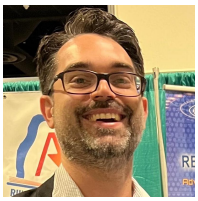

Chamberlain, Darryl

Assistant Professor, College of Arts and Sciences

Manager: Beverly Wood

Evaluated By: Beverly Wood

2023 Worldwide Faculty Performance Evaluation

Organization: Department of Mathematics, Science and Technology (Timothy Smith)

Location: Massachusetts

01/01/2023 - 12/31/2023

Overall Performance

Manager Overall Evaluation

Rating: 5-Outstanding

Comment: Dr. Chamberlain's prolific and excellent work in the three areas of faculty responsibility are impressive individually; doing so in all three areas at once deserves the highest rating possible.

Acknowledgement

Employee

Entered by: Darryl Chamberlain **Date:** 12/11/2023

Status: Acknowledge

Comment:

Evaluation Items

Criterion I - Teaching Effectiveness: See Faculty Handbook, Part I: Section 8.3.1

Manager Evaluation

Rating: 5-Outstanding

Response: Dr. Chamberlain's teaching is exemplary. In all three 2023 course taught, the medians on instructor specific questions are all 5 out of 5 and with means above the college mean. Students comment repeatedly about his availability, quick responses to questions and how that improves online learning for them. The RCTLE observation rated both the quality feedback and engaging with students as exceeding expectations.

Course development is another way that Dr. Chamberlain contributes to college goals. Updating one of the department's highest volume courses corrected some misalignments between course learning outcomes, skills practice and skills checks.

Employee Evaluation

Response:

5 - Outstanding

Quality of expected teaching responsibilities is extremely high. Student Course Evaluations were overwhelmingly positive, with 19 of 20 student comments about the instructor praising instructor's support of students, extensive feedback, and strong communication skills. Moreover, instructor evaluation metrics were significantly above the College average for 3 of the 3 sections.

Quality and quantity of work beyond expected teaching responsibilities was far above expectation of an average tenure-

He has also been a part of the development of the data science minor, including the development of the initial course: Introduction to Programming for Data Science.

Professional development activity is mainly focused on teaching and learning, particularly in asynchronous format or focused on mathematics education. Completion of the Project NExT program across AY22-23, the week-long Donet workshop and sequence of five courses from Coursera make important contributions to the data science expertise in the department and college.

track faculty member. Significant time was devoted to the following ERAU-WW COAS Strategic Guidance 2023-2025 Goals:

- **Goal 1:** Enhance our students' experience through holistically delivered rigorous education
- **Goal 2:** Systematically advance our programs, certificates, and curriculum
- **Goal 4:** Champion our faculty and strengthen our college through engagement, coordination, and partnership

Of particular note was the creation of an Applied Data Science minor course (CSCI 251), course redevelopment activity in Math 111, and extensive participation in teaching-related professional development activities.

Teaching Excellence Evidence

Mean of Means for Instructor Experience

- MATH 111 (Jan '23) Mean 4.61 vs College 4.46
- MATH 111 (Mar '23) Mean 4.75 vs College 4.46
- MATH 111 (Aug '23) Mean 4.84 vs College 4.52

Representative Positive Comments [19/20] Regarding Instructor (Q10):

- Dr. Chamberlain was reached out earlier in the term and responded very fast with a clear message. I appreciate this in a professor because time is very limited.
- Instructor was overall clear and good at responding to emails and messages when needed.
- Very good instructor. Shows passion for the subject and cares about the students progress.

- Dr. Chamberlain is very approachable with his students. Chamberlain's approachability with his students is a key aspect of his teaching style. He creates a welcoming and inclusive environment in his classroom where students feel comfortable asking questions and sharing their thoughts.
- Professor Chamberlain is very supportive with a student's efforts, very clear when explaining difficult topics, and (most importantly) very patient with students who are "slower" than the schedule. I can imagine him as enlightening and effective in the classroom. I would take another course with him given the opportunity.
- Dr. Chamberlain set a new standard for me when taking online math courses, he effectively communicates with us students and challenges us enough not only in our work but in our group discussions to get our gears turning.
- Mr. Chamberlain has been an excellent instructor despite the challenges of remote education, always answering questions as quickly as possible and ensuring we understand the subject or the specific math problem we were facing. Also, Mr. Chamberlain, after every single Discussion and skills check, provided us with positive comments to keep the high level of motivation of every one of us and the reasoning behind the question we got wrong.

