Curriculum Vitae

Education

- 2023 **Certificate, Applied Data Science with Python**, *University of Michigan (Coursera)*Five-course specialization sequence in Applied Data Science. Credential URL
- 2012–2017 **Ph.D., Mathematics and Statistics**, *Georgia State University*Research specialization in Collegiate Mathematics Education.

 <u>Dissertation</u> investigated how students develop an understanding of proof by contradiction.
- 2007–2010 B.S., Mathematics, University of Florida

Professional Experience

- 2021-present **Assistant Professor**, Department of Mathematics, Science, & Technology, Embry-Riddle Aeronautical University Worldwide
 - 2017-2021 Assistant Instructional Professor, Department of Mathematics, University of Florida
 - 2013–2017 Graduate Teaching Assistant, Department of Mathematics and Statistics, Georgia State University
 - 2011–2012 Teacher, Mathematics, William T. Dwyer High School, Palm Beach County, FL

Administrative Experience

- 2023-present **Associate Chair**, Department of Mathematics, Science, & Technology, Embry-Riddle Aeronautical University Worldwide
 - 2015–2016 Emporium Lab Coordinator, Department of Mathematics and Statistics, Georgia State University

External Research Funding Experience

- \$500 **Principal Investigator**, Doenet (DUE-1915294, DUE-1915363, DUE-1915438) Learning Experiment funded Mini-Grant: Asycnchronous Discovery Activity Learning to Fly with the Wind, 2023-2024.
- \$399,183 **Co-Principal Investigator**, *NSF IUSE: Undergraduate Research for Fully Online STEM Students:* funded *Impact of Expanded Curricular Options on STEM Attitudes, Identity, & Career Ambitions*, with Robert Deters (PI), Emily Faulconer (co-PI), Brent Terwilliger (co-PI). 2023-2026.
- \$233,298 **Co-Principal Investigator**, *NSF IUSE: Community of Inquiry and Cognitive Load in Online STEM:* funded *Persistence, Performance, and Perspectives*, with Emily Faulconer (PI) and Beverly Wood (co-PI). 2021-2024.
- \$271,543 **Principal Investigator**, *NSF IUSE: Drilling Down into Concepts with Automatic and Diagnostic* unfunded *Item Generation (Auto-DIG)*, with Annie Burns-Childers (co-PI), Catherine Paolucci (co-PI), and Russell Jeter (consult). Submitted October 2020.
- \$202,184 **Co-Principal Investigator**, *NSF: Using Video to Expand Communication of Mathematical Sciences* unfunded *Research*, with Catherine Paolucci (PI). Submitted October 2020.
- \$99,960 **Principal Investigator**, *NSF ECR Core Research: Analyzing a Novel College Algebra Curriculum* unfunded and Implementation, with Russell Jeter (consult). Submitted October 2019.
- \$340,764 **Graduate Research Assistant (2016–2017); Other Professional (2017–2021)**, *NSF IUSE:* funded *Promoting Reasoning in Undergraduate Mathematics (PRIUM)*, with Draga Vidakovic (PI), Valerie Miller (Co-PI), and Guantao Chen (Co-PI). 2016-2022.

Internal Research Funding Experience

- \$6,000 **Principal Investigator**, ERAU-W Faculty Seed Grant: Collective Knowledge Progression and funded Proliferation in Asynchronous Calculus Discussion Boards, with Zackery Reed (co-PI) and Karen Keene (co-PI). 2023.
- \$4,069 **Principal Investigator**, *ERAU-W Faculty Seed Grant: Developing Autonomous, Targeted Feedback* funded in *Precalculus*, 2021-2022.
- \$29,923 **Co-Principal Investigator**, *UF Internal Grant: Examining and addressing the content knowledge* funded development needs of Florida's aspiring and newly-qualified mathematics teachers, with Catherine Paolucci (PI) and Christopher Redding (Co-PI). 2020-2021.

Journal Articles Under Review

- [1] Faulconer, E., Terwilliger, B., **Chamberlain Jr., D.**, Deters. R., & Kam, C. (under review Oct 2023). *Virtual Mentorship for Online Undergraduate Research: Analysis of Mentors and Mentees' Perspectives*. Journal of Experiential Education.
- [2] Reed, Z. & Chamberlain Jr., D. (under review Mar 2023, accepted for chapter submission Jul 2023). A Framework for Analyzing Asynchronous Discussion Activities. Teaching and Learning Mathematics Online 2e, CRC Press, FL.
- [3] Paolucci, C., **Chamberlain Jr., D.**, Redding, C., Vancini, S., & Reese, A. (first submission Nov 2021, revised and resubmitted Aug 2022). *Critical lessons from certification exam preparation materials for mathematics teachers' content knowledge and professional learning*. Journal of Teacher Education.

