Tangents

May 2018

Hood College Mathematics

Upcoming Events

MAY 4TH 3 PM: Honors Convocation at Coffman Chapel

MAY 6TH 4:30 PM: Annual Math Department Picnic

MAY 19TH 10:00 AM: 2018 Commencement Ceremony

AUGUST 1-4: Mathfest in Denver, CO

AUGUST 25TH, 5 PM: Opening Convocation

AUGUST 26TH: First day of classes

Lexi Harbord, Ashley DeFee , Holly Barnett, and Mickayla Bachar (Not Pictured: Kyle Moir, Max Riedel-Topper)

## Congratulations Pi Mu Epsilon Inductees, Graduates

IN A ceremony on Friday, August 27th, Hood College's chapter of the mathematical honor society Pi Mu Epsilon added six new members: Mickayla Bachar, Holly Barnett, Ashley DeFee, Lexi Harbord, Kyle Moir, and Max Riedel-Topper. We also heard a great talk by Dr. Benjamin Galluzzo of Shippensburg University titled "Is There a Fair Share?" on the mathematics of congressional districting.

FURTHER CONGRATULATIONS to our graduating seniors: Luke Casey, Rachel Keller, Kyle Lammey, Chris Maniocha, and Mat Molina. Wish them luck as they leave Hood for new adventures.

AND DON'T forget about the Hood College Honor's Convocation this Friday, May 5th at 4PM in Coffman Chapel. Cheer on your award-winning friends and colleagues as we wrap up another school year.

Annual Math Department Picnic

THIS SUNDAY, May 6th at 4:30, join the rest of the Hood College Mathematics Department at our annual spring picnic. We'll have food and fun with current and former department members. Be sure to come to this year's new location of Rosedale-Kidwiller Park, just on the other side of Highway 15 from Hood.
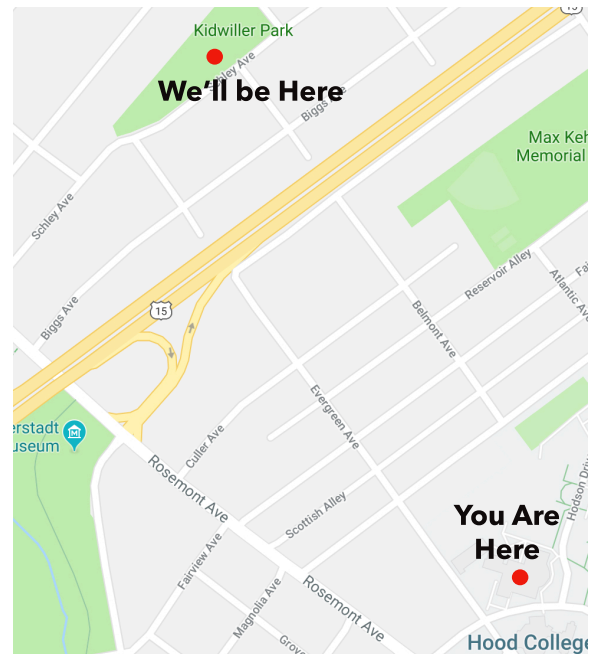
Alumni Spotlight

Benjamin Caplins (Class of '09):

I graduated Hood with majors in chemistry and mathematics. After Hood, I attended the University of California Berkeley and graduated in 2014 with a PhD in physical chemistry. I worked for a year as a postdoctoral researcher at the University of Minnesota – Twin Cities before taking a year off to get married and hike the Pacific Crest Trail with my wife. Currently, I am working at the National Institute of Standards and Technology in Boulder, CO. I've had the opportunity and pleasure to work on many different projects ranging from using ultrafast lasers to watch the response of photovoltaic materials to light, to imaging nanometer scale objects with scanning electron microscopes. I credit the teaching and education I received at Hood College with any successes I have achieved. Having spent a good deal of time at larger universities I can confidently state that Hood College was the right choice for me.

As an unsolicited piece of advice… For anyone who wants to go into the physical sciences I'd strongly advocate taking all the math and computer science courses you can shoehorn into your schedule. Handling the data output from modern measurement devices cannot reasonably be performed without knowing the basics of computer programming. While programs like MS Excel works fine when you have a few data files, it is a nightmare when you routinely generate hundreds of data files a day. Furthermore, the analysis of data is almost always most easily expressed in terms of matrix algebra. Operations that can be complex and confusing at first glance are frequently trivial when viewed from the perspective of linear algebra. It turns out that esoteric sounding things like affine transforms, eigenvalues, and singular value decomposition are all directly applicable to real problems encountered in the physical sciences and are things that I use daily.

Stay Sharp This Summer

Even if you're not doing an intership or a summer research project, you can still keep up with math over the summer.

- Mathematical Tour of DC: Find the hidden right triangle that DC was built around, the dodecahedral manhole cover, and the Irresistable Surface that Ms. Erhardt spoke about in her talk last fall. Search for "Field Guide to Math on the National Mall" and print out the handy guide.

- Free Online Courses: Sharpen your old skills or learn something new with free online open courses. You can learn almost any subject with MIT's Open Courseware and take classes in everything from calculus to category theory. Or drop by Coursera for classes in machine learning, data science, cryptography and more. Try Code Academy to try out programming or web design, or Project Euler to sharpen your skills in math and computer science at the same time.

- Summer Reading List: Ask your friend or professors for their favorite mathematical books. You might enjoy *Gödel, Escher, Bach: An Eternal Golden Braid* by Douglas Hofstadter, which weaves together math, art, and music to discover how consciousness might emerge from neurology. Or *Infinitessimal: How a Dangerous Mathematical Theory Shaped the Modern World* by Amir Alexander, about the development of calculus and the men who tried to stop it.