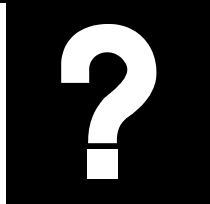


GMATYC News

A Publication of the Georgia Mathematical Association of Two-Year Colleges

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GPC to Offer Mathematics Course for Elementary Educators

Mary Ellen Davis

Georgia Perimeter College, Clarkston

"Quite a few people have an aversion to mathematics and find it difficult and daunting—something to be avoided if at all possible. Many who aspire to be elementary or middle school teachers also share this view. It is not surprising that school teachers with this perception of mathematics soon impart similar attitudes to their students. In order to change this pervasive negative view of mathematics, we must begin by producing teachers who see mathematics in a different, more favorable light."

Calvin T. Long and Duane W. DeTemple
Mathematical Reasoning for Elementary Teachers

In response to poor mathematics scores on standardized tests, states across the country are strengthening mathematics requirements for elementary education majors. Georgia is no exception to this phenomenon. Certification requirements for many elementary education programs have been increased to 15 to 18 hours of mathematics, with 9 to 12 of those hours at the 3000 level or above. These are courses in mathematics, not mathematics education.

As Long and DeTemple point out, however, more mathematics alone is not sufficient for remedying underperformance in mathematics in the United States. Our prospective teachers must learn mathematics in a setting that gives them new experiences in exploring and constructing their own mathematical knowledge, and provides

them both the skill and the confidence to be enthusiastic teachers of mathematics.

For the past several years, the mathematics discipline at Georgia Perimeter College has worked to develop a mathematics course designed specifically for Early Childhood Education majors. The course, entitled "Principles of Mathematics," was approved by the GPC Senate last April, and will be offered in the spring on several GPC campuses. Adding such a course as an elective in the Teacher Education program will give these students not only additional mathematics experience, but more importantly, the conceptual framework they will need to teach mathematics at the pre-kindergarten to grade 5 level.

Principles of Mathematics is neither an arithmetic course, nor a course in teaching meth-

ods. It is a course that examines the theory that underlies the increasingly varied mathematics now taught in elementary school, and includes such topics as problem solving, sets, functions, reasoning, real numbers, descriptive statistics, elementary number theory, and measurement. The course has been developed to align with the current standards in mathematics education, such as those developed by NCTM and AMATYC.

These standards relate not only to content, but also to pedagogy. An important goal of Principles of Mathematics is for instructors to model appropriate teaching techniques. Using activities and manipulatives, investigations and projects, discussions and technology, students will (hopefully) discard any "one method, one answer" ideas they may have, and come to regard multiple approaches as the rule, rather than the exception. Then they might indeed see the beauty and excitement which led all of us to be teachers of mathematics—and be encouraged to communicate this to their very own students.



President's Corner

Gloria Hitchcock, GMATYC President

Georgia Perimeter College, Rockdale

Time passes so quickly, and with its passing, we expect change. As I pondered what I should write in this, my final column, I began to read a few past issues of the "GMATYC News." The following words, written by Bill Bompert in the Fall 1991 News, struck me. "It's been a hard year for those of us in state supported colleges, and it is going to get worse before it gets better. . . . But there are several things I'm betting on, and I only bet on sure things. One is that we will survive. We will not be overjoyed, and we will not be able to do some things which we know would benefit our students, but we will continue to give competent instruction. Secondly, our state and our organization have some outstanding, dedicated teachers who will continue to 'stand and deliver' in spite of some personal sacrifices. Third, things will get better. In fact, it's possible that this hardship will cause us to examine ourselves, emphasize our strengths, and come out better in the long run."

GMATYC had 65 outstanding teachers when Bill wrote those words; today we have more than double that number. GMATYC has been growing in numbers over the past twelve years, and I challenge each member to help it to

grow in influence during the next twelve. At the end of his column, Bill bemoaned the lack of contributions to the newsletter and made a plea for submissions. I echo that plea. I believe that this publication should not simply give "news" but should give each of you an opportunity to share with your colleagues the innovative and exceptional instruction that you give to your students. Many of you give presenta-

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—Gloria Hitchcock, quoting Bill Bompert

tions or attend at least one of our excellent Georgia conferences each year. Please consider writing about your presentation or describing something that inspired you at a session that you attended. Others may be working on important curriculum changes in mathematics programs in the state. We need to share such information with our

members. During times of crisis, success stories give encouragement and inspiration to everyone. Well, we have a financial crisis in this state, and your success story is what we need to hear.

