TexMATYC News

Texas Mathematical Association of Two-Year Colleges Spring 2012

President's Message

Greetings Colleagues,

On behalf of your TexMATYC executive board, I thank you for your ongoing support of the Texas Mathematical Association of Two-Year Colleges.

It is always amazing how quickly the fall semester of each year passes, and before we know it, the spring semester arrives! Whether you have attended the TexMATYC annual conference in the past, or this year is your first participation, I welcome you to the largest meeting of college educators, which will be held in Frisco, Texas from March 1-3, 2012. TexMATYC's executive board, in conjunction with the TCCTA Mathematics chair Sharon Sledge, have put together a three-day program to be presented by mathematicians from Texas Colleges and universities and colleges from abroad.

Please visit the TexMATYC website, www.texmatyc.org to find necessary conference logistics regarding registration, lodging, and up-to-date programs.

I look forward to see you in Frisco, Texas!

Thank you for being a valued member of your Texas Mathematical Association of Two-Year Colleges.

Raja Khoury, Collin College
TexMATYC President

TCCTA/TEXMATYC Conference

March 1-3, 2012 in **Frisco, Texas**

Program:

Thursday, 1:00 – 4:00 p.m.

"Reduce Time to Degree: Combining Developmental and Academic Courses"
Speaker: *Selina Vasquez Mireles*, Professor of Mathematics, Texas State University

"STATWAY: Combining Developmental with Statistics"
Speaker: *Mary Parker*, Professor of Mathematics, Austin Community College

Contents:

Thursday, 4:00 - 6:00 p.m.
Texas Mathematical Association of Two-Year Colleges Board Meeting
Presiding: *Raja Khoury,* President, TexMATYC

Friday, 9:00 – 9:30 a.m.
TCCTA Business Meeting
Presiding: *Sharon Sledge,* President-Elect, TexMATYC

Friday, 9:30 – 10:20 a.m.
"What's the State Up To? Why Should I Care?"
Speakers: *Suzanne Morales-Vale*, Director of Developmental Education and Adult Basic Education, Texas Higher Education Coordinating Board; and *Cynthia Martinez*, Chair of the Department of Mathematics, Temple College

Friday, 10:30 – 11:20 a.m.
Round Table Discussion: "Issues in Mathematics: HELP! How am I Impacted?"

Friday, 2:30 – 4:00 p.m.
"Student Success Equals Student Learning: Improve Student Learning and Motivation in Introductory Mathematics Courses"
Speaker: *Sue Sabrio*, Lecturer & Coordinator of Introductory Mathematics, Texas A&M University-Kingsville

"Finding Student Success in a Summer Bridge Program"
Speaker: *Denise Lujan*, Director of Developmental Mathematics, University of Texas at El Paso

"Cut Costs with Combination Courses"
Speaker: *Amy Young*, Mathematics Instructor, Navarro College

Friday, 4:00 – 4:30 p.m.
TexMATYC and TCCTA response to TPiPM request
Facilitating: *Raja Khoury,* President, TexMATYC

Saturday, 9:00 – 9:15 am
TexMATYC Meeting Report
Presiding: *Raja Khoury,* President, TexMATYC

Saturday, 9:15 – 10:15 a.m.
"Integrating Inquiry Based Learning Projects"
Speaker: *Cynthia Young*, Professor of Mathematics, University of Central Florida

Saturday, 10:30 – 11:20 a.m.
"Math and Music"
Speaker: *Chip Galloway*, Professor of Mathematics, Collin College

EMBASSY SUITES HOTELS®

More information at www.texMATYC.org or www.TCCTA.org

From the AMATYC VP

By Kathryn (Kate) Kozak, AMATYC Vice President for the Southwest Region

I want to introduce myself to you. I am Kathryn (Kate) Kozak, and I am the new AMATYC Vice President for the Southwest Region. I am so excited about holding this office, because of what a great region the Southwest Region is. This region has already hosted a regional meeting once and is now proposing hosting another one. Most regional meetings are hosted by one affiliate, but in the Southwest Region, all of the affiliates worked together on the last one, and are planning on working together on the next one. Thank you for all the work that each of you do for your affiliate and this region.

