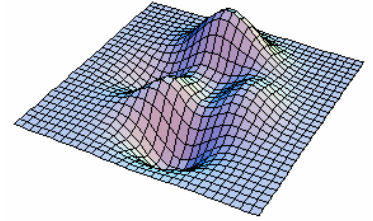
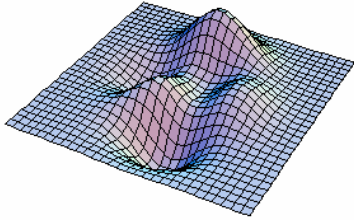


*Mathematics Department
Student Newsletter*



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Fall '00

WELCOME NEW FACULTY MEMBER

The Mathematics Department is welcoming a new faculty member this Fall. Here is an introduction in his own words:

Dr. David Weinreich: "About two thirds down the length of the Mississippi is Memphis, TN, where I just earned my doctorate, studying combinatorics and graph theory. It is nice to still be on the water here. I went to college at Emory University in Atlanta, where I did research in graph theory as an undergrad, so I'm excited to get students here involved in the field. Between those two educational experiences, I taught high school math outside of Washington, DC, where I also coached soccer, advised the newspaper, and co-led an environmental group. Don't let my southern education make you think I'm a southerner, as I grew up in the Miami and New York City suburbs. Despite my big city roots, I love the outdoors; bicycle riding, skiing and camping. My athletic activities include Aikido and ultimate (frisbee), and my other hobbies include cooking, music, reading, and travel."

TUTORS NEEDED

Enjoy helping other people with their math questions? Interested in making a little extra money? If you answered yes to these questions, contact Karry in the Math Department office (1020 Cowley Hall). Most of the math tutors from last year either graduated or transferred, so the Math Department is in need of some new tutors.

GUIDE FOR THE MATH MAJOR AVAILABLE

The "UW-La Crosse Guide for the Mathematics Major" is meant as a resource for current mathematics majors/minors or anyone considering majoring or minoring in mathematics. The guide is available in hard copy in the Mathematics Office – 1020 Cowley Hall and in the mathematics tutoring room – 102 Cowley. There is also an electronic version available on the web at our Departmental home page at www.uwlax.edu/SAH/mathematics.

The guide includes information on requirements for the various majors and minors, course descriptions and the course offering pattern, as well as information on activities on campus, scholarships and tutoring opportunities, internships and undergraduate research, and general career opportunities after graduation. We hope that you will find this a useful source of information on our programs and other activities.

MATH CLUB NEWS

The Math Club is a recognized student academic club that offers social and educational activities. Anyone interested in mathematics, computer science, or statistics is encouraged to become a member. Activities include, but are not limited to, interesting mathematical talks by invited speakers, math trivia contests, outdoor activities, picnics, potluck dinners and parties, trips to student mathematics conferences, and friendly sporting contests with other academic clubs. The invited talks are presented at a level appropriate for

undergraduate math majors. These talks cover topics in mathematics not ordinarily covered in regular courses, from pure mathematics to the best way to get a job after graduating. A typical get-together features snacks and drinks, and is attended by math students, their friends, and some math faculty. Membership and participation are very casual.

Dr. Jeff Boyle and Dr. Michelle Wagner are the faculty co-advisors of the club. The club is run almost entirely by students on a volunteer basis with elected student officers. The following students are the officers of the club for the 2000-2001 (who fills which offices of president, vice-president, secretary, and treasurer has not been decided yet).

- Nicole Jaeger
- Matthew Morris
- Matthew Wokasch

We still need one more individual for the remaining office, and of course other volunteers are always welcome to help with the club activities. Please see one of the faculty co-advisors, Dr. Jeff Boyle (1033 Cowley Hall) or Dr. Michelle Wagner (1015 Cowley Hall), if you would like to fill the remaining officer spot or be a volunteer.

The club is currently planning several fun and educational activities for this coming semester. Please let us know if you have ideas for speakers or activities. First on the agenda is the Orientation Session for incoming math/cs majors, which will be immediately followed by the Fall picnic.

**Orientation Session,
Thursday, September 14,
3:30 - 4:30**

Incoming mathematics, statistics, or computer science students are invited to attend an Orientation Session ("incoming" includes freshmen and transfer students). During this session you will have a chance to meet fellow math/cs majors, learn more about the programs offered in the Mathematics Department, get more information about the Math Club, and take a tour of the facilities used by the Math Department. Light snacks and drinks will be provided.

*Please sign up for this session in the
Math Department office, 1020 Cowley Hall.*

**Math Club Fall Picnic,
Thursday, September 14,
4:30 - 8:00**

The Math Club Fall picnic will be held at the Gun Club Shelter in Myrick Park. Myrick Park is located directly across La Crosse St. from campus, and the Gun Club Shelter is the smaller shelter at the north end of the park next to the zoo. We will be grilling burgers and brats, and other snacks and drinks will also be provided.

*Please sign up in the
Math Department office, 1020 Cowley Hall.*

Faculty members are kindly requested to donate a few dollars to go towards the purchase of food for the picnic (this donation is optional for students). This will be a great opportunity to meet other math students, meet some of the new and old faculty, and throw around a frisbee or a football, so please join us!

