

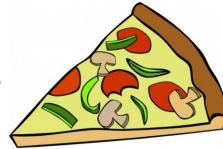
UNDERGRADUATE MATH SEMINAR

The next seminar of the term will be

DATE: **THURSDAY, October 18**

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

Location: **1:00** – Seminar in **Bailey 207**



Professor William Zwicker

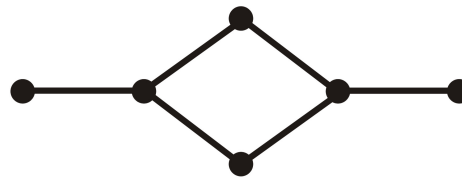
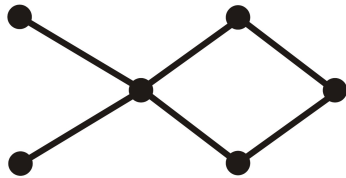
In this seminar, **Professor William Zwicker** from the Department of Mathematics at **Union College** will deliver the following talk

Fair Division of a Graph: Envy Freeness up to One Good, or Two

Abstract: Countries A and B are dividing up a disputed island with several cities, linked by roads:

- Each city must go entirely to A, or entirely to B
- A city may be worth more to one country than to the other
- You must be able to drive among A's cities without going through B's

Can cities be allocated in a way that leaves neither country jealous of the other's share?



No – not in general. But with certain road networks one can always get within one city of this ideal. Which networks are these? With more than 2 countries, the question gets harder . . . in interesting ways.

Math Club and AWM Meet to Plan Events – turn page for details!



The next **Math Club** meeting is **Wednesday, October 17** in **Bailey 204**, at **1:00pm**.

Eventful Week Planned for Math Club and AWM

Last Wednesday, October 10, the Math Club and Union's chapter of the Association for Women in Mathematics (AWM) met together to discuss a joint event planned for this coming Wednesday, October 17. After their joint meeting, the two groups met separately (but both in the Math Common Room, Bailey 204) to discuss their own events.

This week will be wonderfully busy with club activities. We welcome you to join the fun!

- Wednesday, October 17. Math Club meeting in the Math Common Room, Bailey 204, at 1:00pm. Come to help plan upcoming and ongoing activities!
- Wednesday, October 17. GAME NIGHT! Math Club and AWM will be hosting a game night, at 5:00 pm in a to-be-determined Minerva House (look for posters and emails with updated information!) Come join the groups for food and fun, to play some math-themed games (like 21, Set, and Swish), to fiddle with some logic puzzles, and to play cards. Never heard of these games? Then go to the event!
- Friday, October 19. From 1:00-3:00 in the Wold Atrium, there will be a pop-up STEM fair. Stop by to visit the Math Club's table and to meet some club members!
- Friday, October 19. The Math Club will be volunteering at COCOA (Children of Our Community Open to Achievement) House. COCOA House serves the Hamilton Hill and Vale neighborhoods of Schenectady. Math Club members will be going to play math jeopardy games with the kids there.

REMINDER:
Petitioning Continues
Through Tuesday

The winter term math courses that are
petition courses are

- | | |
|------------------|-------------|
| • IMP 120 | • Math 197 |
| • Math 110 | • Math 199 |
| • Math 113 | • Math 235 |
| • Math 117 | • Math 340 |
| • Math/Stats 128 | |
| • Math 130 | • Stats 104 |

Problem of the Newsletter – October 15, 2018

Last week's problem: Congratulations to **Hoang Tran '22** for submitting a correct solution to last week's problem. A sample solution has been posted at the newsletter sites in Bailey Hall.

This week's problem: Kimmo has five red cards and five green cards. He shuffles the 10 cards and lays out five of the cards in a row in a random order. He will be happy if and only if all of the red cards laid out are adjacent and all of the green cards laid out are adjacent. For example, RRRGGG, GGGRRR, and RRRRRR will all make Kimmo happy, but RRRRGR will not. Find the probability that Kimmo will be happy.

Professor Friedman (friedmap@union.edu) will accept solutions until midnight on Friday, October 19.