I hope that all of you are members of the American Mathematical Association of Two-Year colleges (AMATYC), and if you are not, that you consider becoming one! I would like to make you aware of some of the activities that you may participate in as an AMATYC member. The Annual AMATYC Conference, a series of webinars and the AMATYC committees offer many opportunities for you to advance your mathematical knowledge and network with your peers across the United States and Canada. In addition, AMATYC members receive the *AMATYC News* and *MathAMATYC Educator* publications during the year.

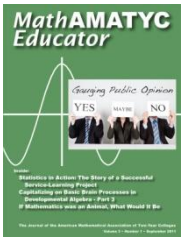
If possible, please join me in Jacksonville, Florida for the **38th Annual AMATYC Conference** to be held November 8-11. More information is available on the AMATYC website, www.amatyc.org. The theme of this year's conference is *River-of-Knowledge, Ocean-of-Dreams* and is sure to offer many opportunities for professional development and networking. This year AMATYC has offered a scholarship to each affiliate to offer financial support to a faculty member who has not yet attended an AMATYC conference. I hope to see each of you there.

AMATYC has begun a series of **free webinars** for its members. The first webinar was offered in February 2011 and was entitled *Unleash the Power of Your Tablet PC* presented by AMATYC member Fred Feldon. Other webinars on topics of Action Research, Sequence Convergence, Statway and Quantway, Mathematics of Video Games, Wolfram Alpha, The Common Core, Teaching Developmental Mathematics, and Making Calculus Come Alive have been offered and captured for future viewing. If you missed any of these webinars, you can find them on YouTube by going to:

www.amatyc.org/publications/webinars/index.html and clicking on the appropriate link. Watch your email for future attractions!

AMATYC has 9 committees: Developmental Mathematics, Division/Department Issues, Innovative Teaching and Learning, Mathematics for AAS Programs, Statistics, Mathematics Intensive/College Mathematics, Placement/Assessment, Teacher Preparation, and Research in mathematics Education for Two-Year Colleges. Although the committees meet annually in person at the AMATYC conference, they do most of their work during the year through emails, websites, and Google groups. If one of these areas is of

particular interest to you, read more about the committees at www.amatyc.org/committees/index.htm. Contact information for each committee chair is listed on the website.



AMATYC offered **two publications** to its members: the *MathAMATYC Educator* and the *AMATYC News*. The *MathAMATYC Educator* is a referred publication of AMATYC. Abstracts of the articles in past issues of the *MathAMATYC Educator* can be found at www.amatyc.org/publications/mathamatyceducator/index.html. The AMATYC News contains articles on teaching, activities used in the classroom, results of grants and hints to help mathematics faculty spend their professional time more productively. An archive of past newsletter articles can be found at www.amatyc.org/publications/AMATYC-News/index.htm. AMATYC welcomes articles for each of these publications. If you have an article of interest, please be sure to submit it following guidelines available on the web.

If you are already a member of AMATYC, you are well aware of what AMATYC has to offer. If you are not yet a member, I encourage you to visit the website at www.amatyc.org/ and become a member. Please let me know if there is anything I can do for you. I hope to see you in Jacksonville!

Kathryn (Kate) Kozak

AMATYC Vice President for the Southwest Region

Kathryn.Kozak@COCONINO.EDU

State-Mandated Learning Outcomes

By John Burghduff, Lone Star College Cy-Fair

The Texas Higher Education Coordinating Board (THECB) has long maintained a listing of common courses that may be offered by community colleges statewide, the Academic Course Guide Manual (ACGM). The ACGM includes the state common course numbering system, sets approved credit hours and contact hours and includes a brief description of each approved course. Starting in fall of 2012, however, the ACGM will also include state-mandated course descriptions and learning outcomes which must be followed statewide. The stated goal is to improve transferability.