Peer-Reviewed Journal Articles

- [1] **Chamberlain Jr., D.** (2023). How one instructor can teach a large-scale, mastery-based College Algebra course online. Problems, Resources, and Issues in Mathematics Undergraduate Studies. DOI: 10.1080/10511970.2023.2190183.
- [2] Faulconer, E., **Chamberlain Jr., D.**, & Wood, B. (2022). *A Case Study of Community of Inquiry Presences and Cognitive Load in Asynchronous Online STEM Courses*. Online Learning Journal. DOI: http://dx.doi.org/10.24059/olj.v26i3.3386.
- [3] Chamberlain Jr., D. & Vidakovic, D. (2021). Cognitive trajectory of proof by contradiction for Transition-to-Proof students. Journal of Mathematical Behavior. DOI: 10.1016/j.jmathb.2021.100849.
- [4] **Chamberlain Jr., D.** & Jeter, R.¹ (2020). *Creating diagnostic assessments: Automated distractor generation with integrity.* Journal of Assessment in Higher Education. DOI: 10.32473/jahe.v1i1.116892.
- [5] Chamberlain Jr., D., Grady, A., Keeran, S., Knudson, K., Manly, I., Shabazz, M., Stone, C., & York, A. (2020). Transitioning to an active learning environment for calculus at the University of Florida. Problems, Resources, and Issues in Mathematics Undergraduate Studies. DOI: 10.1080/10511970.2020.1769235.
- [6] Stalvey, H., Burns, A., Chamberlain Jr., D., Kemp, A., Meadows, L., & Vidakovic, D. (2019). Students' understanding of the concepts involved in hypothesis testing for one population. Journal of Mathematical Behavior. DOI: 10.1016/j.jmathb.2018.03.011.

Peer-Reviewed Conference Proceedings [asterisk denotes presenter]

- [1] **Chamberlain Jr., D.***, McGuinness, P., Faulconer, E., & Wood, B. (pending acceptance, 2024, Feb 22-24). *Using Trees to See a Forest: Leveraging Machine Learning to Classify Student Thinking*. 26th Annual Conference on Research in Undergraduate Mathematics Education: SIGMAA on RUME, Omaha, NE.
- [2] Chamberlain Jr., D.*, Reed, Z.*, & Keene, K. (2023, Feb 23-25). Adapting the Argumentative Knowledge Construction Framework to Asynchronous Mathematical Discussions. 25th Annual Conference on Research in Undergraduate Mathematics Education: SIGMAA on RUME, Omaha, NE.
- [3] Bailey, T.*, **Chamberlain Jr., D.***, & Christodoulopoulou, K. (2022, Feb 24-26). *Undergraduate's covariational reasoning across function representations*. 24th Annual Conference on Research in Undergraduate Mathematics Education: SIGMAA on RUME, Boston, MA.
- [4] Reed, Z.*, **Chamberlain Jr., D.***, & Keene, K. (2022, Feb 24-26). *Argumentative knowledge construction in asynchronous calculus discussion boards*. Poster at 24th Annual Conference on Research in Undergraduate Mathematics Education: SIGMAA on RUME, Boston, MA.
- [5] Kemp, A.*, **Chamberlain Jr., D.**, Cooley, L., Miller, V., & Vidakovic, D. (2020, Feb 27-29). *Student self- and simulated peer-evaluation of proof comprehension: Tina*. 23rd Annual Conference on Research in Undergraduate Mathematics Education: SIGMAA on RUME, Boston, MA.
- [6] Chamberlain Jr., D.* & Jeter, R. (2019, Feb 28 Mar 2). Leveraging cognitive theory to create large-scale learning tools. 22nd Annual Conference on Research in Undergraduate Mathematics Education: SIGMAA on RUME, Oklahoma City, OK.

¹Co-first authors.

