The Almagest

Next Colloquium – Friday, Oct. 27th

Our next colloquium will deal with cybersecurity. ***Dr. Lance Hoffman***, Professor of Computer Science at George Washington University, will give a brief survey of some recent cyberattacks, followed by a discussion of how current software development norms have created a system that rewards utility at the cost of stable and secure systems. He'll explain how system attackers and defenders operate on a constantly changing battlefield, and how some of the more serious conflicts involving nation-states could be considered acts of war, though we are still in the early stages of defining war in cyberspace. He will also discuss how various policies for security and privacy can vary wildly and have important consequences for privacy, free speech, and censorship. "Fake news" is a recent addition to this catalog of issues.

Mason Molesky, a 2016 Alma grad and current student at GWU, will also be sharing his experiences as a grad student studying cybersecurity at GWU.

"Cybersecurity and Privacy: A Multidisciplinary Approach for Tomorrow's World"

Date: **Friday, October 27th**
Time: 2:30
Place: SAC 113

Refreshments at 2:15

Problem Solvers Needed

If you enjoy the thrill of solving non-routine math problems, then you'll want to participate in the 23rd annual MATH Challenge on Saturday, November 4th. The **MATH Challenge** is a *team-oriented*, 3-hour exam consisting of ten interesting problems dealing with topics found in the undergraduate math curriculum. Teams consist of 2 or 3 students, and you'll take the exam on campus from 9:30 am to 12:30. You may form your own team or you can simply be placed on a team. Before the exam, you'll be provided with a "hearty breakfast" of yogurt, fruit, bagels, donuts, and juice. If you're interested, please contact Professor Sipka.

Spring Term Math Offerings

Spring term registration is just around the corner, and if you're in need of a math course, there are two choices: **Math 391** (*Intro to Graph Theory*) and **Math 180** (*Intro to Data Mining*).

Math 391 is an upper-level course with a pre-req of Math 122 or permission. The course will introduce you to a variety of new math topics with a wide range of applications. For more info, contact ***Prof. Sipka***. Course counts towards math major or minor.

Math 180 is a lower-level course with a pre-req of Math 100 or placement in level 2. The course will introduce methods used for gathering information and making predictions from large sets of data. You will study several types of data mining; you will apply each method to real data from various fields; and you will have computer assignments, using the programming language R. Each student will also perform a final project involving a real data set of the student's own choosing. For more info, contact ***Dr. Westgate***. Course counts towards math minor.

Get Help in Precalc AND Calc 1, 2, & 3

Tutors are available to students in Precalculus and Calculus on the following days and times.

Precalc: M, Tu, Th, & Sun: 7–9 pm in SAC 214.

Calc 1: Tu, W, & Th, 7–9 pm in SAC 315.

Calc 2: Tu & Th, 7–9 pm in the math bay.

Calc 3: Tu & Th, 7–9 pm in SAC 216.

Careers in Math: Biostatistician

This past summer I had the pleasure of interning at Henry Ford Health Systems in Detroit. While there I met a variety of people from several different careers. One such person was a biostatistician. After speaking with her I realized that I hadn't known that this specific profession existed—much less what they did or the important role they play.

Biostatisticians are essentially a special breed of statistician that has been adapted to understand and apply statistical methods in biology related fields. As a result, many are employed in the scientific research aspects of health-related fields like genetics, immunology, and neuroscience. These employment opportunities exist in academia, industry, and government. Examples of their work include using data to determine treatment effectiveness and disease risk factors. Additionally, many are consulted with in designing scientific experiments in order to ensure the validity of the data to be collected and the conclusions drawn.

In most cases an individual will need to hold a minimum of a master's degree in order to work within the field. Helpful personal characteristics include being detail oriented, being able to think critically, having good problem solving skills, and being able to communicate findings effectively. It is also worth noting that the occupational outlook for biostatisticians is exceptional with a projected growth of 34% over the next 10 years.

Cheyenne Kalfsbeek

The Math Club

The Math Club meets **EVERY TUESDAY** at 9:00 pm in Dow 132.

Puzzle *of the Bi-week*

A census-taker knocks on a door and asks the woman inside how many children she has and how old they are.

"*I have three daughters, their ages are integers, and the product of the ages is 36,*" *says the mother.*

"*That's not enough information,*" *responds the census-taker.*

"*I'd tell you the sum of their ages, but you'd still be stumped.*"

"*I wish you'd tell me something more.*"

"*Okay, my oldest daughter Annie likes dogs.*"

What are the ages of the three daughters?

A prize of **$2.00** will be awarded to the 1st student who submits a correct solution to Prof. Sipka.

Student assistant: Cheyenne Kalfsbeek
Faculty advisor: Tim Sipka
Distribution: Jackie Gage SAC 224

If you would like to submit an announcement or a short article, please send it via e-mail to Tim Sipka (sipka@alma.edu).

ALMA COLLEGE