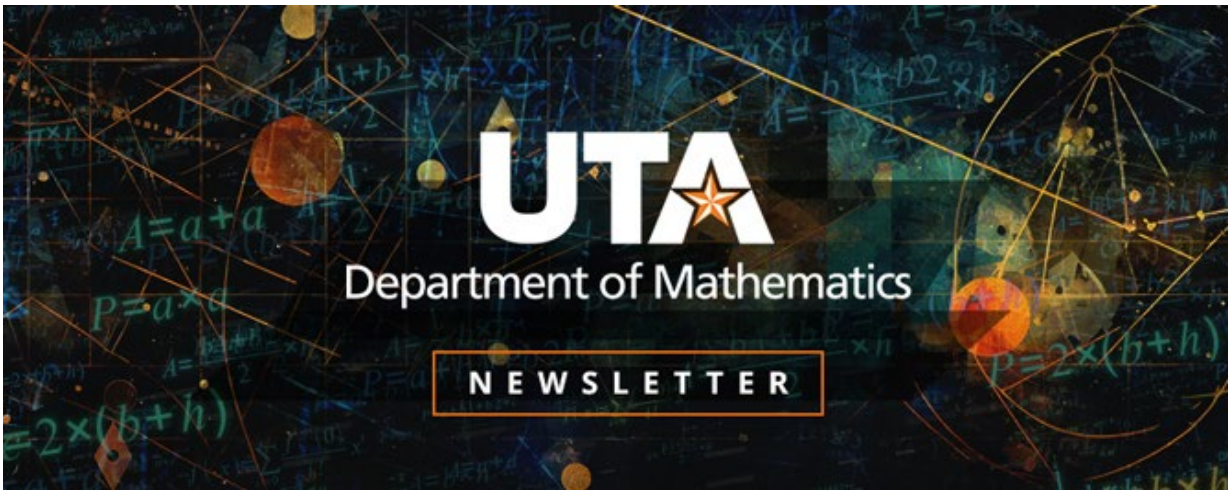

December 2025

Message from the Chair

We are pleased to announce the inaugural issue of the Mathematics Department newsletter. Thanks for the hard work of the newsletter committee (Erica Calderon, Jeremy Glass, and Tatheer Ajani) to make this happen.

As we approach the end of the Fall 2025 semester, we appreciate the great work of all faculty, staff, and GTAs in serving students and supporting our university's mission. In September, we received another national recognition from Excelencia in Education at its annual meeting in Washington, DC. Excelencia in Education is a national organization of mostly Hispanic-Serving Institutions dedicated to accelerating Latino student success in higher education. In addition to re-certifying the UT Arlington campus for the seal of Excelencia, a top national honor for the university, the organization also selected the UT Arlington Math Department as an Example of Excelencia Finalist at the Graduate level for its work on the Mathematics Bridge to Doctorate program. The president, provost, and a number of administrators and faculty attended the ceremony.

We are at another record high in mathematics course enrollment this Fall semester. It is great to see many thriving young minds who study diligently in classrooms and pursue their degrees in math, science, engineering, nursing, architecture, social work, business, liberal arts, and many fields. It truly encourages us to do more.

We welcome quite a few new teaching faculty members, adjunct faculty, GTAs, post-docs, and visitors joining us this semester. We are excited to see full-time teaching faculty, Drs. Tatheer Ajani, Ivan Toledo, Don Wilathgamuwa, Te'a Riley, and Mohammad Murad, adjunct professors Drs. ShaTara Hall, Kevin Barlow, Emran Hossen, Ms. Maleny Calderon, and Mr. Eriberto Estrada. They will bring a wealth of experience and energy to the department. Professor of Research Dr. Prasanna Gowda for Smart-Agriculture Research Center will also be a joint faculty for the math department, as well as the computer science and engineering department.

A big cohort of GTA, GRA, and RTG fellows also began their doctoral program this semester; they have made the largest cohort of doctoral students in recent years. Several post-docs and visitors are also starting this semester to work on a number of grant projects.

