

Σ SUM TIMES

Volume 11, Issue 1

October 2003

Welcome Back to the 2003-2004 Academic Year!!

OE. *wilcuma* (f. *wil-*, *will-* will, desire, pleasure + *cuma* comer, guest) = OHG. *Willicomo*. (Thanks, OED.) We hope that you find pleasure as you come to this place. Whether padded by the word “back” or standing solo, the message is “Welcome!” A Google search of the word “welcome” returned (at least today!) these five responses first: [MapQuest](#), [The White House](#), [Intel Corporation](#), [WebCrawler](#), and [WhoWhere?!](#) (So?!?) As the new chair of the department, I, like you, find things both familiar and different as we begin a new academic year. All of us in SAC 305 want to help in any way we can as you either return to or arrive anew at this place. Like MapQuest, we want to help you find your way, both physically and through the academic maze. Like the White House, we want to provide administrative leadership. Like Intel, we want to help upgrade those processors in your heads. Like WebCrawler, we want to help you find the information you need to go about your business. Like WhoWhere?!, we want to help you find the people and places you need to have a successful connection with Mathematical Sciences and Villanova in general. We want to spoil you like a guest but in the end make you feel like family. We hope it’s your pleasure and ours that you’re here. Welcome!

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How Do I Get My Pin Number?

Everything You Need to Know About Spring Registration

It’s the week after fall break and you know what that means. That’s right, it’s time to register for the spring semester! Many of you old dogs know the drill. However, for the freshmen and those of you that forgot, here is a recap of the registration process. The registration period starts Monday, October 31st and runs through Friday, November 9th. The seniors are the first to register. The juniors follow the seniors. The sophomores follow the juniors, and last but not least, the freshmen follow the sophomores. Sorry freshmen, but your day will come. You can’t register for anything without your PIN number, and only your advisor has that. Prior to your registration date, you must set up an appointment with your advisor. At this appointment, you will discuss course options for the spring semester. Therefore, please attend the meeting with some level of preparation in terms of the courses that you want to take. After your advisor makes sure that your proposed schedule will keep you on target to graduate (this would seem to be important), you will receive your PIN number. Once your scheduled registration time arrives, register for your classes on the web through NOVASIS. That’s it! Any questions? Ask your advisor!

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Where's Doug?

Find Dr. Doug Norton, the new chairperson of the Mathematical Sciences Department, amidst this mass of bearded men. Bonus points go to those who can correctly identify the other hairy faces.



Have You Been to the MLRC Lately?

The Mathematics Learning and Resource Center (MLRC) is a great place to go for a tutor, to study, to meet as a group, to get access to mathematical computing resources, or to kick back and relax! Is there anything that you can't do at the MLRC? I don't think so! Walk in tutorial service is available in the afternoon and evening sessions. The MLRC has a computer lab featuring 13 workstations, all equipped with Villanova mathematics course software, such as Maple, Minitab, SAS, and Excel. Don't forget to check out the Math Lounge for quiet study or relaxation!

MLRC and Math Lounge

- Where:** Old Falvey, 2nd Floor
(near the Writing Center)
- Hours:** Sunday 6:30 – 9:00 p.m.
Monday – Thursday 1:00– 5:00 p.m.
and 6:30 – 9:00 p.m.
- Phone:** 610-519-MLRC
- Voicemail:** 610-519-5193
- Web Address:** www.villanova.edu/mlrc

New Courses for Spring 2004!

- **MAT 4310** – Statistical Methods (Dr. Pigeon)
This course focuses on data displays and summarization. In addition, the class will study probability distributions, point and interval estimates, hypothesis testing, categorical data analysis, regression, and correlation.
- **MAT3305** – Topics in Analysis: Fourier Series (Dr. Gluchoff)
(This course can be used as the second analysis course or an elective)
This course deals with a kind of infinite series of functions, similar to the Taylor series, which arose first in the solution of heat flow problems but then became widely used in many scientific and engineering applications from analysis of sound to transmission of electronic signals. The series were also the source of many problems in pure mathematics, refining mathematicians' notions of continuity, differentiability, convergence, integrability, and the nature of sets of points. They form a topic central to analysis, but are rarely discussed from a purely mathematical point of view. We will define these series and prove various convergence theorems about them, touching on topics like convolutions, with its application to the smoothing of signals, the relation of the roughness of the signal to the magnitude of the Fourier coefficients, the mean square convergence theory, which involves a novel way of measuring the distance between functions (this material is standard background for physics and engineering applications). We will see some fractal-like functions defined using the series, and investigate unusual convergence behavior exhibited by the Gibbs phenomena, first noticed when these series were graphed using mechanical devices in the mid 19th century. The prerequisite is a good grasp of the first two semesters of Calculus, and the first semester of Advanced Calculus.
- **MAT5920** – Computational Molecular Biology (Dr. Styer)
Computational Molecular Biology is a writing enriched interdisciplinary honors course open to sophomores, juniors and seniors majoring in the sciences. There are no specific prerequisites; however, an interest in the subject and a willingness to work with others in solving open-ended problems are essential. The course will be directed toward students majoring in Computing Sciences, Biology, Mathematical Sciences, Comprehensive Science and Biochemistry who have interests in molecular genetics, macromolecular biochemistry, applied algorithmics, mathematical modeling, bioinformatics or biotechnology. A problem based learning approach will be employed in which teams, formed from students from different majors, will address problems posed by the instructors. Topics to be considered include restriction mapping, permutations of genes, sequence alignment, gene prediction, gene translation and site identifications. During class, instructors will present the problems and background information, and teams will report on progress and interact with other teams. Email will be used to enhance communication between class meetings.
- **MAT 5920** – Exploring Topics in Higher Mathematics with MAPLE V (Dr. Jantzen)
This is a computer laboratory course in which we try to have fun with MAPLE while seeing how we can address interesting questions in higher mathematics using its powerful features as a computer algebra system. No previous knowledge of MAPLE is needed and any difficulties with MAPLE coding will be overcome by consulting with the instructor to avoid student frustration. We will have a well-written book guide our way through this exploration. More information than you want can be found on this webpage:
<http://www.homepage.villanova.edu/robert.jantzen/courses/mat5920/>

