

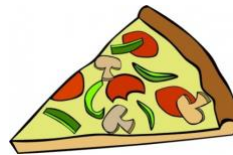
## UNDERGRADUATE MATH SEMINAR

The next math seminar will be

**DATE:** THURSDAY, February 16

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

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



Professor Álvaro Lozano-Robledo

In this seminar, **Professor Álvaro Lozano-Robledo** from the Department of Mathematics at the University of Connecticut will present the following talk.

### Title: A Short Proof of Fermat's Last Theorem\*

\*(for non-constant polynomials)

**Abstract:** Fermat's last theorem was proposed by Fermat in a famous note written in a book's margins, around 1635. Since then, many, many mathematicians have tried to find Fermat's proof, but no short proof has ever been found. The first complete proof (Andrew Wiles' proof) was published in 1995, and it spans hundreds of pages of very advanced algebraic number theory, which is certainly not a proof that Fermat could have even dreamed of. In this talk, we will give a short proof of Fermat's last theorem... for (non-constant) polynomials. Further, we will prove other results that are still conjectures over the integers.

**Speaker's Bio:** Álvaro Lozano-Robledo is a professor of mathematics at the University of Connecticut. He received his PhD from Boston University in 2004. After temporary positions at Colby College and Cornell University, Álvaro has worked at UConn since 2008. His research interests are in the area of arithmetic geometry (the crossroads of number theory and algebraic geometry). He has published two books, "Elliptic Curves, Modular Forms, and their L-Functions", and "Number Theory and Geometry." Álvaro's blog, A Field Guide to Mathematics, contains other short stories and also other pieces of interest to mathematicians. In his spare time, he makes TikToks (@mathandcobb) with mathematical content and some comedy bits.

## Summer Job in Math with AOP this Summer

The Academic Opportunity Program (AOP) is looking to hire two summer tutors/community advisors in math, one for precalculus and one for calculus. For more information, follow the QR code in the advertisement to the right, or contact Amaralis Francis (francis) in the AOP office.

Find Your Heart  
with Math  
on Valentine's Day:  
Check out this [NY Times link](#)



Calculus Help Center  
Sunday-Thursday, 7:30-10:00pm,  
Sorum House Seminar Room

Turn the page, there's more!

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**SUN. FEB. 19, 2023**

Job Description/  
Application Form



Recommendation  
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## Spring Term Prescheduling: Advising, Waitlist Sign-up

It is that time of the current term when we start to look forward to next term and students plan their course schedule. Academic advising is underway and Waitlisting for courses ("Student Planning" on Self-Service) is this week. **Note that no math classes this spring are "waitlist" courses!**

### Timeline:

- February 6-24: *Academic Advising*. Students consult with faculty advisors.
- February 13-17: Waitlist course sign-up on Student Planning (Self-Service).
- February 20-24: Waitlist course review and approval.
- February 27-March 2: Spring term prescheduling on Student Planning, by appointment.

**Some Math and Statistics Courses:** This spring, the math department will be offering several interesting courses beyond the calculus sequence that are suitable for math majors and minors.

- **Math 199** is the department's "bridge course," intended to help students make the transition from computationally oriented 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 is a WAC course, too! Two sections: 199-01 MWF 9:15-10:20, and 199-02 MWF 1:50-2:55.

**Beyond Math 199:** There are several courses being offered that have a Math 199 prerequisite:

- **Math 224** (Geometry) is a course in transformation geometry, studying and classifying the distance preserving functions, called isometries, of the plane. It is a course that is appropriate for students coming straight from Math 199. Additionally, as rudimentary transformation geometry is now included in the Common Core in middle and high school math, this course is wonderful for students considering teaching as a career. MWF 9:15-10:20.
- **Math 228** (Probability Theory). This course is an introduction to probability theory intended for math majors and minors. The focus of this course will be on both the theoretical aspects of probability and problem solving. The prerequisites are Math 197 or Math 199, and Math 117, which may be taken concurrently. NOTE: this course is not open to students who have passed Math 128 and vice versa. Choose wisely (a probability pun!). MWF 1:50-2:55.
- **Math 332** (Abstract Algebra 1) is a beautiful course that generalizes what you know about algebra in the integers and real numbers to a more abstract setting. The main objects of study in this course are groups, rings, and fields. This course is required for the major. The prerequisite for this course is one of Math 219, 221, 224, 228, 235, or 248 or permission from the chair. MWF 1:50-2:55.
- **Math 334** (Partial Differential Equations) Analytic and numerical methods will be introduced to examine the solutions of elliptic, parabolic and hyperbolic types of PDEs. Real-world examples and applications include signal, image and video processing, medical imaging, heat conduction, wave traveling, and so on. Prerequisites: MTH 234 or (MTH 130 and MTH 199). MWF 10:30-11:35.
- **Math 436** (Topology). Topology is the study of the properties of objects in space that are unchanged by continuous deformation, and is considered fundamental in the study of higher mathematics. Prerequisites: a 300-level MTH course or permission from the chair. MWF 11:45-12:50.

There are also a couple of statistics courses being offered!

- **Statistics 164** (Strategies of Experimentation: Statistical Design and Analysis of Experiments) Students will learn different experimental design options when experimenting with multiple variables as well as analytic methods. Prerequisites: one of STA 104, STA/MTH 128, MTH 228, STA 264, MER 301, ECO 243, PSY 200 or permission from the chair. MWF 9:15-10:20.
- **Statistics 364** (Big Data Analytics). Learn many techniques on how to analyze large data sets using statistical programming languages. This is a great course for students considering graduate study or careers in the areas of statistics, data science, machine learning, computer science, econometrics, or related disciplines. Prerequisites: STA 264 or ECO 243 or permission from the chair. MWF 11:45-12:50.