Before ending, I want to thank many people for helping me "get the job done." I have had the pleasure of working with a very devoted board. Thank you, Kim, Donna, Diane, Tom, Calandra, Sandee and Sallie, for your ideas and your support. Special thanks goes to Tom Wheeler who has done an monumental job in recording the membership and keeping all our various lists accurate, to Calandra Davis who has given our website a great look and has raised this newsletter to a new level, and to Alice Pierce who now coordinates our on-line voting. I have appreciated the diligence of all those who served on the Membership and Nominating Committees during my tenure. Finally, a huge thank you is due to those who graciously answered my pleas and agreed to write articles for the GMATYC News (especially to our Southeast Section VP Rob Kimball who contributed to each one).

The University System of Georgia Mathematics Consortium

Kim Robinson, GMATYC Liaison to GCTM

Clayton College and State University

During Spring, 2003, the University System of Georgia Office launched an initiative to increase student learning of P-12 students in science and in mathematics. A major component of this initiative was the development of a course sequence in mathematics and mathematics education for current elementary and middle grades teachers.

The USG Office asked the Deans of Education and Arts and Sciences to provide faculty members in mathemat-

ics and mathematics education who are both interested and committed to working on this project. These 40+ faculty comprised the USG Mathematics Consortium, and they collaborated to develop a course sequence in mathematics which would enable teachers who complete the sequence (and with approval from the Professional Standards Commission) to have an endorsement in mathematics added to their existing teaching certificates. GMATYC members who served on

the Math Consortium are: Wayne Bosche, Mary Ellen Davis, Greg Harrell, Linda Nash, Melanie Robertson, and Kim Robinson.

The Mathematics Consortium functioned as a unit, but broke into 4 subcommittees, each responsible for creating an individual course: Numbers and Operations, Understanding Algebra, Understanding Geometry, and Data Analysis.

Continued on page 3

The Importance of Being an AMATYC Member

Donna Saye, Georgia Southern University

As a mathematics educator in a post-secondary school in the state of Georgia and a member of GMATYC, are you also a member of AMATYC? The American Mathematical Association of Two-Year Colleges (AMATYC) is a unique organization that offers each of its members a *national* forum for addressing the improvement of the teaching of mathematics to students during those first two critical years of college. Membership in AMATYC offers a number of benefits. First of all, the names and addresses of all members of AMATYC are included in the CML (Combined Membership List) of the AMS (American Mathematical Society), MAA (Mathematical Association of America), SIAM (Society for Industrial and Applied Mathematics), AMATYC (American Mathematical Association of Two-Year Colleges), AWM (Association for Women in Mathematics), and CMS (Canadian Mathematical Society).

The purpose of AMATYC is to increase awareness of the importance of mathematics education to faculty and students nationwide and in Canada. AMATYC's vision includes the following: a) graduation of mathematically, scientifically, and technologically prepared students, b) leadership in continued development and implementation of professional standards

for mathematics education, c) assistance in professional development of mathematics faculty, and d) maintenance of a network for communication between faculty, professional organizations, governing agencies, industry, and the public. In its effort to fulfill the goals included in the vision, AMATYC provides numerous benefits for its members, including the



following: academic and service committees for membership participation; a newsletter, the *AMATYC News*, and a journal, the *AMATYC Review*; an annual conference each year for the professional development of its members; and a website for all members maintained at www.amatyc.org.

One of my favorite AMATYC benefits is the opportunity to attend the national con-

ference each year. I have attended the AMATYC national conference many times, and I have found the sessions to be valuable sources of useful teaching techniques; the featured speakers to be very entertaining as well as informative on mathematics education; and the hosts for the conference to be very helpful in providing participants with exciting and informative tours of the city chosen as the conference location. At the national conference, I also enjoy the opportunity it affords for spending time with colleagues from other colleges and universities. This year's national AMATYC conference will be held in Salt Lake City, Utah, November 13 - 16. The featured speakers will include Joseph A. Gallian, an excellent mathematics professor from the University of Minnesota, who will speak about the mathematics of "Breaking Drivers' License Codes." I have heard him speak on this topic before, at an MAA State Dinner in Macon, Georgia, and I think you will find his presentation to be fascinating.

As President-Elect of GMATYC, I would like to encourage each of you to become a member of AMATYC, and then, I urge each of you to go with us to the national AMATYC Conference in Salt Lake City in November.

The University of Georgia Mathematics Consortium *(continued from page 2)*

For consistency, each course includes the following items: a purpose statement unique to the course that is followed by statements that are common to all four courses; the NCTM Standards as the foundation for Learning Outcomes; links to other disciplines (such as science, literature, music, art

etc.); a writing component (such as a journal of mathematical problems); at least one measurement objective; examples and samples of suggested activities and focus (such as teacher notes, notebooks, sample lessons, etc.); and a suggested timetable that covers all the content.