Despite the ever-competitive nature of research funding, our faculty excelled in securing many funding sources to support our research and graduate students. A few recent

examples include Dr. Suvra Pal's 1.8 million NIH R35 funding on survival analysis and AI research, Dr. Sherry Wang and Li Wang's NIH R1 grant for $1.28 million to advance Statistical and Deep Generative Modeling for Enhanced CyTOF (a technology that uses heavy metal ions instead of fluorescent dyes to label antibodies) Data Discovery, Dr. Chaoqun Liu's 3 NSF EAGER grants (Early Grant for Exploring Research) to study Vortex, and Drs. Yue Liao and Souvik Roy's grant from THECB for stochastic machine learning framework for vascular function and cardiovascular disease. Other big grant programs in NSF Math Biology RTG grant and USDA smart agriculture funding continue to support research and a large group of undergraduates, doctoral students, and post-docs. Research funding has doubled in the last few years.

As this Fall 2025 semester will conclude my 14 years of service as the Mathematics Department chair, I want to thank each one of you for your tremendous support. I am very fortunate to work with such a talented, collegial, and caring faculty and staff in the department.

Together, we have made ourselves a great mathematics department. Winning 2 American Mathematical Society Awards (2013 American Mathematical Society Award for an Exemplary Program or Achievement in a Mathematics Department, and recently the 2023 American Mathematical Society Award for Mathematics Programs That Make a Difference) makes us stand tall as a national model. We are among the very select few mathematics departments in the nation that have ever earned these honors. Over the period, we have grown faculty research strength and capacity for teaching students at both undergraduate and graduate levels. Research funding, research papers, and semester credit hours are at a record high. We are at the front and center in working on student success and retention, and have made remarkable progress in improving student success in math courses. We have also offered many services to the community. I am very proud of our mathematics department, an excellent community of scholars who have dedicated their careers to educating and learning!

Events Calendar

Wednesday, December 3 – Math Department Annual Holiday Party

5 - 8 p.m. | Sheraton Arlington Hotel

1500 Convention Center Dr. Arlington, TX 76011. Bring your family!

Saturday, December 6 – Departmental Exams

9 a.m. - 6 p.m.

See the exam schedule sent by Nadia.

Sincerely,

This column is dedicated to uplifting our fellow mathematicians here at UTA. Here are some shoutouts from your colleagues!

"I would like to recognize and extend a heartfelt thanks and appreciation to five outstanding faculty members whose dedication and teamwork truly exemplify the spirit of service within our department. During a challenging time in the semester, Deysi, Emily, Heather, Janessa, and Michelle stepped up without hesitation. Together, they took on a substantial amount of additional work, including extra grading, developing exams, supporting new faculty, responding to faculty and student questions, and teaching additional classes. They stepped in simply because it was what our students and our department needed. Their willingness to serve ensured that courses ran without interruption and that the department remained able to support students during a difficult moment. Their professionalism, generosity, and exemplary service continue to model the best of who we are."

"Caroline Maas is an M.A. in Mathematics student who, by day, is a mathematics teacher for Fort Worth ISD, by night takes M.A. courses at UTA, and in her spare time is the pianist for the Coppell Community Chorale. She invited some UTA folks to their most recent concert on November 9. Pictured are Caroline in action, and Theresa Jorgensen, Caroline Maas, and Chi Nguyen (fellow UTA Math M.A. student) after the concert."

"David Jorgensen's birthday is in January! And he was invited to present a multi-day workshop this summer at the largest annual algebra conference in Brazil."

"I am truly enjoying being on a team with Janessa Beach, Brandon Watson, and Joe Wood as we collaborate on revisions to our MATH 1421 Preparation for Calculus curricular materials. They have great mathematical ideas, are completely count-on-able to get things done, and are fun to work with. We've been working since early spring semester, and I am proud of what we are developing."