- [7] Chamberlain Jr., D.* & Vidakovic, D. (2018, Feb 22-24). Developing proof comprehension and proof by contradiction through logical outlines. 21st Annual Conference on Research in Undergraduate Mathematics Education: SIGMAA on RUME, San Diego, CA.
- [8] Burns, A.*, Chamberlain Jr., D., Kemp, A.*, Meadows, L., Stalvey, H., & Vidakovic, D. (2018, Feb 22-24). Reasoning about one population hypothesis testing: The case of Steve. 21st Annual Conference on Research in Undergraduate Mathematics Education: SIGMAA on RUME, San Diego, CA.
- [9] Chamberlain Jr., D.* & Vidakovic, D. (2017, Feb 23-25). Developing student understanding: The case of proof by contradiction. 20th Annual Conference on Research in Undergraduate Mathematics Education: SIGMAA on RUME, San Diego, CA.
- [10] Burns, A.*, Chamberlain Jr., D., Kemp, A.*, Meadows, L., Stalvey, H., & Vidakovic, D. (2017, Feb 23-25). Students' understanding of test statistics in hypothesis testing. 20th Annual Conference on Research in Undergraduate Mathematics Education: SIGMAA on RUME, San Diego, CA.
- [11] Abel, T.*, Brazas, J.*, **Chamberlain Jr., D.**, & Kemp, A. (2017, Feb 23-25). *Characterizing mathematical digital literacy: A preliminary investigation*. 20th Annual Conference on Research in Undergraduate Mathematics Education: SIGMAA on RUME, San Diego, CA.
- [12] **Chamberlain Jr., D.*** & Vidakovic, D. (2016, Feb 25). *Use of strategic knowledge in a transition-to-proof course: Differences between an undergraduate and graduate student*. 19th Annual Conference on Research in Undergraduate Mathematics Education: SIGMAA on RUME, Pittsburgh, PA.

Conference Presentations [asterisk denotes presenter]

- [1] **Chamberlain Jr., D.*** & Quinlan, J. (2023, Aug 2). *Technology Use in Undergraduate Mathematics Classrooms*. 2023 MAA MathFest, Tampa, FL.
- [2] **Chamberlain Jr., D.***, Reed, Z.*, Rister, A.*, & Velez, M.* (2023, Feb 7). Roundtable discussion: *Practical Suggestions to Improve Online Discussions Across Disciplines*. 2023 Academic Innovation Virtual Conference hosted by ERAU-W (virtual).
- [3] Faulconer, E.*, **Chamberlain Jr., D.***, & Wood, B. (2022, April 13). *Instructional Efficiency in Asynchronous Online Discussions*. Online Learning Consortium Innovate Conference, Dallas, TX.
- [4] Paolucci, C.*, **Chamberlain Jr., D.**, & Vancini, S.* (2022, Apr 7). *Investigating alternatively-certified teachers' mathematical knowledge for teaching calculus*. Joint Mathematics Meeting, Seattle, WA.
- [5] **Chamberlain Jr., D.***, Reed, Z., & Keene, K. (2021, Nov 20). *Investigating social construction of knowledge during asynchronous discussions*. 5th Northeastern Conference on Research in Undergraduate Mathematics Education. New Brunswick, NJ (virtual).
- [6] Babiceanu, L.* & **Chamberlain Jr., D.** (2021, Feb 20). Analyzing student achievement with residential and online students in College Algebra. Florida Section of the Mathematical Association of America and Florida Two-Year College Mathematics Association 2021 Joint Meeting, Gainesville, FL (virtual).
- [7] Chamberlain Jr., D.* & Jeter, R. (2021, Jan 7). Automated AF: Leveraging augmented intelligence to provide automated, actionable feedback. Joint Mathematics Meeting, Washington, D.C. (virtual).
- [8] Chamberlain Jr., D.* & Jeter, R. (2020, Oct 20). Incorporating Augmented Intelligence to Enhance Learning: Automatic and Diagnostic Item Generation (Auto-DIG). STEMpowered Faculty Symposium, Gainesville, FL (virtual).
- [9] Chamberlain Jr., D.* & Vidakovic, D. (2020, Oct 3). Potential cognitive obstacles to understanding proof by contradiction. 4th Northeastern Conference on Research in Undergraduate Mathematics Education. Philadelphia, PA (virtual).
- [10] Chamberlain Jr., D.* (2020, Jul 30). Drilling down into content with Auto-DIG: Automatic Diagnostic Item Generation. MAA MathFest, Philadelphia, PA. Session canceled due to COVID-19 pandemic.
- [11] Chamberlain Jr., D.* (2020, Jan 18). Mastery-based assessment in a large-enrollment online College Algebra course. Joint Mathematics Meeting, Denver, CO.
- [12] **Chamberlain Jr., D.**, Knudson, K., Grady, A.*, Keeran, S., Manly, I., Shabazz, M., Stone, C., & York, A. (2020, Jan 18). *Active Calculus at the University of Florida*. Joint Mathematics Meeting, Denver, CO.

