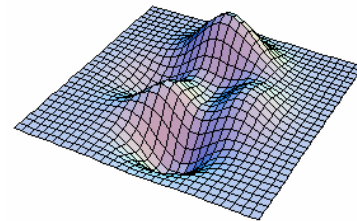
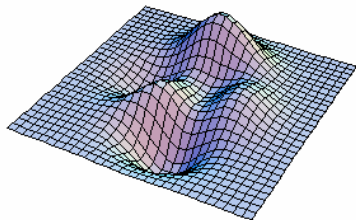


University of Wisconsin-La Crosse
Mathematics Department
Student Newsletter



Vol. 8 No. 2

Spring '04

MATHEMATICS DEPARTMENT RECEPTION

All Mathematics Majors are invited to the 7th annual Mathematics Department Student Reception.

Wednesday, April 21st 4:00-6:00p.m.
RM 125 Cleary Center

Sign up sheets will be up in April. All students should sign up in the Math Department Office (1020 Cowley Hall) by April 16th. If you are a senior, please let us know so that we can have a certificate ready for you. At the reception, we will be announcing the Outstanding Junior and Senior Mathematics Student awards for this year. Past winners are listed in the display case across from the Mathematics and Statistics Research Center (102 Cowley Hall).

ATTENTION ALL MATH MAJORS PLANNING TO GRADUATE IN MAY:

Please stop by Bruce Riley's office (1034 Cowley) to notify the Department of your plans. Also, make sure you fill out an "Intent to Graduate" form from the Records and Registration Office in 117 Graff Main Hall as soon as possible.

RESEARCH CENTER OPEN FOR BUSINESS

The Mathematics and Statistics Research Center (102 Cowley Hall) is now open and available for Mathematics Majors use. Last fall, Room 102 was being redesigned to be a resource and study room for mathematics majors (a place for mathematics students to work on projects, study, and meet with other students and faculty to talk about mathematics/statistics). While Room 102 remains a work in progress, it is now available for student use. Mathematics majors can gain access (unlock the door) to Room 102 by using their student identification card in the card reader security device at the door.

Room 102 is secured because computing equipment and resource materials have been installed in the room. Please check that the door locks when you leave and the room is no longer in use, and leave the room as tidy as you find it!

Enjoy using Room 102 and let Karry (in the Mathematics Department Office - 1020 Cowley Hall) know if you encounter any problems.

SEARCH-AND-SCREENS NOW IN PROGRESS

The Mathematics Department will be trying to hire three new faculty members this spring. We have already been successful at hiring someone in the area of Mathematics Education (look for more information in our Fall 2004 newsletter). In addition we are seeking one position in statistics and one in mathematics.

The search committees have been screening the applications, and interviews for the positions should be occurring shortly. At each interview, the candidate will give a talk for students and faculty. The dates and times for these talks will be announced as soon as possible.

Please consider attending these talks and giving us your feedback on the candidates.

"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 has gone through a major revision and should be even more useful than before. The guide is available in hard copy in the Mathematics Office - 1020 Cowley Hall. There is also an electronic version available on at <http://www.uwlax.edu/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.

ACTIVE FALL SEMESTER FOR THE MATH CLUB

The Math Club enjoyed a very active and enjoyable Fall Semester. Join us for our fun and informative meetings this semester.

For further information or just to keep up with what the club is doing, you can take a look at the club's web page at:
<http://www.uwlax.edu/mathematics/mathclub.html>.

JOIN US FOR THE NEW "MATH COFFEES"

"Math Coffees" are an opportunity for students and faculty to share coffee, cookies, and conversation. The Coffees are held in the Mathematics and Statistics Research Center, Cowley 102. The coffee and cookies frequently serve as a fifteen- minute starter to a thirty-minute mathematics talk. The titles and topic of the talks are posted on weekly flyers. If you're not sure if a talk is for you, come for the coffee and treats anyway!

Highlights from last semester's eleven Coffees include senior math major Nicole Pribnow's presentation on planar graphs and Jason Wampfler's ('00 UW-L graduate) presentation on life as a data analyst at Mayo Clinic.

The math department hopes to hire two new faculty members this year so this semester's schedule will start with talks from several candidates. We're also hoping to hear from seniors Sarah Parsens and Heidi Heiden on their independent studies this semester. Check the Math Coffee web page for a schedule of talks.

STUDENTS SOLVE CHALLENGING PROBLEMS

A total of *thirty-one* students solved at least one of the challenging problems this past Fall Semester in the Challenging Problem

Competition sponsored by the Math Department. Several students solved multiple problems.

THE CHALLENGE CONTINUES

The challenging problem competition continues this semester with a new problem posted every two weeks. Problems are posted on the Math Club bulletin board outside the Mathematics and Statistics Research Center, 102 Cowley Hall. A free copy of the problem can be taken from the envelope on the bulletin board. After each problem has been posted for two weeks, a correct solution to the problem and the names of all correct solvers will be posted on the board.