"I would like to Shout Out Deysi Delgado, Emily Jones, and Emran Hossen. They are all teaching new corequisite courses to the department this semester (four-hour corequisite courses and an active-learning six-hour corequisite course). I appreciate their hard work and dedication to teaching this group of students!"

Spotlight

Our math students and faculty are up to big things!

- Math graduate student Nathan Easley, in collaboration with Dr. Barbara Shipman, had his first paper accepted. Titled "Capstone Studies on Roots of Hyperbolic Numbers," his paper will appear in PRIMUS (Problems, Resources, and Issues in Mathematics Undergraduate Studies). If you are curious about what hyperbolic numbers are, or want to see a number with four square roots, just ask Nathan!
- Dr. Pedro Maia and his collaborators at University of California-San Francisco were just featured in a UTA news release: https://www.uta.edu/news/news-releases/2025/07/24/math-model-sheds-light-on-alzheimers-spread

Coordinator's Corner

College Algebra (1302/1402) — College Algebra has implemented a new teaching style for the corequisite courses. We have incorporated active learning and PLTL (Peer-Led Team Learning) leaders in the classroom. The students have responded well to this new structure. They are more comfortable speaking in class and have formed a learning community. We have seen improvement in student accountability, sense of belonging, and retention of material. We are thrilled with these first-semester results and excited for next semester. In addition, this fall we implemented UNIV to help support our Math 1302 corequisite students. The students targeted were those in the College of Science and the College of Engineering. This course helped students build knowledge about their math study skills, confidence in instructor/PLTL leader interaction, study techniques for online homework/review, and exploration into their majors. This course

served as an excellent go-between to reiterate information from their math course, while also allowing students to address concerns about their math course in a safe space.

Committee Updates

Research and Colloquium Committee — The Research and Colloquium Committee had its first colloquium at the Department of Mathematics on November 14 from 2:00 to 3:00 PM in PKH 110. The speaker was Dr. Kyeong Hah Roh from the School of Mathematical and Statistical Sciences at Arizona State University in Tempe, Arizona, USA. Her talk was on illustration of the mathematical registers (MR) framework with research examples from calculus contexts, including students' interpretations of the Intermediate Value Theorem and the definition of convergence of a sequence.

Early Student Success Committee — The Early Student Success Committee met this semester and discussed early interventions in MATH 1421 to help struggling students. We are currently collecting data from past performance and will be using this data to identify patterns in performance on Midterm 1 and the final grade in the course. Our goal is to design an intervention that can be implemented early to support struggling students.

Undergraduate Affairs Committee — The UAC had an especially active semester! Early in the term, the College of Science asked the committee to consider accepting ACGM pre-calculus transfer credit for MATH 1421: Preparation for Calculus. This change would have created ripple effects within our existing placement structure - potentially leaving some students in a "math limbo" between courses. The UAC worked with the College of Science to design a more intentional and supportive set of pathways. We ultimately proposed three pathways to Calculus I: (1) Transfer of a 4-hour ACGM Pre-Calculus course (not MATH 1421), (2) Direct progression after passing MATH 1421, or (3) ALEKS placement. This new model is expected to take effect in Fall 2026. This committee is also reviewing and updating several policies related to the implementation of the ALEKS placement exam. We were also asked by the university to consider reducing our 4-hour credit College Algebra course to a 3-hour course, in alignment with peer institutions. The UAC is working closely with the College Algebra coordinators to develop a proposal that meets this request while incorporating evidence-based practices to support student success. Finally, the UAC dedicated substantial discussion this semester to Accessibility. In particular, Ruth, Jeremy, and Laura have been strong advocates for

clearer university guidance on meeting accessibility goals in ways that do not compromise key elements of our courses or our commitment to high-quality instruction.

Math Jokes

- Why isn't every man in a red suit Santa?
    - Because correlation does not imply Claus-ality!

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COLLEGE OF SCIENCE

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This newsletter is produced through responses you provide! If you would like to contribute to the content of the newsletter, please submit your responses to the link found here or paste the following link into your browser: https://utaedu.questionpro.com/t/AciPmZ7og5