

UNDERGRADUATE MATH SEMINAR

The first seminar of the term will be

DATE: **THURSDAY, January 17**

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

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



Professor Brenda Johnson

In this seminar, **Professor Brenda Johnson** from the Department of Mathematics at **Union College** will host the following discussion:

Title: **Summer Opportunities for Math Students**

Abstract: This week's seminar will focus on ways in which you can put your mathematical skills to use over the summer. **Julia Greene '19** will speak about the *Teaching Experiences for Undergraduates* Program, **Professor Jeff Hatley** will speak about *Research Experiences for Undergraduates*, and **Keri Willis** of the Becker Career Center will speak about summer internships.

MATH CLUB MEETING following the seminar
Thursday, January 17
2:00 in the Math Common Room

Summer Opportunity: Cassie Call '18 Recommends BEAM

For the last two summers, Union has hosted a program entitled **Bridge to Enter Advanced Mathematics**, or BEAM, a three-week summer math camp for talented lower-income public middle schoolers. To help run the camp, BEAM hires undergraduate students as math counselors. **Cassie Call '18**, a recently graduated Math-French double major, worked for BEAM during both of these summers. She emailed to pass along the job ad for this coming summer (see page 2), writing

"This is the math camp I worked at the past 2 summers, held on Union's campus, where I had an amazing experience working with the wonderful math teachers and middle school kids there. ... I recommend it for any Union students who are passionate about math, who like working with kids, who are interested in teaching, or any combination of the three! (Other STEM majors are welcome too - last year only 2 or 3 of the 8 counselors were math majors.) There is more information in the email below, including a link to the application. They like to have Union students as one or two of their counselors, since they are familiar with the campus.

"BEAM (Bridge to Enter Advanced Math) is a program for minority and low-income kids from NYC who have a high potential or interest in math, opening up new opportunities for them and working towards closing the achievement gap. Their summer camp isn't just a math program it's a community where students can take college-level math classes (Number Theory, Knot Theory, Cryptography, and Infinity, to name a few), play sports, make arts & crafts, learn new board games, and go on fun field trips, all while living away from home on a college campus. It's also a program that follows these students all the way through high school and into college, providing homework help, weekend classes, and guidance with applying to college and finding scholarships. As a summer counselor, you will spend 3 weeks as a TA in a few math classes, an RA in the dorm, run daily activities (usually one per day), and create lasting bonds with the students, whether you're inspiring them about math or riding roller coasters on the trip to Six Flags! It's pretty much a 24/7 job (with every other evening off) but it is so rewarding and definitely worth it. It also looks really great on the resume of a future teacher :)" The BEAM website is <https://www.beammath.org/>

Summer Opportunity: BEAM – Job Ad

Counselor/Teaching Assistant

This summer, change the lives of historically marginalized and low-income middle school students with exceptional potential in math.

Bridge to Enter Advanced Mathematics (BEAM), a project of the Art of Problem Solving Initiative, Inc., is seeking undergraduate students or recent graduates to be counselors and teaching assistants for a summer program that gives everyone a chance to excel in mathematics. During summer 2018, we will run residential programs at Bard College and Union College in the Hudson Valley, and day programs in New York City and Los Angeles.

At both programs, you'll create a vibrant social experience for kids who are discovering for the first time that there are other people who like doing mathematics; you'll also be a TA for classes on topics such as number theory, combinatorics, problem solving, and computer science. At our residential program, counselors will also live with the students in the campus dorms. Be a role model and guide for students who are just beginning to set their educational path!

Counselors must be strong mathematically, be reliable, and take initiative. They should be charismatic and able to help the kids have fun. All counselors must be at least 18 years old by the beginning of the program.

Residential Program (BEAM Summer Away):

Compensation: \$2,600 for four weeks, plus room, board, and a transportation stipend.

NY Locations: Bard College, Union College

NY Dates: July 4 to July 31, 2019

CA Location: TBA college campus in Southern California

CA Dates: June 27 to July 24, 2019

Non-residential Program (BEAM Discovery):

Compensation: \$3,840 for six weeks, breakfast/lunch on weekdays, an unlimited MetroCard at the NYC program

Location: Los Angeles, New York City

LA Dates: June 19 to July 30, 2019

NYC Dates: July 2 to August 13, 2019

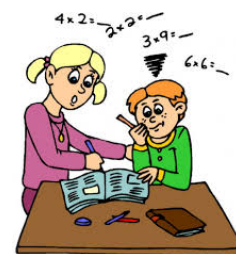
Deadline: rolling, but please apply by February 19, 2019 for full consideration.

For more information and to apply: <https://www.beammath.org/counselor-info/>.

Email questions to info@beammath.org

Calculus Help Center Open for Business

The Math Department offers a **free tutoring service** for students enrolled in its calculus courses. The **Calculus Help Center (CHC)** is open five nights a week, **Sunday through Thursday**, from **7:30pm to 10:00pm** in the seminar room of **Sorum House**. We encourage you to stop by with your calculus questions, or simply to use the CHC as a quiet place to do your homework and WeBWork.



Problem of the Newsletter – January 14, 2019

Last week's problem: Congratulations to **Khoa Ngo The** for submitting correct answers to previous math newsletter's problem. A solution has been posted at the newsletter sites in Bailey Hall.

This week's problem: Let x and y be integers such that $y^2 + 3x^2y^2 = 30x^2 + 517$. Find $3x^2y^2$.

Professor Friedman (friedmap@union.edu) will accept solutions until midnight on Friday, January 18.