

NCMATYC

NEWS

Winter 2006



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The President's Message

by Chuckie Hairston

Happy New Year! There are a lot of wonderful things going on in NCMATYC and AMATYC this year!

NCMATYC is electing new officers this year. The slate of candidates is set, with the new leadership being announced March 9-10 in Raleigh. Use this opportunity to vote for the candidates of your choice.

Speaking of March 9-10, our annual spring conference will be hosted by Wake Tech in Raleigh. Rob Kimball and his team are busy making plans for our visit. Our keynote speaker will be Dr. Bill Thomas of the University of Toledo; his talk will be centered on using the *NCTM Standards* and the *AMATYC Beyond Crossroads* in the classroom. Those of us who have heard Dr. Thomas speak at AMATYC and elsewhere know that we are in for a delightful talk.

In addition to Dr. Thomas, plans are underway for a variety of informative sessions. This conference is shaping up to be a good one.

Another item that is in the works at NCMATYC is a group of constitutional changes. See the article about these changes later in this newsletter. Whichever way you vote, your input is important.

Continues on Page 2

The NCMATYC NEWS is an official publication of the North Carolina Mathematics Association of Two-Year Colleges. Articles for publication and comments should be submitted electronically to helen.kolman@cpcc.edu. The deadline for the Spring 2005 issue is April 7, 2006.

It's amazing the energy that comes from such an exhausting weekend!

The other ACCESS fellows and I arrived at the recent AMATYC conference in San Diego on Wednesday afternoon. (If you are not familiar with the ACCESS program, it is a joint professional development program by MAA and AMATYC, funded by the ExxonMobil Foundation, for new full-time two-year college mathematics faculty.) We jumped right in with a session where we compared and shared our biggest surprises when we started this job. We found universal consensus about the joys and triumphs, disappointments, and challenges at our schools and among our students, from Florida to Oregon, Massachusetts to California, Louisiana to Alaska.

We were housed together, each sharing a room with another ACCESS fellow, and attended both ACCESS and AMATYC sessions throughout the conference. Thus we learned quite a lot from each other and shared more tips, tricks, and ideas than I can even remember. From our invited speakers, we learned tools for integrating learning research into our classroom, for engaging classes and making them responsible for their own learning, for teaching from a distance, for studying our

own students and their success, and for examining course content and creating lessons based on that content. We learned about animals at the AMATYC sessions by Keith Devlin who told us how many animals "do" mathematics and Millie Johnson who enraptured the audience with her talk about soldiering bees. We had opportunities to meet personally with current AMATYC and MAA leaders and to learn about the workings of AMATYC at the breakfast business meetings.

And I continue to learn from the experience of last weekend. Throughout this week, I have watched the difference in my classrooms and in my students as I come in with a renewed energy and bursting with ideas. We have rearranged furniture to foster discussion. My students were mathematicians as we counted Fibonacci's rabbits. And they are responding and giving back with increased energy, enthusiasm, and a much improved outlook on math class.

I look forward to growing as an ACCESS fellow through this next year. With our email listserv and group projects, attending MAA Section meetings, and culminating with another weekend at the AMATYC conference in Cincinnati next year, I expect the ideas remain fresh, practical, and fruitful.

President's Message cont'd.

NCMATYC has a new webmaster. Sean Brain of IBM as graciously volunteered to take the reins from Matt Sherrard, who has moved to South Carolina. A big thanks to Matt for all his hard work in setting up and maintaining the NCMATYC site. Matt and Sean are working as a team to make the transition a smooth one.

AMATYC has some exciting activities going on, too. Those who missed the conference in San Diego missed an opportunity for a wide range of session topics and for visiting with other educators from across the country. People who have ever attended the AMATYC conference are always eager to return the next year. With the upcoming conference in Cincinnati, let's all plan to attend. This year, the Florida affiliate had more conference attendees than NC did. I would like to challenge you to beat Florida next year!