NEW MATH CLUB WEBSITE

To stay updated on the activities of the math club, check out their new webpage. You can get to it from the Mathematics Department web page at

<http://perth.uwlax.edu/mathematics/>

or you can get there directly using the address

<http://perth.uwlax.edu/mathematics/personal/wagner/mclub.html>

STUDENT ACTIVITIES

Some of your fellow students had some interesting experiences over the summer. Here's a little about what they were up to:

Kelly Hasler - Kelly presented the results from her work with Dr. Hoar during the summer of 1999 at a meeting held at Argonne National Laboratory last Fall, at the National Conference for Undergraduate Research, held in Missoula, Montana, at the State Chapter Meeting of the MAA in Superior Wisconsin and at the Third Annual Celebration of Undergraduate Research and Creativity Day at La Crosse. She also submitted a paper to the Undergraduate Research Journal titled *An Adaptive Stencil Linear Deviation Method for Wave Equations*.

Audrey Bindl - Audrey conducted a year long research project involving "Optimal Travel Paths for Satellites" funded by an undergraduate research grant (\$600). She presented her findings at the Third Annual Celebration of Undergraduate Research and Creativity Day at La Crosse and submitted a paper titled *Determining an Optimal Travel Path* to the Undergraduate Research Journal.

Mike Kristopeit - Mike received a Fellowship of \$2500 from the College of Science and Allied Health to study "An Expert System to Emulate Remedial Mathematics Instruction". Mike's Expert System will be used to create a remedial math web site that will provide help to those who need it. The site will contain textbook content and will also randomly generate problems that it will then correct. The "expert system" will tailor the response to fit the type of errors committed and track student progress.

Matt Wokasch - Matt worked with Dr. Wagner on graph pebbling, a topic from Graph Theory. They will be writing up their results this semester and hope to submit the paper to a journal.

Nicholas Roland - Nick worked with Dr. Kelly comparing how both Fourier series and wavelets can represent functions. Nick presented his work at the National Conference on Undergraduate Research at the University of Montana. The paper he wrote on this material, "Fourier and Wavelet Representations of Functions", was submitted to the Undergraduate Research Journal and published on the Web in June and is located at the address <http://math.furman.edu/~mwoodard/fuejum/content/volume6.html>

FACULTY NEWS

Drs. **Elfessi** and **O'Brien** received a grant from the College of Science and Allied Health for the purpose of investigating the withdrawal rate in MTH 205-Elementary Statistics. The end result

will be recommendations that advisors can use in placing students into MTH 205 so as to improve a student's chance of completing the course. A logistic equation will also be developed to estimate the probability of an individual student withdrawing from MTH 205. Twenty years ago the national withdrawal rate in introductory statistics was around 40% and the UWL rate was around 25%. Today the UWL rate is around 15% and we wish to reduce it even further.

Last spring Drs. **Hoar** and **Sobota** and two mathematics faculty from UW- Stout and UW-Oshkosh received grants to write a series of web-based tutorials in elementary and intermediate algebra. Work on these has begun over the summer and some will be available on the web shortly. The focus of these tutorials are the lower level courses MTH 050, 051, 150 and 205. There may be some grant money available for students who would like to help write some tutorials in their favorite algebra topics or who have the computer expertise to work on this project. (This would look very good on the resume of an education student). See Dr. Hoar or Dr. Sobota for details.

Dr. **LeDocq** and her husband Mike welcomed a new member to their family last spring. Benjamin Michael LeDocq was born on April 10, 2000.

400 LEVEL COURSE OFFERINGS FOR SPRING 2001

In order to help you begin to plan your schedule for Spring 2001, we thought it might be helpful to give you some information on the schedule for next semester.

The 400 level courses being offered next semester include:

- MTH 408 – Advanced Calculus II
- MTH 413 – Topics in Linear Algebra
- MTH 445 – General Linear Models
- MTH 461 – Mathematical Physics
- MTH 480 – Studies in Applied Math

CHALLENGING PROBLEMS COMPETITION

The Math Department's challenging problem competition continues this year. The competition is just for fun, with the intention of stimulating interest in mathematics. The competition is open to all students at all levels and all majors. In recent years, the top problem solvers were awarded small prizes for their efforts.

Congratulations to all of the successful problem solvers from last year's competition. A total of 36 students cracked at least one of the challenging problems. Physics students submitted 23 correct solutions during the year while Math majors submitted 16 correct solutions. No other majors were in double digits. Top individual solvers were junior Physics major **John Sullivan** and freshman triple major **Victor Feltes**. For their efforts each was awarded classic popular mathematical books at the spring Math Department's Awards Banquet. Following the ceremony the award winners were showered with requests for their autographs from adoring fans along with the crunch of newspaper and TV interviews.

Here's how it works for those of you who are new to it. A challenging problem will be posted every two weeks on the Math Club bulletin board outside the tutor room (102 Cowley Hall). After a problem has been up for two weeks, all correct solvers will be acknowledged on the bulletin board. A correct solution will also be posted on the bulletin board along with the next challenging problem. If no correct solutions are received in the first two weeks, the problem will remain open until a correct solution is submitted. Students can pick up a copy of the current problem from the envelope on the Math Club bulletin board.

The first problem of the semester will be out soon. Solutions can be submitted to Jeff Boyle, 1033 Cowley Hall.