Representative Neutral/Negative Comments [1/20] Regarding Instructor (Q10):

- The instructor is fine.

Reflection on Student Comments:

Quantitative and qualitative feedback from end of course evaluations mirror the stellar responses from last year. Students value my efforts to create an inclusive learning environment where they can be challenged and are allowed to productively fail without it negatively affecting their final grade. This was especially important as I became Associate Department Chair in February 2023 (near the end of Jan '23 term) and have shown I can sustain my teaching

excellence under the additional time constraints and responsibilities.

Work Beyond Teaching Responsibilities

Course Development Activities

Math 111 Precalculus for Aviation [Goal 1]
Math 111 is a critical general education math course to numerous majors that has traditionally had a high withdrawal-fail rate (DFW rate). As such, it is an attractive target for improving student retention in general. Efforts to improve student success in the course this year have focused on improving the content alignment with course/module objectives to focus on reinforcing essential student skills and include more relevance for the course to aeronautics.

Student evaluations of course pointed to mis-alignment between homework, exam reviews, and exams. I confirmed this misalignment, then redeveloped the midterm and final to align directly with module objectives. Moreover, all new content was removed from Weeks 5 (midterm) and Week 9 (final) and moved to prior weeks. This allows students to focus on the cumulative assessments and should drive improved student outcomes without reducing rigor. I also took this opportunity to include more real-world problems with aeronautics at the expense of real-world problems in physics and chemistry. This should provide more context for students taking a course that specifically states “for aviation”.

CSCI 251 Introduction to Programming for Data Science [Goal 2]
CSCI 251 is the first data science course at ERAU-WW. It provides a practical and brief introduction to data science with Python, a

high-used programming language. The course was designed for students with little to no programming experience. All lessons, activities, and assessments were developed with ERAU-WW students in mind. Includes non-traditional assessments such as students collectively creating Documentation (describes the uses of Python to introductory students), debugging provided code, and analyzing industry data.

Teaching-Related Conference [Goal 4]
Mathematics Association of America MathFest is one of the largest North American conference on mathematics research and education. The conference hosts Invited Paper Sessions centered on teaching mathematics/statistics/data science, such as:

- Improving DEI in Departments and Programs
- Research on Undergraduate Mathematics Education
- Implementing Co-Requisite Education
- Inquiry-Based Learning
- Incorporating Alternative Forms of Assessments into Undergraduate Mathematics Classes
- My Favorite Statistics/Data Science Activity
- Problem Creation and Problem Solving

Participation in Teaching-Related Professional Development Activities [Goal 4]
Participated in a significant amount of teaching-related professional development hosted by ERAU and externally.

ERAU-hosted Professional Development

- **Community of Practice** - Monthly discussion on book *Facilitating the Integration of Learning* by James P. Barber.
- **4 RCTLE offerings** - 2023 Academic Innovation Conference (2/7-2/9), Open Educational Resources at ERAU-WW (5/17), What's Under the Hood? How Generative AI Models Work (10/6), Practical Pedagogy and ChatGPT (11/3).
- **2 VECTOR offerings** - How I Teach Data Visualization (3/28), Special Session on Writing and ChatGPT (5/9).

Externally-hosted Professional Development

- **Coursera Certificate** - 5 course sequence in Applied Data Science using Python. Estimated at 160 hours to complete. Critical in establishing content expertise to create and teach courses for the newly developed Applied Data Science minor.
- **Donet Workshop -** Week-long in-person workshop covering an open-source markup language to create dynamic activities that can be embedded into courses. Currently developing a dynamic version of the Module 7 Discussion implemented in MATH 111 last year.
- **JRME Talks** - Monthly seminars on recent work published in the Journal for Research in Mathematics Education (JRME). JRME is an official journal of the National Council of Teachers in Mathematics (NCTM). NCTM is the world's largest organization for mathematics teaching.
- **Project NExT Workshops** - Various workshops on aspects of teaching, hosted by the Mathematics Association of America Project New Experiences in Teaching (NExT).
- **Monthly Virtual Meetings** - Project NExT Monthly small-group meetings on effective teaching practices.

