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Please submit your excellent ideas for a Math Dept. logo and newsletter title to kdunks@ucsd.edu. The lucky winner's logo and title will appear on all future issues of this publication.

The Mathematics GAZETTE

Spring 2000
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University of California, San Diego
Department of Mathematics
9500 Gilman Drive
La Jolla, California 92093-0112

First Issue Unfolds

Kelly Dunks



Welcome to the first issue of The Mathematics Gazette. The purpose of this publication is to share news about the Mathematics Department with faculty, staff, alumni, students, friends, and all those generally curious about the UCSD Mathematics Department. We plan to publish in spring and fall.

This summer the department will also be updating our website at www.math.ucsd.edu. Please visit it and forward any feedback to our computing support staff at: mathhelp@math.ucsd.edu.

Please feel free to send any submissions, comments, or suggestions for future issues of this publication to Kelly Dunks at kdunks@ucsd.edu. ❖

The 1999 Algebraic Thinking Institute at UCSD

Jeff Rabin

The first Algebraic Thinking Institute at UCSD, a professional development workshop for teachers of Algebra I in middle and high school, took place in the Calculus Lab during four weeks in July 1999. Twenty-nine teachers from San Diego County schools took part in the Institute, which was funded by grants from the UC Office of the President and UCSD's Center for Research in Educational Equity, Assessment, and Teaching Excellence (CREATE). The grants were awarded to Professors Alfred Manaster and Jeff Rabin, and Randall Souviney, Director of the

Teacher Education Program. Professor Rabin co-directed the Institute with Elizabeth Brookins of El Camino High School, assisted by Diego Gutierrez of Crawford High School and Carol Treglio of Scripps Ranch High School.

Participating teachers were selected from about 90 applicants, giving preference to those with limited mathematics teaching experience, limited college mathematics background, teaching at low-performing and/or UCSD Partnership schools, and applying as part of a school team. Teachers were paid a stipend for participating, and course credit for the Institute (Math 310) was made available through UCSD Extension.

The primary goal of the Institute was to deepen teachers' mathematical content knowledge in key conceptual areas underlying Algebra I, especially proportional reasoning, the transition from arithmetic computation to the language and logic of algebra, and linear and quadratic functions and their graphs. A secondary goal was to expand their understanding of mathematics teaching by explicitly discussing pedagogical issues and by modeling a problem-based teaching strategy. A typical day ran from 9 a.m. to 3 p.m. with emphasis on content in the morning and pedagogy in the afternoon. In the morning, teachers solved problems in groups and then presented their solutions.

Usually, four or five distinct solutions would be discussed. Content and pedagogy issues emerged from the examination of and techniques, generality, solutions from the viewpoints of

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Does Anyone Need \$7 Million?

Kelly Dunks



If you can solve seven of the most challenging problems ever to face mathematicians, then you could potentially be \$7 million richer.

The Clay Institute, located in Cambridge, MA will award \$1 million for each of the Seven Millennium Problems that is solved.

If anyone would like to learn more about the Seven Millennium Prize Problems, log on to:

<http://www.claymath.org> ❖

(Sources: UnionTribune, and Associated Press).

High School Math Contest

Nancy Hartley

For the past 32 years, the High School Honors Mathematics contest has been held at UCSD during the spring quarter. Each year it attracts about 100 students from 20-30 schools invited. It is co-sponsored by UCSD, the Greater San Diego Mathematics Council, and, for the past two years, by HNC Software founded by Dr. Robert Hecht-Nielson and Todd Guschow.

HNC's sponsorship of the event has provided a tremendous boost to visibility and promotion of the contest since HNC provides scholarship awards of \$1,000 to the top five students, graphing calculators for team and other winners and certificates to all of the participants. This year with HNC's sponsorship, the participation by local high schools was the highest ever with 21 local high schools entered. ❖

Algebraic Thinking Institute Cont.

justification, ideas clarity, graphical versus symbolic representations, and so forth.

Sample Problem: A farmer had some rabbits and some cages. When he put 2 rabbits in each cage, there were rabbits left over after filling all cages. When he put 4 rabbits in each cage, there were 2 empty cages left over. What happened when he put 3 rabbits in each cage? (Assume the number of rabbits remains constant!) Can this be solved without finding the numbers of rabbits and cages?

Teachers will return to UCSD for four follow-up sessions this year. Fifteen will be invited to return for this summer's Institute, along with thirty new teachers. Faculty or graduate students interested in becoming involved should contact Professors Manaster or Rabin. ❖

Math Alumni Called Upon for Ideas

Kimberly Eaton



On June 9, 2000 the Math Advising Office mailed 2,100 letters to Mathematics Department alumni. The letter asked alumni to contribute curriculum ideas and comments to the Mathematics Department, encouraged alumni to join the Tritons for Mathematics Alumni Association, and provided alumni with information about recent activities that have taken place. Our response from the first mailing three years ago was overwhelmingly positive, and alumni have been enthusiastic about providing internship opportunities and presenting at our career seminars for our majors. For more information please contact Math Advising Officer Kimberly Eaton at (keaton@ucsd.edu). ❖

Math Club Has a Logo

Kimberly Eaton



After many competitive submissions for the Math Club Logo contest, the winning logo was submitted by Scott Chacon, a current UCSD Computing and the Arts major.