Math Spotlight

Lorraine McGraw

Lorraine is the newest member of our Villanova math family. She has been working in the math office for six months already and she has settled into her position as secretary very well. She thoroughly enjoys working with the Math faculty and students. She joins us from the Human Resources department where she worked for the last five years.

Lorraine resides in Havertown, PA with her husband and her son. Marie O'Brien, her secretarial cohort and roommate in SAC 305, happens to be a longtime neighbor and friend. Lorraine's son Michael is a Villanova senior who is interested in pursuing a teaching career. All three members of the McGraw family are avid sports fans and they love nothing more than attending a Villanova basketball game or traveling to the U.S. Open in New York.

Lorraine's other interests include cooking, reading, traveling, and celebrating her birthday! Her favorite pastime is inviting the entire family over to try out new recipes. They always come back for more, so the recipe choices must be good ones!!!



Lorraine loves visitors, so stop by SAC 305 to see her and say hello!

2003 Fall Semester Dates to Remember

October 25-26	Homecoming
October 31	Undergraduate Registration Begins
October 31	Birthday of Karl Weierstrass
November 7	Undergraduate Registration Ends
November 12	Last Day for Authorized WX
November 25	Thanksgiving Recess Begins After Your Last Class
December 1	Classes Resume
December 6	Putnam Exam
December 11	Final Day of Classes
December 12	Reading Day
December 13	Birthday of George Polya
December 13-19	Final Exams

Important Reminders!!!

- Check out the updated web page for the Math Department located at <http://www.math.villanova.edu>.
- Check your Villanova e-mail for important math updates and information.
- Get started on your career search! Visit Career Services' web page at <http://www.careers.villanova.edu>.
- Don't forget to get your advisor code early. Spring registration is just around the corner.

The Sixty-Second Annual William Lowell Putnam Mathematical Competition

If it is the fall semester, that means its time for the annual Putnam Exam! The Putnam Exam is an annual mathematics competition involving undergraduate mathematics majors from all across the U.S. and Canada. Last year, Villanova only had two math majors take the exam. TWO! This year, we are looking to field a Villanova team! There are prizes for individual honors as well as for team honors. The Putnam Exam will be held on Saturday, December 6, 2003. A brief history of the Putnam Exam is given below. If you are interested in taking the Putnam Exam, please contact Dr. Feeman A.S.A.P.!!! He must register you for the competition before fall break. You can reach Dr. Feeman at extension 9-4693.

History of the Competition:

The competition began in 1938 and is designed to stimulate a healthful rivalry in mathematical studies in the colleges and universities of the United States and Canada. It exists because Mr. William Lowell Putnam had a profound conviction in the value of organized team competition in regular college studies. Mr. Putnam, a member of the Harvard class of 1882, wrote an article for the December 1921 issue of the Harvard Graduates' Magazine in which he described the merits of an intellectual intercollegiate competition. To establish such a competition, his widow, Elizabeth Lowell Putnam, in 1927 created a trust fund known as the William Lowell Putnam Intercollegiate Memorial Fund. The first competition supported by this fund was in the field of English and a few years later a second experimental competition was held, this time in mathematics between two institutions. It was not until after Mrs. Putnam's death in 1935 that the examination assumed its present form and was placed under the administration of the Mathematical Association of America.



Math Humor



A graduate student from Trinity
Computed the cube of infinity;
But it gave him the fidgets
To write down all those digits,
So he dropped math and took up divinity.

How do you prove in three steps that a sheet of paper is a lazy dog?

1. A sheet of paper is an ink-lined plane.
2. An inclined plane is a slope up.
3. A slow pup is a lazy dog.

Life is complex. It has real and imaginary components.

A team of engineers were required to measure the height of a flag pole. They only had a measuring tape, and were getting quite frustrated trying to keep the tape along the pole. It kept falling down, etc. A mathematician comes along, finds out their problem, and proceeds to remove the pole from the ground and measure it easily. When he leaves, one engineer says to the other: "Just like a mathematician! We need to know the height, and he gives us the length!"

Math COMICS

LAB by NICK D KIM



If you are interested in submitting an article to the SUM Times, please email the Math Department at lorraine.mcgraw@villanova.edu. Students who have studied abroad or participated in math-related internships are encouraged to submit articles for the next issue.

DO YOU KNOW WHAT I GET WHEN I DIVIDE MY CIRCUMFERENCE BY MY DIAMETER?



PUMPKIN Pi!



10-31 THAVES

<http://www.math.utah.edu/~cherk/mathjokes.html>

<http://www.oakland.edu/org/sam/mathpics.htm>