moravian College, Bethlehem PA, May 1993.

- Pennsylvania Instructional I certification in secondary mathematics education.

Bloomsburg University of Pennsylvania, Bloomsburg, PA

An academy “to teach the youth the elements of a classical education” was established in Bloomsburg, Pennsylvania, in 1839 and established in 1983 as Bloomsburg University of Pennsylvania, one of fourteen institutions in the Pennsylvania State System of Higher Education. Bloomsburg University is authorized by the Board of Governors to offer courses and programs leading to bachelor’s and master’s degrees in arts and sciences and various professional fields. Bloomsburg University’s current enrollment is approximately 10,000 students.

Faculty & Administrative Appointments

Bloomsburg University of Pennsylvania, Dean, College of Education (May 2009-May 2017) & Faculty in the Department of Mathematics (1999 – present)

Administrative Responsibilities and Accomplishments:

With a budget of approximately 7 million dollars and over 40 full- and part-time faculty and staff members, I am responsible for leading and managing 2 departments. My responsibilities include the recruitment, retention, and development of a high-quality

faculty and leadership of curricular discussions regarding the development, enhancement, and innovation of all undergraduate and graduate programs within the school. My office is also responsible for the operational oversight of the McDowell Institute for Teacher Excellence in Positive Behavior Support, the Regional STEM Education Center, and several large grants focused on the improvement of teacher education programs. Bloomsburg University's College of Education is recognized as a leader in the surrounding region.

Accomplishments and Innovations:

- **2013 - present: Secured \$2.2 million *Building Teaching and Learning Capacity K-16* grant through the Pennsylvania Department of Education.**
 - Designed to improve field experiences for student teachers.
 - Initially a collaboration between two universities (Bloomsburg University's College of Education acting as the lead and Kutztown University), a local intermediate unit and 7 local school district partners.
 - There are 20 new school district partners, including the School District of Pittsburg, made possible through an additional collaboration with Slippery Rock University.
 - The innovative software program designed as part of the grant, known as *Pre Service Differently*, has enabled the College of Education to not only immediately assist students who are struggling during their student teaching semester, but also acts as the total assessment system for the College of Education for the various accrediting bodies to whom we report. Additionally, *Pre Service Differently* serves as a scaffolding structure for cooperating teachers and supervisors to improve their instructional coaching abilities.

- **2013-present: Lead the creation of the Regional STEM Education Center at Bloomsburg University.**
 - STEM Magnet Program
 - Anchor Program for Regional STEM Education Center: a collaborative effort with twelve regional school districts and 15 regional businesses.
 - Provides an interactive opportunity for high school students in school districts in close proximity to Bloomsburg University.
 - Eleventh and twelfth grade students are immersed in a high-level, intensive academic program that interweaves practical applications and rigorous traditional content.
 - Students are provided with mentors both on Bloomsburg University's campus (current math and science majors at the university) as well as by local businesses.
 - STEM Camps
 - Designed for students in grades 4-10.