The big event at the Cincinnati conference will be the formal unveiling of AMATYC's *Beyond Crossroads*. Many people have spent countless hours working to update the *Crossroads* document. The final draft is available at www.amatyc.org/Crossroads/CROSSROADS/index.htm. This document is very interesting reading and challenges those of us in the mathematics classroom to make some changes for the betterment of our students' educations.

On a personal note, I hope that 2006 brings each of you joy, peace, and the fulfillment of dreams.

Articles From the AMATYC Annual Conference

November 10-13, 2005 - San Diego, California

Conference Impressions

By: *Laura Tucker* *Central Piedmont Community College*

I attended numerous interesting sessions at this year's AMATYC conference. As a first-time attendee, I was impressed by the variety and number of sessions offered. At Frank Wilson's "When Am I Ever Going to Use This?: Engaging the Skeptical Student" session, my favorite idea was having study group leaders. In Frank's classes he offers to let each student who scores at least 90% on the first exam be a study group leader. The leader is responsible for holding a 1 hour study session each week throughout the semester. Each student who attends gets extra credit points and if the study group leader maintains an average of at least 90%, he/she is exempt from the final exam. I am going to try this idea in my MAT070 classes next semester.

Another fascinating idea came from Robin Rufatto's "Learner-Centered Assessment" session. In her liberal arts math class, she has 400 points worth of Mandatory Assignments (tests) and 200 points worth of Elective Assignments. The 200 elective assignment points come from a cafeteria of about 300 points worth of choices. The choices include individual project, quizzes, writing projects, applet exercises, learning journal entries, homework, and attendance. It is completely up to the student to decide how to go about earning his points from the choices presented. Robin is fortunate to have a grader to help her with all the paperwork this method naturally produces.

Finally, I was very excited about Patrick J. Bibby's presentation on "Conducting a Problem of the Week Contest by Email". He has compiled quite an impressive list of challenging problems (somewhat similar to the Student Math League problems) from sources such as The Contest Book (books I – VI). Bibby e-mails out one problem per week to all students who have registered for the contest. All of the problems have a numeric answer and the participants submit only their final answer. After the deadline for submission, he e-mails a detailed solution to all participants. At his school (Miami-Dade CC), all students of precalculus level and above are invited to register for the contest. The contest runs for 13 out of the 16 weeks in the semester. At the end of the contest, the top 10 participants are awarded gift certificates (ranging in value from \$25 to \$100) funded by Miami-Dade. I am hoping to start a similar contest at CPCC next fall.



What I wish I had known when I Started: Tools for Teaching Online

By: *Deborah S. Benton*

Teaching a hybrid course for the first time, I looked for any help I could get at AMATYC. When I saw the title to Claire's workshop, "What I wish I had known when I Started: Tools for Teaching Online", I immediately signed up. She had many great tips for teaching online.

Claire e-mails her students a week before class starts. Their first assignment is to read the syllabus. She has redone her syllabus for her on-line course. Everything she could say in class she now has typed in the syllabus. All due dates are clearly stated, phone numbers are given for students to call if they have problems with Blackboard, and a list of symbols is given that students need to be sure they can read.

Continued on Page 6

“Enriching Pre-Calculus with an Eye Towards Calculus”

Presented by Jean Horn and Toni Robertson Northern Virginia CC, Woodbridge, VA
 Summary by Sharon Welker Wake Technical CC

Not getting fooled by your calculator” is the point of one of the worksheets shared by Jean Horn and Toni Robertson at the AMATYC conference. They shared a set of worksheets that they give students to explicitly connect precalculus concepts to upcoming calculus ideas. Most instructors make such connections within the context of their classes, especially with the ideas of slope and difference quotients leading to instantaneous rates of change. The presenters extend this pedagogical approach by assigning homework worksheets that give students the experience of making the connections for themselves. The worksheets include relating distance formula to arc length, trig identities to common integrands, and tangent lines to circles. Their first worksheet helps students think carefully about domain and range issues and experience the need to explore the results they obtain when graphing on the calculator.