You'll see the logo in the near future on the Math Club web site. This site is currently being developed by a committee of students under the direction of the Math Advising Officer. A link will be provided to Math staff and faculty members by the end of June.

Career Seminar:

In October, the Math Club will be hosting the Fall 2000 Career Seminar for Math Majors. The Math Club will also host a Career Seminar for math majors during Spring 2001 term. Students, faculty, staff and alumni are welcome to attend. ❖

1999-2000 TA Awards

Kelly Dunks



This year's Math Department TA Awards were given to Bernhard Lamel and Mike Mastropietro, with an honorable mention going to Jeremy Martin. ❖

Attention Math/Applied Science Majors

Kimberly Eaton

If you are a Math-Applied Science major, you must have an updated Preliminary Degree Check (PDC) on file with the Mathematics Department. Failure to have a completed, updated PDC on file will hinder your chances to graduate. Contact the Math Advising Office at (858) 534-6009 . ❖

New Math Course Scheduled for Fall 2000

Scott Rollans

The Math Department will be offering Math 152 (Applicable Mathematics and Computing) for the first time in Fall 2000. This course is intended to give students experience in applying theory to real world applications such as Internet and wireless communication problems. The course will incorporate informal talks by guest speakers from industry and independent projects by students. It was designed by Professor Fan Chung Graham. ❖

New Scholarship Developed

Kelly Dunks

UCSD has been awarded an NSF sponsored Computer Science, Engineering, and Mathematics Scholarship (CSEMS). UCSD will receive \$220,000 over the next two years to pay for 40 awards which will be made to majors in those subjects. Recipients will receive \$2,500 a year for a total of \$5,000 over two academic years.

Math Majors and Enrollment Statistics

Scott Rollans and Kelly Dunks

The number of majors in mathematics has grown about 10% from last year with a total of 387 students registered in majors in seven programs in Spring 2000 (see below).

Overall, undergraduate enrollment has been increasing. Since 1996-97, enrollment in math courses has increased by about 15%.

Major	Spring 2000
Applied Math - Scientific Programming	15
Math/Secondary Education	24
Mathematics	84
Math/Computer Science	173
Joint Major – Math and Economics	17
Math – Applied Science	37
Applied Mathematics	37
TOTAL	387

The scholarship is intended to help increase the number of members of low-income ethnic minorities, women and people with disabilities graduating in math, science, and technology. For additional information about the CSEMS Program please contact Tammy Parsons at (858) 534 -8254 or by email at tparsons@ucsd.edu. ❖

2000-2001 UCSD Academic and Administrative Calendar

Fall 2000

Fall Qtr. Begins	09/18
Instruction Begins	09/21
Veterans Day Holiday	11/10
Thanksgiving Holiday	11/23-24
Instruction Ends	12/01
Final Exams	12/04-09
Fall Quarter Ends	12/09
Christmas Holiday	12/25-26
New Year Holiday	01/01-02

Winter 2001

Winter Qtr Begins	01/05
Instruction Begins	01/08
MLK Junior Holiday	01/15
Pres. Day Holiday	02/19
Instruction Ends	03/16
Final Exams	03/19-24
Winter Qtr. Ends	03/24
Academic and Admin. Holiday	03/26

Spring 2001

Spring Qtr. Begins	03/30
Instruction Begins	04/02
Memorial Day Obser.	05/28
Instruction Ends	06/08
Final Exams	06/11-15
Spring Qtr. Ends	06/15

NOTE: For up-to-date Academic and Administrative Calendar information please visit:

<http://registrar.ucsd.edu>

Ties With Computer
Science and Engineering

Scott Rollans

The Math Department has recently been approved to cross-reference Math 176 with CSE100.

By cross-referencing these courses, majors within both departments can take either course to fulfill requirements in their major.

The cross-referenced courses are:

Math 15A	CSE 20
Math 15B	CSE 21
Math 166	CSE 105
Math 176	CSE 100
Math 188	CSE 101

99-00 Mathematics Ph.D. and M.A. Recipients

Lois Stewart

Ph.D. Recipient	Advisor(s)
Conant, James	Teichner, Peter
Kojcinovic, Slobodan	Baouendi, M. Salah Rothschild, Linda P.
Knight, Robert Dean	Fillmore, Jay P.
Kronewitter, F. Dell	Helton, J. William
Lamel, Bernhard R.	Baouendi, M. Salah Rothschild, Linda P.
Mastropietro, Michael	Stark, Harold
Minei, Marvin	Terras, Audrey A.
Wagner, Jennifer D.	Rommel, Jeffrey B.
Willenbring, Jeb F.	Wallach, Nolan R.

M.A. Degrees

Brannick, James J.

Couperus, Peter

Stockley, Hilary Anne ❖

Conference Held for Ronald Getoor

Kelly Dunks

A weekend conference at UCSD was held on June 10-11, 2000 in honor of Ron Getoor, who is retiring at the end of the 1999-2000 academic year. The schedule included:

Kai Lai Chung (Stanford University): *RANDOM TIME – “A Brief History”*

Joseph Glover (University of Florida): *Can the Sum of Two Potential Kernals be a Potential Kernal? The Saga Continues.*

Patrick Fitzsimmons (UCSD): *Functions of a Symmetric Markov Process* ❖

(Source: Information submitted by Ruth Williams)