- GI STEM (Girl Scouts in STEM): Regional Girl Scouts attend a one day science and math hands-on session. Since its inception in 2015, we have seen a two-fold increase in attendance.
 - STEM Summer camps for students in grades 5-10: College of Education majors (early childhood, midlevel and secondary education) complete a practicum experience as part of the efforts of this camp. Allows regional fifth to tenth graders to work on various science projects for one week each summer.
Teacher's Academy
 - STEM Teachers' Academy: Allows regional teachers to participate in a graduate class that is designed to improve their skills in inquiry-based science. In the second year, this initiative was expanded by a \$729,000 Math and Science Partnership grant in 2016.
 - To date, the Regional STEM Education Center program has received nearly \$2 million from a number of regional businesses, regional foundations, grants and Bloomsburg University alumni.
- **2012-present: Secured largest gift in university history at that time: McDowell Institute for Teacher Excellence in Positive Behavior Support.**
 - In the spring of 2012, the College of Education received the largest gift (\$2 million) in its history from Susan McDowell.
 - The McDowell Institute provides workshop and training opportunities to help education majors develop the strong standards and 21st century skills they need to contend with non-academic barriers to learning for PreK-12 through college-aged students.
 - In January 2014, the McDowell Institute received an additional \$800,000 grant from *The Substance Abuse and Mental Health Administration*.
 - In June 2015, Mrs. McDowell agreed to increase funding for a Symposium Series and faculty and student fellowships.
 - In May 2016, Mrs. McDowell increased her gift to add Youth Mental Health First Aid training for education majors, aid training for regional in-service teachers and to create networks of support for school districts.
 - To date, over 1,000 pre-service and in-service teachers have been impacted by initiatives of the McDowell Institute.
- **2012: Lead NCATE reaccreditation.** During the 2008 focus visit by NCATE, the College of Education at Bloomsburg University lost its accreditation in advanced programs. This led to my hire and directive to structure the college in a way that would create a successful visit in November 2012. I worked closely with faculty to develop an assessment system to provide us with data to change our programs for long-term success. In November of 2012, all of Bloomsburg University's educator preparation programs were approved by NCATE. The College of Education continues to use the assessment system that we developed for the reaccreditation visit, as we continually make improvements to the many

educational programs that the College of Education is responsible for administering per the Pennsylvania Department of Education.

Major Responsibilities:

Major Responsibilities in the College of Education:

- Articulate the strategic vision and goals of the college and ensure department and program goals and outcomes align with this vision
- Establish and manage the operational budget for the college based upon strategic goals and priorities for the academic year
- Facilitate a collegial working environment within departments.
- Lead the recruitment, retention and development of the faculty. During my tenure, the promotion rate for faculty in my college has more than tripled. To promote faculty scholarly activity, I have organized a number of workshops designed to assist all College of Education faculty with their scholarly endeavors. This has included hiring an external grant writer to assist faculty.
- Lead enrollment efforts in the College of Education. Started or enhanced several initiatives in the College of Education for long-term systems to maximize enrollment in the College of Education.
 - STEM initiatives mentioned earlier. Students in these programs have an opportunity to interact with students in the College of Education who hope to be mid level or secondary STEM majors.
 - *Eighth Grade College Bound*: A program founded in collaboration with the Zeigler Family Foundation. This initiative allows our early childhood and mid level majors to lead approximately 500 eighth graders each year in formal lessons which focus on choices and planning for the future. While there are several goals of this program, assessment data shows us that these students, who had not been thinking about many aspects of college, are now thinking about, and planning for, college.
 - LEAD (Leading Educators Advocating Diversity): This program was initially funded by a Presidential Strategic Planning grant. Its goal is to increase the number of underrepresented minority students who come to Bloomsburg University to major in education.
 - Student Success Collaborative: This university-wide initiative is designed to retain students. The College of Education has taken a leadership role in a successful pilot where under prepared students who want to be education majors are paired with a dedicated education faculty member.
- Lead the implementation, in the College of Education, of the university's new general education program, *MyCore*. The new general education requirements required the College of Education to entirely re-evaluate all undergraduate education programs.
- Lead the curricular discussions regarding the development, enhancement, and innovation of all undergraduate and graduate programs:

