

An Open World: Online Math Seminars for Undergraduates

In this time of COVID-19, while some doors are shutting, others are opening. In particular, academic seminars, which have typically been in-person events only, are becoming more widely accessible through Zoom and other online meeting platforms.

If you are looking for an undergraduate math seminar, here is one that the math department has been made aware of recently: The Kutztown University Association of Women in Mathematics presents a virtual lecture series entirely featuring female mathematicians and their research. These lectures are held biweekly, all on **Tuesdays at 5:00 pm** (Eastern US time). The next one will be **Tuesday, October 6** (Zoom ID: 964 4012 0432), given by **Dr. Helen Grundman of Bryn Mawr College**. Professor Grundman's talk is entitled, "Consecutive Harshad Numbers: An Introduction." A Harshad number is a positive integer that is divisible by the sum of its digits. Intrigued? Check out the full announcement of the talk [here](#) and attend the virtual lecture!

Putnam Exam Preparation

Do you enjoy creative problem solving in math? Do you enjoy proving your mettle by taking on treacherously difficult problems and showing them who the boss is? Do you like throwing your hat into the ring and participating in fun academic competitions.

If you answered YES to the above, join the **Putnam Exam Preparation (PEP) Squad!**

Professor Greg Malen will be organizing and working with this year's PEP squad. If you are interested in participating or in finding out more about the Putnam Exam, please contact him: maleng@union.edu. (Note: last week's Problem of the Newsletter was from the 2019 Putnam.)

Learn to Typeset Math Like A Professional – Use LaTeX!

Ever wonder how complicated math symbols and beautiful equations are typeset to look so good? They are usually produced using "LaTeX" (or a variant of it).

Many math and science Union students use LaTeX to

type their thesis, research, or even problem set solutions. If you would like to learn how to use LaTeX, then consider attending Union's Association of Women in Mathematics and the Society of Physics Students joint "Learn LaTeX (using Overleaf)" workshop this **Thursday at 8:00pm**. The Zoom link is <https://union.zoom.us/j/95380979872>

$$\int_a^b f(x) dx = \lim_{n \rightarrow \infty} \sum_{k=1}^n f(x_k^*) \Delta x$$

The above was typeset using LaTeX

Problem of the Newsletter – October 5, 2020

A solution to [last week's problem](#) has been posted at math newsletter sites around Bailey Hall.

This week's problem: **Professor Lewis Davis**, chair of Union College's Economics Department, shared one of his favorite problems from his days as a mathlete (though once a mathlete, always a mathlete!). We will take it as this week's problem:

Prove that if a right triangle has integer-valued side lengths, then the largest inscribed circle has an integer-valued radius. (We shall henceforth refer to this result as Davis' Lemma!)

Send your solution to **Professor Paul Friedman** (friedmap@union.edu) by noon, Friday, October 9.