Welcome to the Math Department Newsletter

Welcome to the new members of the Union math community!

The math department publishes a weekly newsletter to inform its readership about events in the math department (for example, seminars, math club activities, math contests), resources and opportunities for students interested in math (for example, Research Experiences for Undergraduates (REUs), internships, and jobs suited for math students) and news from the greater mathematical community. The newsletter is distributed via email and is also posted on the math department's website, https://www.union.edu/mathematics under the Activities tab.
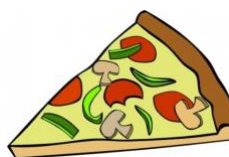
If you would like to contribute to the newsletter, or you have ideas for the newsletter, or you would like to be added to our mailing list, please email **Professor Paul Friedman** at friedmap@union.edu.

UNDERGRADUATE MATH SEMINAR

During each academic term, the Math Department runs an Undergraduate Mathematics Seminar. This fall, **Professors Rylan Gajek-Leonard** and **Leila Khatami** will be coordinating the seminar, a weekly series of ~45-minute talks about math – current research, famous older problems, interesting topics from fields outside of the standard curriculum, etc. The seminars will be announced in the newsletter, via email, and online on the math department's website under the Activities tab, or directly at https://www.union.edu/mathematics/upcoming-student-seminar-talks.

The first seminar of the fall term is

DATE: <mark>THURSDAY, September 14</mark>

Time &   **12:30 –** Pizza in **Bailey 204**

Location: **12:50 – 1:45** Seminar in **Bailey 207**

In this seminar, Union College math major and senior **Mayah Teplitskiy** will present the following talk based on research she performed this summer.

Title: Our Quasi-Excellent Summer Is Complete

Mayah Teplitskiy '23

Abstract: Have you ever heard of a quasi-excellent ring? No, not the one you wear on your finger! Quasi-excellent local rings are really important algebraic structures used throughout different fields of math. We are specifically interested in studying the relationship between a quasi-excellent local ring and its completion. It is interesting to ask questions like "When is a complete local ring T the completion of a quasi-excellent local integral domain?" or "If T is the completion of a quasi-excellent local integral domain R, what is the relationship between the prime ideals of T and R?" We provide answers to these questions and take important steps towards being able to construct a local domain with any desired prime ideal structure.

Calculus Help Center: free calculus tutoring!

The math department runs a Calculus Help Center (CHC) that offers *free, drop-in, peer tutoring* in calculus courses through Math 117. It is open Sunday through Thursday nights 7:30-10:00pm and is in the SORUM HOUSE seminar room.

Some September Goings:

- ## Professor Davide Cervone Retired

It's official. After more than 25 years at Union College, **Professor Davide Cervone** has retired!

Professor Cervone received his PhD in Mathematics from Brown University in 1993. After a three-year stint at the prestigious Geometry Center at the University of Minnesota, Professor Cervone joined the faculty at Union. As per his cv, his research interests included the geometry and topology of polyhedral manifolds; tight immersions and vertex-minimal immersions of simplicial surfaces in low dimensional spaces. Professor Cervone has made (and continues to make) impressive contributions to the online world of mathematics: he is a core developer of WeBWorK, the online mathematics homework delivery system used by colleges and universities around the world; he developed jsMath which morphed into MathJax, the behind-the-browser library that renders mathematical notation on the web. If you have seen beautifully typeset math within a browser, you can likely thank Professor Cervone! In addition, Professor Cervone combined mathematics and computer work to produce gorgeous mathematical artwork. Not only was Professor Cervone an outstanding researcher and computer magician, but he was also recognized at Union as a wonderful teacher, receiving the Stillman Prize for teaching.

Professor Cervone will certainly be missed. We wish you well in your post-Union career and life, and please keep in touch!

Professor Emeritus Davide Cervone

A black-and-white version of the Nott Memorial on a torus, produced by Professor Cervone for the 1998 Hudson River Undergraduate Mathematics Conference.

- ## Professor Greg Malen Goes to Skidmore College

After three years as a Visiting Assistant Professor in the math department at Union, **Professor Greg Malen** has taken his teaching and research talents up the road to Skidmore College in Saratoga Springs. Professor Malen will continue his work in topological combinatorics, helping the Capital Region of New York become a leading region in this field.

Among the many things Professor Malen did at Union, he coordinated Union's participation in the Putnam Exam competition, advised the Math Club, and served as an academic liaison to the Women's Soccer Team.

Professor Greg Malen

Math Club Ramping Up – Stay in the Loop!

As lightening shortened Friday's Club Fair, if you were not able to sign-up to be put onto the Math Club's mailing list scan the QR code to the right!

Class of 2023: Stay in Touch

Recent graduates – we would love to keep in touch! To continue receiving the Math Newsletter, please update your email address with **Professor Paul Friedman** (friedmap@union.edu).

SCAN ME