Criterion II - Scholarly and Professional Activity: See Faculty Handbook, Part I: Section 8.3.2

Manager Evaluation

Rating: **5-Outstanding**

Response: The scholarly output of Dr. Chamberlain exceeds annual expectations for a tenure track assistant professor as described in the COAS Academic Guidelines and Criteria for Tenure and
Promotion to Associate Professor (Aug 2021).

Employee Evaluation

Response:

5 - Outstanding

Scholarly activity is far beyond expectation for a 3rd year Assistant Professor, especially in terms of participation in internally and externally funded research projects. Consider the highlighted scholarly products

- Under those guidelines for scholarly and professional activity, a single submission for external funding is expected before applying for T&P. Dr. Chamberlain had one external grant award, a subgrant award, a college SEED grant funded and a college start-up funding gran (awarded after the self-assessment was completed) in just 2023. That is in addition to other funded projects from previous years. See self-assessment for details.
- The same guidelines require five refereed presentations of original work at conferences before T&P application. In 2023, Dr. Chamberlain presented at five adding to the record begun in his first two years on the tenure-track.
- A total of five scholarly publications are required for T&P; therefore, averaging one per year on the tenure track. Dr. Chamberlain met that goal as well as having a book chapter submitted, an accepted journal article and another journal article under review.

Dr. Chamberlain is a productive researcher, performing beyond expectations.

below.

- **New Funding Support - 3:** 1 awarded external (NSF) grant, 1 awarded external (NSF) subgrant award, 1 submitted internal grant.
- **Manuscript Submissions - 2:** 1 accepted book chapter abstract, 1 peer-reviewed journal article submission.
- **Accepted Publications - 1:** peer-reviewed journal article
- **Presentations - 6:** 2 national + 1 national submitted, 1 regional, 2 local
- **Conference Organizational Activity - 4:** 3 national conference sessions, 1 national workshop session

In particular, note that total T&P scholarly activity expectation is 1 ***submitted*** internal or external grant, 5 accepted peer-reviewed publications, and 5 international, national, or regional conference presentations. I have far exceeded the expectation of funding, met the expectation for accepted peer-reviewed publications, and far exceeded the expectation of conference presentations.

I have described each project, my extensive roles in the project, and provide context for my scholarly activity in each project below.

Externally-Funded Research Projects

PI: *Machine Learning Affordances in Collegiate Mathematics Education Research*

Research Team: None
Funding Sources:

- Internally through ERAU-W SEED grant, 10/1/21--6/31/22.

- Internal funding for professional development (Certificate in Data Science).
- External funding for professional development (5-day Workshop).
- Externally through subgrant awarded from NSF grant, 10/1/23--6/31/24.

Roles: All aspects of the project.

Brief Description:
In 2022, I resubmitted a journal article **[2]** on a previous course redesign utilizing automated feedback that covers similar content to ERAU-W's MATH 111 course. The article was eventually accepted and published in 2023. While designing a study to explore the impacts of the MATH 111 discussion redesign, I explored ways to leverage technology to improve students' mathematical conceptions through non-traditional assignments. This led to engaging in two major professional development activities: (1) taking 5 Coursera courses to earn a certificate in Data Science and (2) attending a 5-day workshop on authoring dynamic mathematical activities through a webpage. The certificate in Data Science prepared me to incorporate Machine Learning in both my work on designing automated feedback as well as enhancing my research data management and analysis skills. The 5-day workshop on authoring dynamic mathematical activities allowed me to develop dynamic, non-traditional assignments that would incorporate the automated feedback I had previously established. Moreover, the additional training these professional development activities provided allowed me to be a leader in technology in mathematics education and cohost a workshop **[1]** on technology at a national mathematics education research conference (RUMEC). I was also asked to speak at a mathematics department **[3]** on incorporating technology into mathematics education research due to cohosting the tech workshop at the high-profile conference.