- [13] Chamberlain Jr., D.* & Jeter, R. (2019, Apr 5). Creating diagnostic assessments: Automated distractor generation with integrity. 2019 Assessment in Higher Education: Enhancing Institutional Excellence, Gainesville, FL.
- [14] Jeter, R.* & Chamberlain Jr., D. (2018, Mar 24). A novel method for creating assessment and diagnostic tools in the classroom. MAA Southeastern Spring Sectional Meeting, Clemson, SC.
- [15] Chamberlain Jr., D.* & Vidakovic, D. (2017, Mar 11). Active learning in transition-to-proof courses: An example lesson of proof by contradiction. AMS Southeastern Spring Sectional Meeting, Charleston, SC.
- [16] Chamberlain Jr., D.* & Vidakovic, D. (2017, Jan 5). A first lesson on proof by contradiction: Developing proof comprehension in a transition-to-proof course. Joint Mathematics Meeting, Atlanta, GA
- [17] Chamberlain Jr., D.*, Kemp, A.*, Meadows, L.*, Stalvey, H., Vidakovic, D., & Burns, A. (2016, Mar 5). The emporium model for elementary statistics: A preliminary report. AMS Southeastern Spring Sectional Meeting, Athens, GA.
- [18] Chamberlain Jr., D.* & Vidakovic, D. (2015, Apr 17). APOS Theory in the classroom. Center for Instructional Effectiveness Annual Conference, Atlanta, GA.
- [19] **Chamberlain Jr., D.***, Vidakovic, D., Stalvey, H., Burns, A., Meadows, L., & Kemp, A.* (2015, Apr 10). *Student understanding of one population hypothesis testing: A piece of the process*. Mathematics Graduate Student Miniconference, Atlanta, GA.
- [20] **Chamberlain Jr., D.*** & Vidakovic, D. (2015, Apr 10). *Teaching proofs with APOS Theory.* Mathematics Graduate Student Miniconference, Atlanta, Ga.

Invited Talks

- [1] **Chamberlain Jr., D.** (2023, Mar 29). *Predicting Students' Thoughts to Provide Elaborative Feedback*. Invited by California State University Bakersfield Mathematics Department Seminar Series.
- [2] Faulconer, E., Bourdeau, D., Kiernan, K., & Chamberlain Jr., D. (2023, Jan 21). *Non-Traditional Scholarly Publication*. Invited by Embry-Riddle Aeronautical University Worldwide Research Scholars Program.
- [3] Chamberlain Jr., D. & Faulconer, E. (2022, Apr 21). How We Manage Large-Scale Data Collection. Invited by Embry-Riddle Aeronautical University Worldwide College of Arts and Sciences Brown Bag Lunch & Learn Series.
- [4] Paolucci, C. & Chamberlain Jr., D. (2021, Mar 25). A profile of the content knowledge development needs of Florida's alternatively-certified teachers. Invited by University of Florida Education Policy Research Center Research Brown Bag Series.
- [5] **Chamberlain Jr., D.** (2020, Nov 13). *Integrating Augmented Intelligence into Mathematics Education*. Invited by Florida International University Mathematics Education Seminar.
- [6] **Chamberlain Jr., D.** (2020, Sept 17). *Automatic and Diagnostic Item Generation*. Invited by the University of Florida Lastinger Center.

Conference Session/Workshop Organization

- [1] **Chamberlain Jr., D.** & Barber, R. (2023, Aug 2). Session: *Unspoken Research Components*. 2023 MAA MathFest, Tampa, FL.
- [2] **Chamberlain Jr., D.** & Barber, R. (2023, Aug 2). Session: *Building a Research Program*. 2023 MAA MathFest, Tampa, FL.
- [3] Chamberlain Jr., D., Reed, Z., & Keene, K. (2023, Feb 23). Workshop: Research on Technology in Undergraduate Mathematics Education. 25th Annual Conference on Research in Undergraduate Mathematics Education: SIGMAA on RUME, Omaha, NE.
- [4] **Chamberlain Jr., D.**, Acu, B., & Gasiorek, S. (2023, Jan 3). Session: *Navigating the Early Years of the Faculty Experience*. 2023 Joint Mathematics Meeting, Boston, MA.
- [5] Vidakovic, D., Stalvey, H., Chamberlain Jr., D., Kemp, A., Meadows, L., & Kellam, A. (2018, Mar 23-24). Session: Active Learning in Undergraduate Mathematics. MAA Spring 2018 Southeastern Section Conference, Clemson, SC.
- [6] Vidakovic, D., Stalvey, H., Chamberlain Jr., D., Kemp, A., & Meadows, L. (2017, Mar 10-12). Session: Active Learning in Undergraduate Mathematics. AMS Spring 2017 Southeastern Regional Conference, Charleston, SC.