- New Programs:
 - STEM teaching endorsement approved by the Pennsylvania Department of Education in 2016.
 - On-line teaching endorsement approved by Pennsylvania Department of Education in 2014. Students completing this 4-course sequence are endorsed by the Pennsylvania Department of Education to teach on-line. This important endorsement is vital as both charter schools and public schools look for alternatives to teach the students of Pennsylvania.
 - New revisions under Pennsylvania Department of Education mandated changes (known statewide as 49-2 revisions). All programs had to meet new rigorous standards for the adaptations and accommodations for diverse learners. In addition, a new program was designed for students wishing to pursue a certification in Mid Level Education (grades 4-8). Bloomsburg University was one of only five (5) institutions (of 90 state-wide programs) in the state to receive accreditation to pursue these programs.
- Revised Programs:
 - Deaf Education program expansion from a graduate only program to a combined undergraduate and graduate program
 - Educational Leadership graduate program, which reorganizes several disparate programs (including a College Student Affairs Program) under the auspices of educational leadership
 - Counseling Program – a change by the Pennsylvania Department of Education mandated that two existing programs (K-6 and 7-12 Guidance Counseling Programs) be combined into a K-12 School Counseling Program.
 - ASL/English Interpreting Program, which has seen a four-fold growth in enrollment during my tenure in the College of Education.
- Established an assessment process for all programs in the College of Education. Led departments in establishing goals and objectives for all programs and student learning outcomes and measurements. Led the development of an on-line system to collect and analyze this data.
- Established a Graduate Professional Seminar for all graduate programs in the College of Education designed to ease the transition for working professionals back to higher education.
- Lead a variety of external accreditations in the College of Education
 - NCATE/CAEP
 - Provide comprehensive set of benchmarks to prepare for seven-year accreditation visits.
 - Provided faculty support for all Specialty Program Assessment (SPA) reports through NCATE/CAEP accreditation. These include:

- National Council of Teachers of English (Nationally Accredited)
- Association of Middle Level Educators (Nationally Accredited)
- Reading (ILA)
- National Council of Teachers of Mathematics
- National Science Teachers Association
- Council for Exceptional Children
- National Council for the Social Studies
- Educational Leadership Constituent Council
- PDE (Pennsylvania Department of Education)
- CED (Council on Education of the Deaf)
- CCIE (Commission on Collegiate Interpreter Education) – application currently in process.

Major Responsibilities in Bloomsburg University Community

- Serve as a member of the Academic Affairs Leadership Council consisting of the academic deans, the directors of the library and institutional research, vice president of planning and assessment, and the registrar.
- Comprehend and ensure adherence to collective bargaining agreements of several unions represented on Bloomsburg University's campus.
 - (2014) Co-lead review of all academic policies and procedures at Bloomsburg University with faculty union representative
 - (2015) Co-lead review of all search and screen procedures at Bloomsburg University with faculty union representative
- Assist in a variety of external accreditations (including Middle States, ABET, AACSB, NASM)
 - *Middle States Commission for Higher Education (MSCHE)*: Participated in successful Periodic Review Report (PRR) in 2014. University had received a monitoring report from MSCHE. The College of Education's new assessment system was a key component in the successful off-site PRR. Currently, part of crafting Self Study for upcoming 2019 MSCHE visit. Member of the Standard 3 (Design and Delivery of the Student Learning Experience) Committee.
 - *ABET*: There are two programs at Bloomsburg University which are accredited by *ABET*, our computer science and EEET programs. As a faculty member in the Department of Mathematics, Computer Science and Statistics, I assisted with the initial *ABET* accreditation for the computer science program.
 - *Association to Advance Collegiate Schools of Business (AACSB)*: The Business Education program at Bloomsburg University is the foundation of the Ziegler College of Business. As such, the Dean of the College of

Education is part of each *ABET* accreditation visit and provides input on the Business Education program as it relates to the Pennsylvania Department of Education.

- *National Association of Schools of Music (NASM)*: The Department of Music, along with its program in mathematics education, is accredited by NASM. As such, the Dean of the College of Education is part of the construction of the document provided to NASM as well as part of all on-site visits.
- Provide leadership for university and community initiatives
 - Lead the successful search for new Dean of College of Science and Technology
 - Lead the successful search for new Director of External and Governmental Relations
 - Chairing President's Cabinet for *Professional U*, a university-wide initiative that focuses upon opportunities for student growth and learning outside classroom experiences.
 - Serving on SPARC (Strategic Planning and Resource Council).
- Lead budget committee for the 175th Anniversary of Bloomsburg University
- 2011 – present: Bloomsburg University Enrollment Committee.