To formally develop and study one of the dynamic, non-traditional assignments that I began creating as part of the workshop, I have received a small grant **[4]** from the NSF-funded project that hosted the 5-day

workshop I attended. In addition, I'm using the skills I learned as part of the certificate in Data Science to integrate Machine Learning into another project and am leading a methodological poster presentation **[5]** to present this new avenue of research in collegiate mathematics education. These efforts will help me prepare for the NSF Faculty Early Career Development Program (CAREER) grant **[6]** on integrating machine learning into Collegiate Mathematics Education Research due in July 2024. The NSF CAREER grant is a highly prestigious grant that "Supports early-career faculty who have the potential to serve as academic role models in research and education and to lead advances in the mission of their department or organization" [(NSF Funding Opportunity)](https://new.nsf.gov/funding/opportunities/faculty-early-career-development-program-career). I've already spoken with NSF Program Officers about the project in general and received advice to present the strongest submission possible.

Scholarly Products:

- **[6 - External Grant]** (Submission July 2024) Principal Investigator, NSF CAREER Grant: Machine Learning Affordances in Collegiate Mathematics Education Research, 2024-2029. Award amount: $500,000.
- **[5 - National Conference Proceeding]** Chamberlain Jr., D., McGuinness, P., Faulconer, E., Wood, B. (pending acceptance, Feb 2024). Using Trees to See a Forest: Leveraging Machine Learning to Classify Student Thinking. Proceedings of the 26th Annual Conference on Research in Undergraduate Mathematics Education: SIGMAA on RUME, Omaha, NE.
- **[4 - External Grant]** Principal Investigator, Doenet (NSF DUE-1915294, DUE-1915363, DUE-1915438) Mini-Grant: Asycnchronous Discovery Activity - Learning to Fly with the Wind. 2023-2024. Award amount: $500.

- **[3 - Invited Talk]** Chamberlain Jr., D. (2023, Mar 29). Predicting Students' Thoughts to Provide Elaborative Feedback. Invited by California State University Bakersfield Mathematics Department Seminar Series.
- **[2 - Journal Article]** 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: https://doi.org/10.1080/10511970.2023.2190183.
- **[1 - Conference Workshop Organization]** 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.

Co-PI: *Community of Inquiry and Cognitive Load*

Research Team: Emily Faulconer (PI) and Beverly Wood (Co-PI)
Funding Source: Externally funded through NSF, 6/15/21--5/31/24
Roles: Student Worker Management, Data Management, Data Analysis, Manuscript Writing, Presentations
Brief Description:
After numerous attempts to improve the accuracy of pulling discussions from PDFs, I refined our data collection and management process by obtaining the discussion post data via Canvas API. Moreover, I wrote Python scripts to perform analysis on the ever-increasing data we collected. We have about 900,000 sentences from student discussions from 17 terms of MATH 111 and PHYS 102 *(note: Excel regularly crashes when working with 100,000+ rows and thus data necessarily needed to be restructured for large-scale analysis)*. I continued to oversee the 6 student researchers as they

qualitatively analyzed approximately 200,000 sentences from discussions.

Student coders have finished enough data analysis that we can prepare manuscripts. I am leading efforts on a methodological poster presentation **[1]** on the use of technology for data management as well as automating the coding process using our extensive database of sentences coded to train a machine learning model. These efforts will lead to at least two more publication submissions (one on results of the analysis and another on the machine learning model) in 2024.

Scholarly Products:

- **[1 - National Conference Proceeding]** Chamberlain Jr., D., McGuinness, P., Faulconer, E., & Wood, B. (pending acceptance, Feb 2024). Using Trees to See a Forest: Leveraging Machine Learning to Classify Student Thinking. Proceedings of the 26th Annual Conference on Research in Undergraduate Mathematics Education: SIGMAA on RUME, Omaha, NE.