Also, all current and past problems (and their solvers) are available at: <http://www.uwlax.edu/mathematics/POTM>. Or go to <http://uwlax.edu/mathematics/> and follow the link to the Problem of the Week. The first problem for the Spring Semester is:

The Egg-Drop Experiment

Suppose we wish to know which windows in a 36-story building are safe to drop eggs from, and which will cause the eggs to break on landing. We make a few assumptions

- An egg that survives a fall can be used again.
- A broken egg must be discarded
- The effect of a fall is the same for all eggs.
- If an egg breaks when dropped, then it would break if dropped from a higher window.
- If an egg survives a fall, then it would survive a shorter fall.
- It is not ruled out that the first-floor windows break eggs, nor is it ruled out that the 36th-floor windows do not cause an egg to break.

If only one egg is available and we wish to be sure of obtaining the right result, the experiment can be carried out in only one way. Drop the egg from the first-floor window: If it survives, drop it from the second-floor window. Continue upward until it breaks. In the worst case, this method might require 36 droppings. Suppose two eggs are available. What is the least number of egg-droppings that is guaranteed to work in all cases?

To receive credit you must not only determine the number of droppings, but also explain the method of testing. Submit solutions to Dr. Boyle, 1033 Cowley Hall, by noon Friday, February 6. Include with your solution your name, year in school and your major(s).

UNDERGRADUATE RESEARCH FUNDING OPPORTUNITIES

Funding for each of the following programs is given on a competitive basis to promote and support meaningful undergraduate research activities.

1. SAH Undergraduate Research Fellowships

The College of Science and Allied Health Undergraduate Research Fellowship Program continues this year. Interested students should enlist a faculty sponsor and get a copy of the policies and application form. Application forms and fellowship policies can be downloaded at: http://www.uwlax.edu/sah/html/undergrad_research_financial_support.htm#fellowship. Proposals are due in the college office (105 Graff Main Hall) by 4:00 p.m. on **February 23rd, 2004**.

2. Undergraduate Research Grants

The UW-L Undergraduate Research Grant Competition also continues this year. Interested students should enlist a faculty sponsor

and pick up application forms and guidelines from the Provost/Vice Chancellor's office in **145 Graff Main Hall**. The guidelines are also available online at <http://www.uwlax.edu/urc/grant-guidelines.html>. Proposals are due on **March 24th, 2004**. Papers for projects that have been funded are submitted for publication in the UW-L Journal of Undergraduate Research.

UNDERGRADUATE RESEARCH DAY

The Seventh Annual Celebration of Undergraduate Research and Creativity will be held on April 23rd, 2004. Student researchers are encouraged to present results of their research activities either in the form of a poster or oral presentation. For more information, visit the webpage at <http://www.uwlax.edu/urc/index.html>.

SCHOLARSHIPS

It's that time of year again, applications for UW-L Foundation scholarships will be due soon. A number of endowment funds have been established by alumni, faculty, parents, students, businesses and other organizations. Annual earnings from the investment of these permanent funds provide scholarships, awards and grants to students. Further information is available from the Advancement and External Relations Office, 215 Main Hall or at <http://www.foundation.uwlax.edu/sch.html>. **Deadline for application is March 1** for the following fall term. Many of these scholarships are general in nature, open to any student based on academic achievement. Some scholarships are awarded on a financial need basis, while others are reserved for students in particular areas of study. The following scholarships should be of particular interest to mathematics students:

AAUW Scholarship in Math and Science (junior or senior math or science majors)

John Gruden Memorial Scholarship (junior computer science or math major)

Eric McIlraith Scholarship in Mathematics (math majors only)

Leo and Gertrude Schnur Scholarship in Mathematics (math majors only)

Oliver A. Stoffer Scholarship (junior or senior math, biology, chemistry, geography, or physics majors)

Strzelczyk Award in Science & Allied Health (seniors in College of Science & Allied Health)

Arnold Temte Mathematics Honors Scholarship (junior or senior math majors only)

300 and 400 LEVEL COURSE OFFERINGS FOR FALL 2004 and SPRING 2005

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

The courses above MTH 310 being offered for the Fall 2004 semester include:

MTH 311 – Number Theory

MTH 317 – Graph Theory

MTH 353 – Differential Equations

MTH 407 – Analysis I

MTH 411 – Abstract Algebra I

MTH 445 – Correlation and Regression Analysis

The courses above MTH 310 being offered for the Spring 2005 semester include:

MTH 320 – History of Mathematics

MTH 331 – Introduction to Modern Geometry

MTH 371 – Introduction to Numerical Methods

MTH 408 – Analysis II

MTH 413 – Topics in Linear Algebra

MTH 446 – Analysis of Variance and Design of

Experiments

MTH 448 – Operations Research
MTH 461 – Mathematical Physics