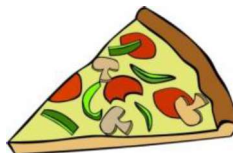## UNDERGRADUATE MATH SEMINAR

This week's math seminar will be the last one of the term. Don't miss it!

DATE: <mark>**THURSDAY, October 31**</mark>

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

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

This seminar, **Professor Jeff Jauregui**, a geometer in the Union College math department will present the following talk

Title: Voting, Power, and the Electoral College

Professor Jeff Jauregui

Abstract: In a *weighted* voting system, the voters may have different numbers of votes. Examples include stockholders in a corporation, members of the U.N. security council, and the states in the U.S. electoral college. A *power index* is a way to quantify exactly how much power each voter wields, in terms of their ability to impact the results of an election. In this talk, I'll introduce the Shapley--Shubik and Banzhaf power indices and discuss their application to the imminent U.S. Presidential election.

Registration for the Winter Term Is this Week

Winter term registration is this week! If you have not yet met with your advisor to discuss your plans, be sure to do so before your scheduled registration time.

This winter, the math department will be offering many courses beyond the calculus sequence that math minors and majors should consider, including:

- **Math 140** (Applied Linear Algebra) A course in the basics of linear algebra in $\mathbf{R^n}$ with an emphasis placed on applications. Computer software will be used to perform numerical calculations. Credit is generally not given for both Math 140 and Math 340 (below). *MWF 10:30-11:35.*
- **Math 199** (Logic and Set Theory) The department's "bridge course," intended to help students make the transition from computational courses to more theoretical proof-writing courses. It is a **required** course for all math majors and minors that is *usually* taken *after* a student has taken Math 115. This course carries WAC-R credit. *MTH 199-01: MWF 10:30-11:35, MTH-199-02: MWF 1:50-2:55.*
- **Math 221** (Cryptology) A study of the math behind the secret transmission of messages, as well as other tasks related to data security, privacy, and authentication. Credit is generally not given for both Math 221 and Math 235. This course carries GDQR credit. *MWF 9:15-10:20.*
- **Math 234** (Differential Equations) A first course in differential equations that takes a somewhat more theoretical approach than its 100-level counterpart, Math 130. Students may only take one of these two courses. This course carries GDQR credit. *MWF 1:50-2:55***.**
- **Math 340** (Linear Algebra) This is a foundational course in math that is **required** for math majors. A study of vector spaces and the linear maps between them. *MWF 10:30-11:35.*
- **Math 432** (Abstract Algebra 2) Topics in abstract algebra, building on Math 332. *TTh: 10:55-12:40***.**
- **Statistics 104** (Introduction to Statistics) This course carries JDQR credit. *MWF 11:45-12:50***.**
- **Statistics 264** (Regression Analysis) A study of regression models to fit real-world data. *MWF 9:15-10:20.*

Math Clubbing!

- **The Actuarial Science Club.** If you are considering a career path in the insurance industry, or if you are thinking of minoring in Financial and Actuarial Mathematics, come to the next meeting of the Actuarial Science Club on **Thursday, October 31** at **11:00am** in the **Math Common Room, Bailey 204**. You can also reach out to club president, **Josh Vaidman** (vaidmanj@union.edu)
- **Association for Women in Mathematics (AWM).** Union chapter of the AWM will be having its next meeting on **Thursday, October 31** at **9:15am** in **Bailey 204**, the Math Common Room. Come join the group to help plan its activities, including an upcoming **Meet and Greet Dinner.**
- **Math Club.** Join us for **Math Club Jeopardy** this **Friday, November 1** at **3:45pm** in the **Math Common Room, Bailey 204**. There will be prizes for the winning team. Questions will be both math related and unrelated, and it will be designed for anyone no matter your math skill level. Food and drinks will also be provided.

Some members of the Actuarial Science Club discussing how to help Union students interested in pursuing a career as an actuary.

Math clubbers discussing the intricacies of origami: turtles, tulips, and cranes – oh my!

We're Hiring! Work in the Math Department as a Work-Study Course Assistant!

The math department is hiring work-study students to be course assistants for the Winter 2025 term.

- **Duties and Responsibilities** include grading homework, possibly holding extra office hours for students, and working directly with the course professor
- **Qualifications for the Position** include having a strong record in calculus course or possibly MTH 130, the ability to maintain confidentiality, time management skills, proficiency in verbal and written communication, organizational skills, attention to detail. Preference will be given to students who have successfully completed at least one upper-level math course with grades in the A-range, math majors/minors, though ENG majors/minors are also welcomed to apply.
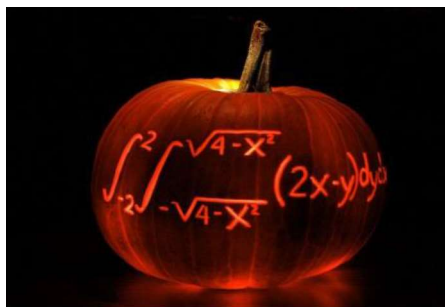
Follow the QR code (right) to apply via Handshake.

Applications to become a course assistant are via Handshake,

Something Spooky for Halloween?

Enjoy some Pumpkin Pi!

Finish the Term Strong: Calculus Help Center - free calculus tutoring!
Sunday through Thursday, 7:30-10:00pm in the Sorum House seminar room.