Co-PI: *Undergraduate Research for Fully Online STEM Students: Impact of Expanded Curricular Options on STEM Attitudes, Identity, & Career Ambitions*

Research Team: Robert Deters (PI), Emily Faulconer (co-PI), Brent Terwilliger (co-PI)
Funding Source: Externally funded through NSF, 10/16/23--10/15/26
Roles: Grant Writing, Curriculum Development, Workshop Development and Management, Data Collection, Data

Management, Data Analysis, Manuscript Writing, Dissemination

Brief Description:
Brought on to replace previous data expert on NSF project in January 2023. Participated in drafting the NSF grant **[1]** before submission. Participated in responding to NSF program officer with comments. Second round of project formally began in October 2023. However, I have been included as the data analyst on a paper **[2]** from the previous NSF grant this project is continuing. The paper, *Virtual Mentorship for Online Undergraduate Research: Analysis of Mentors and Mentees' Perspectives*, was submitted to the Journal of Experiential Education in October 2023. I wrote the methodology, data analysis approach, results, and part of the discussion for this paper.

Scholarly Products:

- **[2 - Journal Article]** 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.
- **[1 - External Grant]** Co-Principal Investigator, NSF IUSE: Undergraduate Research for Fully Online STEM Students: 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. Award amount: $382,578.

Internally-Funded Research Projects

PI/Co-PI: *Collective Knowledge*

Progression and Proliferation in Asynchronous Calculus Discussion Boards

Research Team: Zackery Reed (PI/Co-PI) and Karen Keene (co-PI posthumous)
Funding: Internally through ERAU-W Faculty SEED grant, 2/1/23--6/31/23.
Roles: All aspects of the project in equal parts with collaborators. PIs Chamberlain and Reed take turns leading parts of the project.
Brief Description:
After Dr. Keene recovered and rejoined the group in August 2022, we again negotiated the refinements of the theoretical framework. We applied to and were awarded an internal grant **[1]** to formally collect data and hire undergraduate researchers to apply our theoretical framework to the data. Dr. Keene suddenly passed in February 2023 just before our research group hosted a national conference workshop **[2]** as well as presented key preliminary insights to the new theoretical framework **[3]**. Continuing with the data collected and analyzed from the internal SEED grant, Dr. Reed and I submitted an abstract for a book chapter **[4]** on Teaching and Learning Mathematics Online. This abstract was accepted in July 2023. Dr. Reed and I submitted a draft of the Book Chapter **[4]** in November 2023. We are actively recruiting an additional researcher to join the project before submitting for external funding.

Scholarly Products:

- **[4 - Book Chapter]** Reed, Z. & Chamberlain Jr., D. (abstract submitted Mar 2023, accepted for chapter submission Jul 2023, chapter draft submitted Nov 2023). A Framework for Analyzing Asynchronous Discussion Activities. Teaching and Learning Mathematics Online 2e, CRC Press, FL.

- **[3 - National Conference Proceeding]** Chamberlain Jr., D., Reed, Z., & Keene, K. (2023, Feb 23-25). Adapting the Argumentative Knowledge Construction Framework to Asynchronous Mathematical Discussions. Proceedings of the 25th Annual Conference on Research in Undergraduate Mathematics Education: SIGMAA on RUME, Omaha, NE.
- **[2 - Conference Workshop Organization]** 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.
- **[1 - Internal Grant]** Principal Investigator, ERAU-W Faculty Seed Grant: Collective Knowledge Progression and Proliferation in Asynchronous Calculus Discussion Boards, with Zackery Reed (co-PI) and Karen Keene (co-PI). 2023. Award amount: $6,000.

Co-PI: *Generative AI Feedback Across the Disciplines*

Research Team: Alex Rister (PI), Anastasia Angelopoulou (co-PI), Cihan Aydiner (co-PI), Meghan Velez (co-PI)
Funding Source: Applied (pending) for internal funding through COAS-WW Faculty Research Startup, November 2023
Roles: Grant Writing, IRB approval, Data Collection, Data Management, Data Analysis, Manuscript Writing, Dissemination

Brief Description:
Inter-department research on using generative AI feedback for students in discussion posts. New project started in October 2023. IRB has been approved and preliminary data collection will occur in November 2023. Internal funding **[1]** would allow for robust student feedback on

generative AI in the form of focus group interviews and increased survey participation.