[7] Vidakovic, D., Stalvey, H., **Chamberlain Jr., D.**, Kemp, A., & Meadows, L. (2016, Mar 5-6). Session: *Active Learning in Undergraduate Mathematics*. AMS Spring 2016 Southeastern Regional Conference, Athens, GA.

Teaching Experience

2023-present Introduction to Programming for Data Science, Developer/Instructor

 \circ Asynchronous online with 10-20 students.

2021-present **Precalculus for Aviation**, *Instructor*

- \circ Asynchronous online with 20-30 students.
- October 2022: EagleVision with 20 students.
- 2021-present Precalculus Essentials, Instructor
 - $\,\circ\,$ Asynchronous online with 20-30 students.
 - 2018–2021 Analytic Geometry and Calculus I, Instructor
 - \circ Fall 2019, Fall 2020: Special flipped class for \sim 15 Pre-Health PostBac students.
 - \circ Summer 2018: Special flipped classroom with \sim 20 freshmen engineering students.
 - O Spring 2018: Large lecture with 200+ students.
- Spring 2021 Sets and Logic, Instructor
 - \circ Modified Moore's Method with \sim 30 students.
- Summer 2019 Analytic Geometry and Calculus II, Instructor
 - \circ Flipped class with \sim 20 students.
 - Spring 2019 Elementary Differential Equations, Instructor
 - O Large lecture with 120+ students.
 - 2017–2021 College Algebra, Developer/Coordinator/Instructor
 - \circ Multiple sections of Pure Online (\sim 150 students) and Hyrbid (\sim 200 students) per semester.
 - O Curriculum overhaul with focus on understanding of functions.
 - O Developed open-source online homework system/textbook with dynamically-generated problems.
 - Developed automatically-generated assessments based on students' varying levels of understanding functions.
 - 2013–2017 Various courses, Instructor of Record as graduate student
 - Elementary Statistics (flipped, ~40 student sections).
 - \circ Intermediate Algebra (traditional, \sim 20 student section).
 - College Algebra (flipped, ~40 student sections).
 - Support for College Algebra (co-req course, flipped, ~40 student sections).
 - \circ Precalculus (flipped, \sim 40 student sections).

Mentoring

- 2020-present Undergraduate Research
 - 2019-2020 Masters of Arts in Teaching Mathematics
 - 2019–2021 $3^{rd} \setminus 4^{th}$ year First Generation Student Life Coach
 - 2018-2021 University Minority Mentor Program

Professional Leadership

- 2022-present Council Member for Mathematical Association of America Council on Teaching and Learning.
- 2022–present **Subcommittee Chair** for Mathematical Association of America Subcommittee on Technologies in Mathematics Education (STME). Member since 2021.
 - 2022 **Nominating Committee Member** for the Research in Undergraduate Mathematics Education (RUME) community.
 - 2020–2022 **Program Committee Member** for Research in Undergraduate Mathematics Education (RUME) annual conferences.
 - 2018–2019 **Huddle Leader** for the *Florida College System* year-long Florida Mathematics Re-Design workgroups.

Professional Service

2022-present **Grant Reviewer** for the National Science Foundation.

2017-present **Journal Reviewer** for

- Educational Studies in Mathematics since 2022;
- Mathematical Thinking and Learning since 2021;
- o International Journal of Research in Mathematics Education since 2020;
- o Journal of Assessment in Higher Education since 2019;
- o Journal of Mathematical Behavior since 2017; and
- o Problems, Resources, and Issues in Mathematics Undergraduate Studies since 2017.
- 2017 **Poster judge** for *Joint Mathematics Meeting, Atlanta, GA*.
- 2016-present Conference Reviewer for Annual Conference on Research in Undergraduate Mathematics Education.

