

UNDERGRADUATE MATHEMATICS SEMINAR

Bookmark it! The seminar schedule, abstracts, and (sometimes) slides presented by a speaker can be found <http://www.math.union.edu/activities/seminars/student/welcome.html>.

The first seminar of the winter term will be:

DATE: **MONDAY, January 11th**

Time & **4:15pm** – Refreshments in the Math Common Room, **Bailey 204**

Location: **4:30pm** – Seminar in **Bailey 207**

In this seminar, Union College's **Professor Kimmo Rosenthal** will deliver the following talk:

TITLE: Intuitionistic Logic, Pointless Topology, and other Curiosities

ABSTRACT: Intuitionistic logic is a system of logic where, contrary to the usual classical logic that students learn, the “law of excluded middle” does not hold. This means that it is not necessarily the case that for a statement A , either A is true or “not A ” is true. If X is a set then $P(X)$, the power set of X , is a nice algebraic model for the operations of classical logic. In the subject of topology, a *topological space* consists of a set X together with a designation of the *open sets* of X , $O(X)$, subject to certain axioms. $O(X)$ turns out to be a *complete Heyting algebra* (also known as locale, frame), which is a nice algebraic model for intuitionistic logic. We will provide a brief introduction to the subject of topology emphasizing this connection. We will discuss how one can often recover the points of a space, that is the elements of the set X , only knowing the algebraic structure of the opens (this is the pointless part of the talk) and we will briefly touch on other areas where this logic arises, hopefully showing that it is in fact more than a curiosity.

Terms Abroad by Math Majors: A View from **Peter Bonventre** ('11)

Καλιμερα! My name is Peter Bonventre, and I just spent the last 15 weeks during Fall Term in Athens, Greece. It was a fantastic experience. As I am a math and physics double major, however, one might have questions: why did I go to Greece? How did I have time to take a term abroad? How could I deal with a 15-week term?

The first question is one I would ask, and did ask myself before I left, as the term in Athens is primarily for those interested in Classics, archeology, and history. While those may not seem to have much to do with my math and physics programs, I have always found that keeping my horizons open, to new fields, ideas, and academic environments has kept me interested and focused in all my activities. A term abroad is a great way to take classes in something you never could before but always

wanted to, or to dive deeper into a subject you already love. I left for Greece with no experience in Hellenistic history or archeology (two of the four courses I took while in Athens), and have returned impassioned with new interests, and new ways to look at and research any problem I face.

For these and many other reasons, I highly encourage everyone, no matter how packed your schedule may seem, to take a term abroad. The experience is unforgettable, and the exposure to a new city, culture and life style is something that will leave a positive impression on you. Even as a double major, I will be easily able to fulfill all of my course requirements in four years, and still take the classes I want. A little planning early on goes a long way to help ensure this process goes smoothly – look ahead, say hi to your advisor,

make lists of courses you are interested in. The reward is worth the effort.

Even with all the phenomenal things that were different about taking classes in Greece – the history courses on location of discussed historic events, the living monuments to the past, the unique subject opportunities – I definitely noticed when entered the last five weeks of the full “semester”. It was right around 10th week, when I was used to everything coming to a close. Don’t worry; any negative thoughts or connotations go away quickly. The last five weeks of classes are really just an additional five weeks to explore and enjoy the term abroad. The classes are set up to allow you time for fun and freedom, and so those weeks never catch up to you or drag you down. However, it did get me thinking about Union’s trimesters, and I realized that I do like them. It gives more opportunities to take different classes, and professors can set up more unique classes; you get to see fresh faces more often; and the pace feels more comfortable and natural. Plus, having the entire month of December off is always nice.

In conclusion, I have three final thoughts: plan your schedule, take that term abroad you always wanted, and enjoy the trimesters when you return.

Intrigued by a Term Abroad?

In addition to the information sessions held this past week, there will be several more next week for Fall 2010 terms abroad, as indicated below.

• AUSTRALIA	Tuesday	1/12	HU 115	4:00 P.M.
• BELGIUM	Monday	1/11	HU 116	4:00 P.M.
• CZECH REPUBLIC	Tuesday	1/12	OLIN 306	12:45 P.M.
• FRANCE	Wednesday	1/13	HU 115	4:45 P.M.
• IRELAND	Monday	1/11	HU 112	12:55 P.M.
• JAPAN	Friday	1/15	HU 116	12:55 P.M.
• VIETNAM	Thursday	1/14	OLIN 306	12:45 P.M.

Summer Internships ... It is not too late ... but it will be, soon!

The Becker Career Center (BCC) has postings for several finance related internships with upcoming deadlines in eRecruiting (BCC’s online job posting system; search by Employer at the top right of the page). These listings include two from Goldman Sachs (info session January 14, 6pm in Hale House, job application deadline January 19), one from Barclay’s Capital (with application deadline January 14), and one from JP Morgan (with application deadline January 14). Students are *strongly encouraged* to contact the BCC to have their resume and cover letter reviewed in advance of applying for these positions.

**The Calculus Help Center is Open Sunday - Thursday, 7:30-10:00 pm
in Sorum House**

Problem of the Newsletter: January 8, 2010

Congratulations to **Schuyler Smith** for submitting the winning solution to the last PON of the fall term. A copy of the solution is posted on the bulletin boards around Bailey Hall.

Unless you have aibohphobia, you should enjoy this week’s gentle problem.

Here is this week’s problem. A **palindrome** is a word, phrase, or number that reads the same forward and backward. For example, “radar”, “Go hang a salami, I’m a lasagna hog”, and “37873” are all palindromes. When writing a date in mmddyyyy form, earlier this year we had the first palindromic day of this century. What was it? What are all of the palindromic dates in this century?

Professor Friedman will accept solutions to this problem until 12:00 noon Thursday, January 14th. Email your solution to him (friedmap@union.edu) or put it in his mailbox in the Math office in Bailey Hall.