Scholarly Products:

- **[1 - Internal Grant]** Co-Principal Investigator, ERAU-WW Faculty Research Startup, Generative AI Feedback Across the Disciplines: A College of Arts and Sciences Pilot Study, with Alex Rister (PI), Anastasia Angelopoulou (co-PI), Cihan Aydiner (co-PI), Meghan Velez (co-PI). 2024. Award amount: $2,000.

Scholarly Products not Associated to an Active Research Project

Project NExT Activities

Brief Description: As part of the professional development fellowship Project NExT (New Experiences in Teaching), I organized special sessions at two different mathematics education conferences: Joint Mathematics Meeting 2023 and Mathematics Association of America MathFest 2023. Each session consisted of 2-3 panelists answering pre-prepared questions as well as spontaneous audience questions. I acted as the lead organizer for all three sessions.

Scholarly Products:

- **[Conference Session Organization]** Chamberlain Jr., D. & Barber, R. (2023, Aug 2). Session: Unspoken Research Components. 2023 MAA MathFest, Tampa, FL.
- **[Conference Session Organization]** Chamberlain Jr., D. & Barber, R. (2023, Aug 2). Session: Building a Research Program. 2023 MAA MathFest, Tampa, FL.

- **[Conference Session Organization]** 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.

Presentations as an Expert in the Field

Brief Description: I have spoken as an expert to students about non-traditional scholarly publication **[1]**, as an expert in online education **[2]**, and as the chair of the Mathematics Association of America Subcommittee on Technology in Mathematics Education **[3]**.
Scholarly Products:

- **[3 - National Conference]** Chamberlain Jr., D. (2023, Aug 2). Technology Use in Undergraduate Mathematics Classrooms. 2023 MAA MathFest, Tampa, FL.
- **[2 - Regional Conference]** 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.
- **[1 - Local Presentation]** 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.

Criterion III - Service: See Faculty Handbook, Part I: Section 8.3.3. Include special appointment duties

Manager Evaluation	Employee Evaluation
Rating: **5-Outstanding**	

Response: This year brought an unexpected challenge/ opportunity for Dr. Chamberlain's service area: Associate Department Chair. He has been a key ingredient to the recovery of MST following the sudden death of Karen. Not only has he helped to maintain the department but has added efficiencies that benefit us all.

Within the department, he continues his service as course mentor/developer and the contact for the math minor. He served on the hiring committee for our new data science faculty as well as the team getting the minor into this AY catalog in advance of the hire. At the college level, he served on the Faculty Council until his appointment as ADC removed his eligibility. He is on the Educational Experiences committee for the QEP, Committee Chair for Academic Technology Committee of the ERAU-WW Faculty Senate and reviewed two FIRST grant proposals.

External to the university, he is involved in the Mathematical Association of America, especially in the special interest group on Research in Undergraduate Mathematics Education. He is nominated for secretary of RUME and is on three MAA committees: Technologies in Mathematics Education, Council on Teaching and Learning, and T eaching in Undergraduate Mathematics. He is a reviewer for journals and NSF grant proposals. As a journal review, he has been sought out for his expertise in APOS Theory of mathematics education.

Response:

5 - Outstanding

Service to both Embry-Riddle and nationally are far beyond expectation for a 3rd year Assistant Professor. Service activities beyond those established in previous years include:

- Stepped in as Associate Department Chair in February due to former department chair Karen Keene's sudden passing.
- Joined two new service opportunities at the University level: committee member for ERAU-WW Quality Enhancement Plan and reviewed ERAU FIRST grants.
- Was instrumental in hiring a new Data Science TT faculty member as well as developing the new Applied Data Science minor.
- Continued national engagement with national professional society Mathematical Association of America (MAA) and Special Interest Group on Research in Undergraduate Mathematics Education (SIGMAA on RUME) through committee work and being nominated for a leadership role (Secretary) for my national research interest group.
- Completed a new course development (CSCI 251) and significant course redevelopment (MATH 111).