Impact to Bloomsburg, PA Community as Whole:

- 2013 and 2014: Lead United Way Campaign for the Bloomsburg Community as Bloomsburg University representative
- 2015 – present: Represent Bloomsburg University on Bloomsburg Area School District Act 48 Committee for teacher professional development
- 2014- present: Represent Bloomsburg University on Bucknell University external committee for STEM Scholars National Science Foundation grant
- 2013: Represent Bloomsburg University on joint committee with Geisinger Health System, a regional healthcare provider.
- 2012 – present: Represent Bloomsburg University on Central Susquehanna Intermediate Unit Impact Committee
- 2012: Represent Bloomsburg University on the Educator Effectiveness process for Pennsylvania in conjunction with the Gates Foundation

Professional Development

Attended Harvard Professional Development program *Inner Strengths of Successful Leaders*. This 4 day professional development opportunity for administrators (2013)

Attended HERS (Higher Education Resource Services). This four-session professional development opportunity for women in higher education

administration allowed me to learn more about administrative duties in higher education. 2010-2011.

Attended CASE Conference for Deans and Development Officers. This three-day professional conference demonstrated strategies that deans and development officers can apply in their fundraising efforts.

Faculty Accomplishments:**August 1999 – Present****Faculty – Mathematics Department**

2009-present: Professor of Mathematics

2008: Interim Assistant Dean, College of Science and Technology

2007-2009: Director, Math and Science Resource Center

2004-2009: Tenured, Associate Professor of Mathematics

1999-2004: Assistant Professor of Mathematics

I have accepted increasing responsibilities since my first experience at Bloomsburg University as an assistant professor. In 2007, I had the privilege of being named Director of the Math and Science Resource Center, which itself was created through an earlier joint grant of science and education PASSHE faculty. As Director, I had operational oversight of summer programs for K-12 students, resource distribution to local school district teachers and professional development opportunities for teachers. In 2008, I was encouraged by my dean to pursue a professional development opportunity of serving as interim assistant dean in his office. Upon the successful completion of an interview process, I served for one semester in the College of Science and Technology dean's office. In addition to learning the day to day operations of a dean's office, I was tasked with action planning for COST at the university level and a number of project development initiatives in the college.

PROFESSIONAL ACTIVITIES**Publications**

E. Mauch, (2007), *Strategies and Content Every Prospective Mathematics Teacher Should Know*. Bent Tree Press.

E. Mauch & M. McDermott, (Spring 2007), *Can Elementary Mathematics Textbooks be Improved to Facilitate Student Understanding of Mathematics?* Mathematics and Computer Education.

E. Mauch & J. Mauch, (Winter 2007), *The Mathematics of Round and Polygonal Barns*, Pennsylvania Council of Teachers of Mathematics Magazine, 45(2), p. 5-8.

J. Kuehner & E. Mauch, (January, 2006), *Engineering Applications of Mathematical Methods for Secondary Education Teachers*, Teaching Mathematics and its Applications, 25(4), p. 189-195.

E. Mauch & Y. Shi, (Fall 2005), *Using a Sequence of Number Pairs*, Mathematics and Computer Education Journal, 39(3), p. 198-205.

- E. Mauch, (January 2005), *Algebra in the elementary school*, NJ Council of Teachers of Mathematics, 63(1), p. 10-11.
- E. Mauch & J. Mauch, (2004-5 Yearbook), *Unsure of Your Students' Ability to Solve Problems? One Inspiring Example from a Kindergarten Class*, Pennsylvania Council of Teachers of Math Yearbook, p. 13-17.
- E. Mauch & Y. Shi, (November-December 2004), *One Approach to Explore a Range of Problem Solving Strategies in the Classroom*, International Journal of Mathematical Education in Science & Technology, 35(6), p. 912-917.
- E. Mauch and Y. Shi, (Spring 2003), *Applications of Linear Diophantine Equations in Teaching Mathematical Thinking*, Mathematics and Computer Education Journal, 37(2), p. 240-248.
- E. Mauch, (2002), *Estimate for the one dimensional Schmudgen Positivstellensatz*, Journal of Complexity 18, p. 346-355.
- E. Mauch, (March-April, 2001), *Utilizing Technological Innovation to Improve the Problem-Solving Skills of Middle School Students – One Group of Educators Experiences with the Lego-Mindstorms Robotics System*, The Clearing House 74 (4), p. 211-213.