As of June 30, 2003, the chairs of the 4 sub-committees, along with the BOR representative, agreed that the Numbers and Operations course will be taught for the first time in Summer 2004.



AMATYC Student Mathematics League Winners

GMATYC congratulates Joseph Goodman of Georgia Perimeter College who placed first in the Individual Standings of the Southeast Region in the AMATYC Student Mathematics League, 2002-2003. In May, GMATYC sent Joseph a cash award and a plaque commending his excellent performance.

GMATYC also wishes to commend Georgia Perimeter College for placing first in the Team Standings of the Southeast Region.



A Message from Your Regional AMATYC VP

Rob Kimball, Wake Tech Community College

Fall is always a very busy time for two-year college math faculty. You've begun a new term, which usually means you are teaching a new course, teaching out of a new textbook, trying out new technology, and experimenting with different pedagogy. You are working very hard to assess what works and what does not in an effort to get students to learn a subject that most would rather not take. Isn't that a shame! That question has to be addressed as we seek to improve student outcomes and supply the nation with at least quantitatively literate citizens.

There are many studies that show that student attitudes about mathematics begin to decline in about the sixth grade. But let's not go there. Let's just deal with what we can do something about – the mathematics in the first two years of college.

There are at least four initiatives every two-year mathematics faculty member should know.

AMATYC supported by NSF and in conjunction with the MAA, queried faculty from other disciplines as well as practitioners from industry to see what

skills they expected in our graduates. With the input of mathematics faculty who attended a national conference, the result was a publication that all AMATYC members should have received: *A VISION: Mathematics for the Emerging Technologies*. If you don't have that report, the searchable and interactive version is on the web at <http://www.waketech.edu/~rlkimbal/CRAFTY/webvision.pdf>. The recommendations are useful to all who teach mathematics.

With support coming from many areas, AMATYC is heavily involved in the dialogue concerning teacher preparation. The data clearly shows that two-year mathematics faculty teach the mathematics to many, if not most, of the future elementary and middle school teachers. As we teach, we need to realize that we are setting an example for future teachers. More information about this initiative can be found at: <http://amatyc.dtc.edu>.

AMATYC is updating the 1995 *CROSSROADS*. The task is involving a great many professionals. The first product, a written document, will be

available in Salt Lake City for review comments. Future products may include videos of teaching strategies, examples of appropriate activities, assessment ideas, and more. If you can't be in SLC, then keep up with the progress using the link on the AMATYC home page: <http://www.AMATYC.org>.

The effort to reform College Algebra (not pre calculus) can probably do as much to improve what students think about mathematics as anything. The students who plan to major in something that is not math intensive should enjoy studying the math that will be most useful to them – as citizens or in their profession. That probably is NOT algebra. A couple of good websites to examine are: <http://www.oswego.edu/nsf-precalc/Herriott-College Alg Reform.pdf> and <http://matc.siam.org/workshop/CurRef.cfm>.

Even though you are busy, I hope many of you can attend the conference in Salt Lake City. The program is outstanding, the hotel is splendid, and the company will be fantastic.



Don't forget!

Valdosta State University will host its ninth annual Mathematics Technology Conference on Friday, February 27, 2004. Plans for the conference are underway and a call for proposals will be made near the end of the semester. The conference web page is <http://www.valdosta.edu/~dobyd/MTC>.

GMATYC Congratulates...

- **Marsha Faircloth** of Southwest Georgia Technical College for being awarded the Rick Perkins Award for Excellence in Technical Education from Southwest Georgia Technical College. As a result, she was chosen to attend the Lighthouse Conference in Columbus, Georgia.
- **Ellen Fisher** of Georgia Military College for her promotion to Professor of Mathematics.
- **Kelly Weems Pennington** for her promotion to Associate Professor of Mathematics.
- **Hope Toole** for her presentation at the 2003 Georgia Virtual Technical College Summit.



If you have had an accomplishment or received an award that you would like to share with GMATYC, please send the information to Calandra Davis at

17th Annual Georgia Perimeter College Mathematics Conference

Marjorie Lewkowicz, Georgia Perimeter College, Dunwoody

The Georgia Perimeter College Mathematics Conference is coming to the Lawrenceville Campus! Please mark your calendars for Friday and Saturday, February 6-7, 2004.

Dr. Fred Peskoff will present the opening address. Dr. Peskoff is an Associate Professor of Mathematics at Borough of Manhattan Community College, City University of New York. His work, primarily on math anxiety, has been published by the National Center for the Study of Adult Learning and Literacy, Harvard Graduate School of Education.

