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Faculty/Graduate Speaker Session

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Faculty Session 1 Woodland 121

1:10pm, **Chris Catone** (Albright College)

Multiplicative Functions: A play in two acts.

A multiplicative function is a function on the natural numbers such that $f(mn) = f(m)f(n)$ whenever $\gcd(m, n) = 1$. We investigate the group of these functions, and discuss the pedagogical benefits of adding this infinite group to your students' repertoire in the Abstract Algebra curriculum.

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1:30pm, **Ken Monks** (University of Scranton)

Proof Verification with Lurch

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mathematical proofs? In this talk we introduce Lurch, our software project designed specifically for this purpose. In particular, we will discuss how Lurch was integrated into our undergraduate introduction to mathematical proof bridge course during the Spring 2024 semester. Additionally, we will explain how you can use this software and accompanying course materials, and customize it for your own purposes.

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1:50pm, **Alexander Diaz-Lopez** (Villanova University)

Using AI models in a proof-based course

In this interactive talk, we will showcase different uses of generative AI models in upper level proof-based courses. We will do a live demonstration of the use of AI models, so we encourage the audience to come to the talk with questions and things you want us to try.

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Faculty Session 2

Woodland 220

1:30pm, **Melissa M Fuentes** (Villanova University)

Graph-theoretic Extensions of the Erdős-Ko-Rado (EKR) Theorem

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1:50pm, **Michael Carrion, Zaphenath Joseph** (Villanova University)

Well-covered Erdos--Ko--Rado graphs

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Faculty Session 3

Woodland 313

1:10pm, **Benjamin Pentecost** (West Chester University of Pennsylvania)

An Enhanced Augmented Matched Interface and Boundary (AMIB)

[View Abstract](#)[Back to schedule](#)1:30pm, **Rommel G. Regis** (Saint Joseph's University)*Cosine Measures and Uniform Angle Subspaces*[View Abstract](#)[Back to index](#)

Faculty Session 4

Woodland 319

1:10pm, **Susanna Molitoris-Miller and Brian Kronenthal** (Kutztown University)*CATANbinatorics and the Probabilty of Constructing a Legal Board*

The popular board game Catan requires players to construct a new board, within certain parameters, every time they play. In this talk we use combinatorial techniques to count how many boards could be constructed with and without observing the restriction that no two red numbers (6 or 8) are placed on adjacent tiles. We then use these results to determine the probability that a player who ignores this often overlooked rule will actually construct a board which adheres to it.

[Close Abstract](#)1:30pm, **Samantha Pezzimenti** (Penn State Brandywine)*The Fish, the Crab, and the Kraken: Knot Mosaics*[View Abstract](#)1:50pm, **Wing Hong Tony Wong** (Kutztown University of Pennsylvania)*Nonisomorphic affine planes over \mathbb{R} arising from algebraically defined graphs*[View Abstract](#)[Back to index](#)