Funded Grants (External)

- 2008: Co-Principal Investigator, Grant from the *Central Susquehanna Community Foundation*, \$6,000 to organize *Exploring Emergence*
- 2008: Principal Investigator, Supplement Grant to NSF 0727177, \$21,000 for student and faculty summer stipends to Brookhaven National Lab.
- 2008: Principal Investigator, Grant from the *Mathematical Association of America's Tensor Foundation*, \$4,500 to organize summer experience for young women.
- 2007: Principal Investigator, Grant from the *National Science Foundation (NSF – 0727177)*, \$600,000, to distribute 13 full scholarships to students entering the College of Science & Technology.
- 2007: Principal Investigator, Grant from the *American Association of University Women's Educational Foundation*, \$3,000, to organize summer camp for young women in grades 6-11.

- 2007: Principal Investigator, Grant from the *Mathematical Association of America's Tensor Foundation*, \$3,000, to organize summer camp for young women.
- 2004: Principal Investigator, Grant from *Calculus Consortium for Higher Education*, \$5,250 to run a series of Computer Science Institutes for Secondary Mathematics or Computer Science Teachers, summer 2005.
- 2004: Principal Investigator, Grant from *The Association for Women in Mathematics*, \$1,000 to organize a Sonia Kovalevsky High School Math Day, April 28, 2005.
- 2003: Principal Investigator, Grant from *Calculus Consortium for Higher Education*, \$12,500 to run a series of Mathematics Institutes for Elementary and Secondary Teachers.
- 2002: Principal Investigator, Grant from *Calculus Consortium for Higher Education*, \$15,000 to run a series of Mathematics Institutes for Elementary and Secondary Teachers.
- 2001: Principal Investigator, Grant from *Calculus Consortium for Higher Education*, \$13,542 to run the PSSA Mathematics Assessment Conference on October 11, 2002.

Select Scholarly Presentations

October 2009: Regional Conference, National Council of Teachers of Mathematics (Boston, MA). *Retention Programs for Women in STEM Fields with a Significant Mathematical Emphasis: What Works and Why.*

April 2009: National Council of Teachers of Mathematics National Meeting (Washington, DC). *Geometric Forensics.*

January 2009: Joint Meetings of the American Mathematical Society and the Mathematical Association of America (Washington, DC). *Retention Programs for Women in STEM Fields with a Significant Mathematical Emphasis: What Works and Why.*

January 2008: Joint Meetings of the American Mathematical Society and the Mathematical Association of American (San Diego, CA): *Strategies and Content Every Prospective Mathematics Teacher Should Know*

October 2005: Pennsylvania Council of Teachers of Mathematics: *A Study of Elementary Math Textbooks.* (with Megan McDermott – my honor's student)

April 2004: National Council of Teachers of Mathematics National Convention: *Integrating mathematics and history for the benefit of reluctant learners.* (with J. Mauch, Penn State University)

January 2003: AMS & MAA Joint Meetings: *New ways of looking at old things: One case that combines mathematics and American history through a primary source of information* (with J. Mauch, Pennsylvania State University)

November 2001: International Conference on Teaching in Collegiate Mathematics: *Trigonometry in the real world.*

November 2001: Pennsylvania Association for Supervision and Curriculum Development: *A "whole school" approach to imbedding Pennsylvania's mathematics standards in preparation for the elementary and middle level PSSA exam.*

February 2001: Bucknell University: *LEGO activities to prepare pre-service teachers with problem-solving skills.*

March, 2000: Pennsylvania Council of Teachers of Mathematics Conference: *Using LEGO Mindstorms™ to enhance problem-solving skills of middle school students.*

October, 1999: National Council of Teachers of Mathematics Regional Meeting: *Using LEGO Mindstorms™ to enhance problem-solving skills of middle school students.*

January, 1999: AMS-MAA Joint Meetings and Project NExT: *Complexity estimates of the Schmudgen Positivstellensatz*

Awards

Selected to participate AWM: Leadership Workshop in College Park, MD. 2004.

Selected as a 1999-2000 Project NeXT (New Experiences in Teaching) Fellow.