University

- **Committee Member (2023-present)**, Educational Experiences for the ERAU-WW Quality Enhancement Plan. *Evaluated the Program Writing Assessments and Writing Instruction Plans submitted by ERAU-W, ERAU-DB, and ERAU-PS.*

- **Committee Chair (2022-present),** Academic Technology Committee Chair for ERAU-WW Faculty Senate, 2022–present. Participated in the systematic review of various end-of-course evaluation vendors. Interviewed as stakeholder for ERAU new website redesign.
- **Grant Reviewer (2023-present),** ERAU Faculty Innovative Research in Science and Technology (FIRST) grant. *Read and provided feedback on 2 grants.*

College

- **Committee Member (2022-2023)**, Faculty Council Member for ERAU-W College of Arts & Sciences. *Discussed issues brought up by faculty, co-led efforts to establish an ERAU-W COAS Faculty Council award, and provided COAS leadership feedback on proposals. Note: Term ended after one year due to accepting role as department of Mathematics, Science, and Technology Associate Chair.*

Department

- **Associate Department Chair (2023-present),** Mathematics, Science, and Technology. *Program chair for Computer Science, Data Science, Astronomy, and Chemistry courses. Instituted various programming scripts to improve admin efficiencies such as listing instructors by course for a term, organizing instructor end-of-course evaluations by course, and standardizing faculty activity reporting.*
- **Hiring Committee Member (2022-2023)** for tenure-track candidate in Data Science for Department of Mathematics, Science, and Technology. *Read application packets, met with all 1st and 2nd waves of candidates, and provided evaluation for final recommendation to dean.*

- **Minor Coordinator (2022-present)** Applied Mathematics. *Attended COAS program meetings, advertised for minor, and answered any minor questions such as course equivalencies*.
- **Minor Coordinator (2023)** Applied Data Science. *Attended COAS program meetings, advertised for minor, led development of Applied Data Science minor and one of its required courses (CSCI 251). Passed coordination to new Data Science TT hire in August 2023.*
- **Course Mentor** for CSCI 251 (2023–present), MATH 111 (2022–present), STAT 412 (2022–present). *Contacted instructors at beginning of term, provided all course updates, answered any adjunct issues with courses.*
- **Course Development (2023)** CSCI 251 - Introduction to Programming for Data Science. *Used multiple Open Educational Resources to create numerous video lessons and associated notes for each module.*
- **Course Redevelopment (2023)** MATH 111 - PreCalculus for Aviation. *Corrected severe misalignment between homework, practice exams, and exams. Reviewed assignments to include more Aviation-specific applications (where appropriate). Aligned all midterm/final exam questions to module objectives to ensure proper coverage of course and module objectives. Created dynamic online resource to assist with challenging applied Aviation discussion question. Revised rubrics to improve instructor feedback. Moved all content from midterm/final weeks to allow students to focus on major assessments.*

Academe

- **Secretary (nomination, pending election results)**, MAA SIGMA on RUME. *The Secretary will keep records of official meetings of SIGMAA on RUME and its Executive Committee, overseeing electronic communications, handling correspondence with the membership, and corresponding with and preparing written reports for submission to the MAA as required.*
- **Committee Chair (2022-present)**, MAA Subcommittee on Technologies in Mathematics Education (STME). *Organized activities to update college-level math educators on most recent developments in technology for undergraduate mathematics education. Led bi-yearly meetings. Member only 2021–2022.*
- **Committee Member (2022-present),** MAA Council on Teaching and Learning (CTL). *Provide updates and guidance for national society Mathematical Association of America. Represent interests on technology in undergraduate mathematics education.*
- **Committee Member (2023-present),** MAA Committee for Teaching in Undergraduate Mathematics (CTUM). *Stimulate evidence-based effective and equitable teaching, learning, and assessment in undergraduate education in the mathematical sciences.*
- **Grant Reviewer (2022-present),** National Science Foundation (NSF) grant panels. *Serving on an NSF panel requires careful reading of approximately 9 grant proposals. For 2 of these proposals, you lead all discussion and provide a panel review for the proposal. For 5 of these proposals, you act as a secondary reader that provides critical review of the proposal. For the rest of the proposals, you act as a tertiary reader that provides overall review of the proposal.*