University Service

- 2023-present Educational Experiences Member for the ERAU-W Quality Enhancement Plan committee.
 - 2023 Grant Reviewer for ERAU Faculty Innovative Research in Science and Technology (FIRST) grant.
- 2022–present **Grant Reviewer** for ERAU-W Faculty SEED grant.
 - 2022–2025 Academic Technology Committee Chair for ERAU-W Faculty Senate.

College Service

- 2023 Appeal Committee Member for ERAU College of Arts and Sciences.
- 2022–2023 Faculty Council Member for ERAU-W College of Arts and Sciences.
- 2020–2021 Steering Committee Member for the University of Florida College of Liberal Arts and Sciences.
- 2019–2021 **Curriculum Committee Chair** for the University of Florida College of Liberal Arts and Sciences. *Member 2019–2020.*
 - 2018 **Commencement Marshal** on behalf of the College of Liberal Arts and Sciences for the University of Florida's Spring 2018 and Summer 2018 undergraduate commencement ceremonies.

Departmental Service

- 2022–2023 **Hiring Committee Member** for tenure-track candidate in Data Science for Department of Mathematics, Science, & Technology.
- 2022–present Mathematics Minor Coordinator for ERAU-W Department of Mathematics, Science, & Technology.
 - 2022–2023 **Applied Data Science Minor Coordinator** for ERAU-W Department of Mathematics, Science, & Technology.
- 2021-present Course Mentor for ERAU-W Department of Mathematics, Science, & Technology
 - MATH 111 Pre-Calculus for Aviation (2022–present)
 - STAT 412 Probability & Statistics (2022–present)
 - o GNED 103 Basic Mathematics (2021–2022)
 - o MATH 106 Basic Algebra & Trigonometry (2021-2022)
 - 2020–2021 Hiring Committee Member for tenure-track candidate in University of Florida College of Education.
 - 2017–2021 Committee Member at University of Florida Department of Mathematics.
 - Teaching Methods (Chair 2019–2021);
 - Online Course Development;
 - Teaching Assistant Training; and
 - Undergraduate Committee Lower Division.

Professional Affiliations

- 2023-present Tech in Math Ed (TiME) Organizer for the special topic research group of SIGMAA on RUME.
- 2015–present **SIGMAA on RUME**: Special Interest Group of the Mathematical Association of America on Research in Undergraduate Education
- 2015-present MAA: Mathematical Association of America

Awards and Fellowships

- Apr 2023 Recognition Award, 2022-2023 ERAU-WW COAS Faculty Council Collegiality nominee.
- Apr 2023 Monetary Award, 2022-2023 Faculty 'Superstar' Champion badge from ERAU-WW COAS Dean and Chancellor.

Travel Grants

- 2023 External, from Institute for Mathematics and its Applications University of Minnesota for Workshop on Developing Online Learning Experiments Using Doenet, May 22-26.
- 2023 Internal, from ERAU-W Faculty Development Research Program for Conference on Research in Undergraduate Mathematics Education, February 23-25.
- 2022 Internal, from ERAU-W Faculty Development Research Program for Joint Mathematics Meeting 2022, January 5-8.
- 2021 Internal, from UF Center for Applied Mathematics for Joint Mathematics Meeting 2021, January
- 2020 Internal, from UF College of Liberal Arts and Sciences for Joint Mathematics Meeting 2020, January 15-18.
- 2017 External, from the American Mathematical Society for the AMS Spring 2017 Southeastern Sectional Meeting, March 10-12.

Notable Coursework

Mathematics 33 Graduate-Level Credit Hours: Advanced Matrix Analysis I & II, Abstract Algebra I & II, Real Analysis I & II, Partial Differential Equations, Special Topics in Mathematics I & II (Topology, Graph Theory), Directed Research (Graph Theory), Mathematical Biology. Qualifying Exams in Matrix Analysis and Abstract Algebra.

Education

Mathematics 15 Graduate-Level Credit Hours: Teaching College Mathematics, Qualitative Research in Education I & II, Epistemology of Advanced Mathematical Concepts, Learning Theories in Collegiate Mathematics Education. Qualifying Exam in Collegiate Mathematics Education.

Statistics 6 Graduate-Level Credit Hours: Mathematical Statistics, Linear Statistical Analysis.

Data Science 5 Coursera Courses: Introduction to Data Science in Python, Applied Plotting, Charting & Data Representation in Python, Applied Machine Learning in Python, Applied Text Mining in Python, Applied Social Network Analysis in Python.