Augarithms

Mark your calendar . . .

Mathematics Colloquia Fall 2004

Mathematics colloquium talks are Wednesdays 3:40-4:40 p.m. in Science 108. Refreshments are provided.

Sept. 15	Introduction to colloquium and math faculty. Also, Lynda Olson, Center for Service, Work, & Learning
Sept. 29	Dan Wolf, student, Augsburg College
Oct. 13	Kevin Anderson, Carlson Companies
Oct. 27	**Andy Mack, Trident Capital**
Nov. 10	Colloquium #5
Dec. 1	Colloquium #6
Dec. 15	Colloquium #7

Reward versus Risk and Portfolio Optimization

Andy Mack, Trident Capital

An investor faces a multitude of options when investing money. One must choose a mix of investments from not only in the primary financial markets – stocks, fixed income (bonds), and commodities – but must also from a plethora of instruments and securities within each of those market. For example, in the stock market there are over 5000 securities and instruments such as stocks, stock options, stock futures, futures options, stock indices with futures and options, and stock mutual funds with futures and options. While individual investors may have differing tolerances to risk, all investors have two clear goals when investing: maximize rewards and reduce risk. However, there is always a trade off between the two.

We will discuss modern investment methods used by today's mutual funds and hedge funds. Starting with the "no-arbitrage" (a.k.a. "no-free-lunch") assumption and its implications, we'll cover reward to risk trade-offs, the risk-free rate, and fundamental financial statistics. Finally, the Sharpe ratio will be introduced along with a generic method all investors can use to optimize the reward to risk of their portfolio.

Puzzle 4: Fencing 40

We have 40 pieces of fencing, whose lengths are 1, 2, 3, . . ., 40 feet. Show how to make a square fence using all of the pieces? (No doubling up.)

Problem 4: Fencing 41

What if we also have a 41-foot piece of fencing?

Send your solutions (not just answers, please) to the editors at haines@augsburg.edu or drop them in the "Puzzles & Problems" box in the Mathematics Department Suite, Science 137.

Getting the Augarithms after we've published the answers? The puzzles are available at publication date on the web.

Thanks to **Hung Nguyen** *for drawing a solution to Puzzle 3.-*

Augarithms is available on-line at augsburg.edu/math/augarithms/. Click on the date you want to see.

Actuarial Career Fair

At the 6th Annual U of M Actuarial Career/Internship Fair, companies from Twin Cities metro area will be sharing information on careers in Actuarial Science and looking for students to work as interns (paid) or full time. Come in business professional attire and bring a current resumé.

Time: 1:00-4:00 p.m. Nov. 16, 2004
Place: Hubert H. Humphrey Center, Room 180AB.

For more information, contact Seth Quiggle (quig0025@umn.edu)

Where Do Actuaries Work and What Do They Do?

The insurance industry can't function without actuaries, and that's where most of them work. They calculate the costs to assume risk—how much to charge policyholders for life or health insurance premiums or how much an insurance company can expect to pay in claims when the next hurricane hits Florida. Actuaries provide a financial evaluation of risk for their companies to be used for strategic management decisions. When other businesses that do not have actuaries on staff need certain financial advice, they hire actuarial consultants. Actuaries work for the government too, helping manage such programs as the Social Security system and Medicare.

[Adapted from http://www.beanactuary.org/]

3M Foundation Partners for New Science Building

The 3M Foundation is partnering with Augsburg College to raise $600,000 in support of its new Science Center. For every dollar donated by a 3M employee or retiree, the 3M Foundation will contribute three dollars. Under this 3:1 challenge, the Foundation will match up to $100,000 in contributions from employees or retirees with a $300,000 gift. Additionally, the Foundation itself is contributing $200,000 to the Science Center.
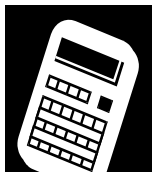
Girls and Dinosaurs

Know a 4-8th grade girl interested in mathematics or science? Invite her to the *Eye to the Future Career Conference* at Augsburg College Saturday Nov. 13th. She'll have a chance to 'try on' career opportunities through hands on activities and discussions with professional women in mathematics, science, engineering and technology fields. Dr. Kristi Curry Rogers, Director of Paleontology for the Science Museum of Minnesota give the keynote address.

For registration information and a list of workshops visit

http://www.augsburg.edu/nasa_space_grant/ettf03.html

Calculus I students stay warm while collecting data.

Calculators & Teaching Mathematics

Join other Augsburg students in a workshop by Texas Instruments and receive a graphing calculator and view-screen for participating at no cost except the time to attend! This is a great opportunity to start building your classroom resources! We need fifteen participants are needed to run the session. Convince your future teacher friends to sign up with you! Date TBD. Contact Prof. Tracy Bibelnieks, bibelnie@augsburg.edu.