- **Journal Reviewer** *for top-tier mathematics education journals. Completed 6 paper reviews in 2023: Educational Studies in Mathematics (2 - Apr & Sep), Mathematical Thinking and Learning (2 - Jan & Nov), Journal of Mathematical Behavior (2 - Apr & Oct). In particular, an editor from Educational Studies in Mathematics reached out to me specifically for my expertise in APOS Theory, a mathematics education theoretical framework.*

Evaluator's Contract Renewal Recommendation

I recommend renewal or non-renewal of faculty member's contract with the University:

(Please include a rationale for non-renewal in the "Answer" section below, if applicable)

Manager Evaluation

Rating: **Renewal**

Response:

Performance Plan

Teaching plan:

Areas to consider include the following, quality of syllabus, use of oral and written communication assignments, use of technology, use of library,

teaching methods, use of aviation examples, and evaluation of students.

Manager Evaluation

Response: Since writing this plan, MATH 112 has been added to course mentoring responsibilities and submitted to the "wish list" for redevelopment in AY24-25.

Employee Evaluation

Response: **Teaching Goals and Objectives**
Teaching goals are the same as last year: provide exceptional teaching in my reduced teaching schedule while continuing to develop as an educator.

- **Exceptional Teaching as Judged by Students** – Average quantitative scores of Instructor Experience above 4.5 and above College average. Less than 10% of student free responses to Instructor Experience are neutral or negative.
- **Ongoing Course Improvement** – Make measurable improvements in at least one course. Target courses: MATH 111, CSCI 251.
- **Ongoing Professional Development –** Attend at least one teaching-related professional development offering each month while on contract.

Scholarly and professional activity plan:

Faculty meeting attendance and participation, meetings with academic and administrative supervisors and colleagues, and other relevant activities.

Manager Evaluation

Response: Solid plan.

Employee Evaluation

Response: **Research Goals and Objectives**
Research goals are guided by T&P Guidelines to stay on-track to earn Associate Professor title.

- **1 Grant -** Submit One New External Grant. While this is not needed to earn Associate Professor, it ensures my solo research agenda continues to flourish.
- **2 Peer-Reviewed Publications -** Submit Two Articles to Peer-Reviewed Journals. This will ensure I stay on-track to have at least one published article per year.
- **1 Presentation -** Present Once at a National or Regional Conference. This will ensure I stay on-track to have at least one national or regional conference presentation per year.

University and industry service plan:

Committee and other assignments. Include special appointment duties.

Manager Evaluation

Response: Continuation of current service and interest in increased responsibilities in RUME.

Employee Evaluation

Response: **Service Goals and Objectives**
Service goals are to sustain the outstanding service I provide to the department, university, and professionally to my research community. If an opportunity presents itself, I will run for a leadership opportunity in my specialized research community RUME.

- **Associate Department Chair** – Help the new chair become familiar with ERAU-WW and MST. Exceptionally perform all ADC duties.
- **ERAU-WW Senate Academic Technology Committee Chair** – Continue to complete tasks as assigned by ERAU-WW Senate.
- **Department Duties (Coordinator, Mentor, Developer)** – Complete all departmental duties assigned to me, including coordinate Applied Mathematics Minor and mentor in MATH 111, CSCI 251, and STAT 412.

- **MAA Subcommittee on Technology in Mathematics Education Chair** – Continue leading subcommittee on critical tasks to expand knowledge on use of technology in teaching college-level mathematics national-wide.
- **NSF Grant Reviewer** – Review for an Improving Undergraduate STEM Education (IUSE) grant cycle.
- **Journal Reviewer** – Review four manuscript submissions.