Dr. Peskoff has received funding for the fourth consecutive year by the Professional Staff Congress, City University of New York to continue his research on math anxiety coping strategies utilized by college students. He has also been invited to write the section on Affect Manage-

ment for AMATYC's forthcoming Crossroads Revisited document.

Dr. Larry Lesser will motivate and entertain us at dinner on Friday evening. Dr. Lesser has already published 23 math lyrics (all but 3 in international/national journals) as well as the first juried comprehensive articles on using songs in math class. Dr. Lesser brings his acoustic guitar to classrooms and workshops to perform raps and musical parodies of contemporary popular music, creatively adapting those lyrics towards math topics such as symmetry, infinity, math history, problem solving, and graphing functions, as well as even more worldly applications such as whether to play the lottery or adjust the Census.

A variety of parallel sessions and workshops will be available for conference participants. If you are interested in pre-

senting a parallel session, please email your proposal to Dr. Jessica Craig at jcraig@gpc.edu.

Your proposal must include the name of presenter(s), college or organization, email address, daytime telephone, mailing address, proposed title, an abstract of 50 words or less, and equipment needed.

Proposals must be received by November 21, 2003.

For more information, please contact the conference chair, Margie Lewkowicz, at mlewkowi@gpc.edu. If you would like to be put on our mailing list, please contact Susan White the conference registrar, at swhite1@gpc.edu.

For information and updates, please consult the conference website <http://www.gpc.edu/~gpcmathc>. We look forward to seeing you at the conference!

The 10th Annual Gainesville College Math Tournament

Jerry Graveman, Gainesville College

The Gainesville College Math Tournament provides a friendly atmosphere for students from two-year colleges (and four-year Colleges with two-year math programs) to compete for prizes. The competition features both individual and team events involving problems from calculus, trigonometry, geometry, statistics, and algebra. Prizes for the individual competition are \$400 for first place, \$200 for second place, \$100 for third place.

This year's tournament will be held on Saturday, April 3, 2004, 8:30am to ~ 4:00pm. The registration fee is \$10 per student. Please see the following website for more details: <http://www.gc.peachnet.edu/math/tournament/>

9th Annual Math Tournament at Gainesville College Winners

On Saturday, April 12, 2003 the Gainesville College Math and Computer Science Department hosted the 9th Annual Math Tournament. Students from Catawba Valley Community College, Durham Technical College, Georgia Perimeter College at Clarkston and Dunwoody, Hiwassee College and Gainesville College participated in the competition.

In the morning individual competition, Jun Jian Hou from Dur-

ham Technical Community College won first place of \$400, Quochuy Huynh from Georgia Perimeter College at Dunwoody won second place of \$200 and Joshua Vander Wall from Durham Technical Community placed third winning \$100. The first place trophy in the afternoon team competition went to the team from Durham Tech, the second place trophy went to a Gainesville College team and third place went to a team from Georgia Perimeter College.



Wanted: Nominations for GMATYC Officers and Committees


Betty Benardo, Nominating Committee Chair
Georgia Perimeter College, Dunwoody

The Nominating Committee is now accepting nominations for the 2004 election. The committee is seeking nominations from an array of colleges and regions of Georgia.

Nominees are needed for Secretary, Treasurer and two positions on the Nominating Committee. Please obtain the nominee's agreement before submitting his/her name. Also, you may self-nominate. For job descriptions, go to the GMATYC website at www.gmatyc.org. Nominations must be received by November 26, 2003. The election will be held in January, 2004. Get involved!

Send nominations to any member of the Nominating Committee: Betty Benardo bbenardo@gpc.edu, Don Brown, dbrown@mail.maconstate.edu, Greg Harrell, gharrell@valdosta.edu or Emily Whaley, whaley@gpc.edu.

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Visit us at www.gmatyc.org

- **GCTM** * Oct 16-18, 2003 * Rock Eagle, Eatonton, GA
- **ICTCM** * Oct 30-Nov 2, 2003 * Chicago
- **AMS** (Fall SE Section Meeting) * Oct 24-25, 2003 * Chapel Hill
- **AMATYC** * Nov. 13-16, 2003 * Salt Lake City
- **MAA-AMS** Joint Meeting * Jan 7-10, 2004 * Phoenix
- **GPC Mathematics Conference** * Feb 6-7, 2004 * Dunwoody, GA
- **Valdosta State Mathematics & Technology Conference** * Feb 27, 2004 * Valdosta, GA
- **Tv3** * Mar 12-14, 2004 * New Orleans
- **AMS** (Spring SE Section Meeting) * Mar 12-13, 2004 * Tallahassee, FL