These more proscribed course descriptions will be introduced a few courses at a time. A statewide committee offered draft proposals for several courses in August, 2011 and set aside a time for public comment. The final versions of these documents have now been approved and will soon be posted to the THECB website. There are no substantive changes from the August drafts. The new, detailed descriptions are copied below for your reference. During the public comment period, the mathematics curriculum teams in the Lone Star College System and the Houston Community College System raised concerns with the THECB about the proposed learning outcomes for Precalculus, which are basically a subset of the union of the outcomes for College Algebra and Trigonometry. We communicated with the THECB that the outcomes as proposed seemed to envision Precalculus as only a review of the other two courses, and we shared that the learning outcomes in our two systems focused

also on other rigorous content designed to prepare students for Calculus. We know that there will be a diversity of opinions and points of views across the community colleges in Texas.

Since the learning outcomes for all of these classes are now set, it is important for all community college math departments to examine these outcomes and their impact on their classes. It is permissible for colleges to add to the list of outcomes for these courses as long as the state approved list is covered. The discussion and subsequent decisions at each college will be very important.

MATH 1314 College Algebra (3 SCH version) √
MATH 1414 College Algebra (4 SCH version)

In-depth study and applications of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices. Additional topics such as sequences, series, probability, and conics may be included.

Learning Outcomes

Upon successful completion of this course, students will:

1. Demonstrate and apply knowledge of properties of functions, including domain and range, operations, compositions and inverses.
2. Recognize and apply polynomial, rational, radical, exponential and logarithmic functions and solve related equations.
3. Apply graphing techniques.
4. Evaluate all roots of higher degree polynomial and rational functions.
5. Recognize, solve and apply systems of linear equations using matrices.

MATH 2312 Pre-Calculus Math (3 SCH version) √

MATH 2412 Pre-Calculus Math (4 SCH version)

In-depth, combined study of algebra, trigonometry, and other topics for calculus readiness.

Learning Outcomes

Upon successful completion of this course, students will:

1. Demonstrate and apply knowledge of properties of functions.
2. Recognize and apply algebraic and transcendental functions and solve related equations.
3. Apply graphing techniques to algebraic and transcendental functions.
4. Compute the values of trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radians.
5. Prove trigonometric identities.
6. Solve right and oblique triangles.

MATH 1316 Plane Trigonometry √

In-depth study and applications of trigonometry including definitions, identities, inverse functions, solutions of equations, graphing, and solving triangles. Additional topics such as vectors, polar coordinates and parametric equations may be included.

Learning Outcomes

Upon successful completion of this course, students will:

1. Compute the values of trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radians.
2. Graph trigonometric functions and their transformations.

3. Prove trigonometric identities.
4. Solve trigonometric equations.
5. Solve right and oblique triangles.
6. Use the concepts of trigonometry to solve applications.

MATH 1342 Elementary Statistical Methods (3 SCH version, freshman level) √
MATH 1442 Elementary Statistical Methods (4 SCH version, freshman level)
MATH 2342 Elementary Statistical Methods (3 SCH version, sophomore level)
MATH 2442 Elementary Statistical Methods (4 SCH version, sophomore level)

Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Use of appropriate technology is recommended.

Learning Outcomes

Upon successful completion of this course, students will:

1. Explain the use of data collection and statistics as tools to reach reasonable conclusions.
2. Recognize, examine and interpret the basic principles of describing and presenting data.
3. Compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinatorics.
4. Explain the role of probability in statistics.
5. Examine, analyze and compare various sampling distributions for both discrete and continuous random variables.
6. Describe and compute confidence intervals.
7. Solve linear regression and correlation problems.
8. Perform hypothesis testing using statistical methods.

Joke of the Month

Q: What is the sine of 60?

A: Gray hair and aching joints!

Got News?

If you know of any exciting news in mathematics, have it published in your TexMATYC newsletter. Submit articles to Heather Gamber at heather.a.gamber@lonestar.edu.

Visit us at www.texmatyc.org