Consider the following example, based on the presenters’ handout.

I. Students graph $y = |x|$ and state that the basic shape of the graph is a V-shape.

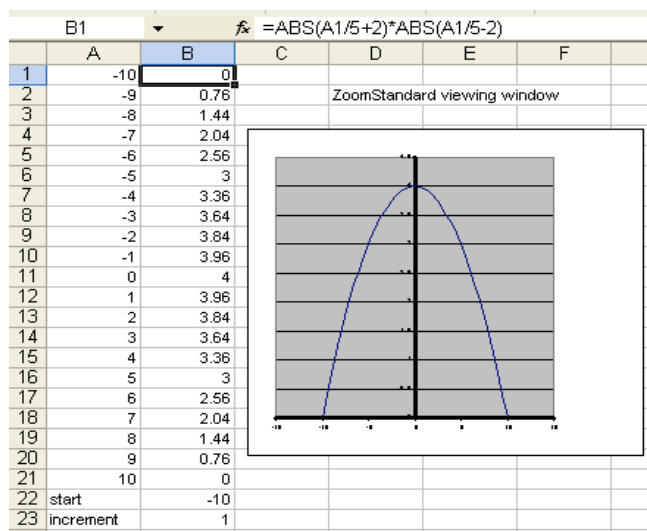


Figure 1: $y = \left| \frac{x}{5} + 2 \right| \left| \frac{x}{5} - 2 \right|$

II. Graph $y = \left| \frac{x}{5} + 2 \right| * \left| \frac{x}{5} - 2 \right|$ in the standard viewing window. Record all intercepts, and state the domain and range. Next, graph the function in ZoomSquare and ZoomFit. Do any of the answers for intercepts, domain and range need to be revised? (See Figure 1.)

III. Repeat the process. Graph $y = |x + 10| - |x| - |10|$ in the standard viewing window (and yes, the last absolute value command is redundant, but do all our students know this?). Record all intercepts, and state the domain and range. Next, graph the function in ZoomSquare and ZoomFit. Use the calculator’s table feature to reinforce the domain and range values. Do any of the answers for intercepts, domain and range need to be revised? (See Figure 2.)

IV. Students can be asked to write about their results or discuss them in class.

Many faculty in NC who teach MAT 171/172/175 already have texts, worksheets, labs, presentations, or group problems they use to connect algebra and trigonometry topics to calculus. I appreciated seeing how the presenters of this AMATYC session designed enrichment activities to help students better cope with the rigors of calculus

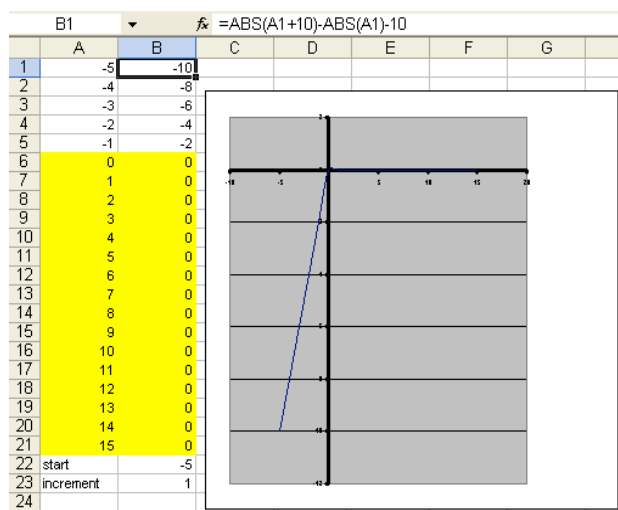


Figure 2: $y = |x + 10| - |x| - 10$

“Support for New Faculty from the Department and Institution”

Presented by Brad Chin West Valley College, Saratoga, CA

Summary by Mary Pearce Wake Technical CC

New math faculty face many challenges at two-year colleges and need the help of the department and institution in their first year of teaching. Brad Chin, with input from Constance Elko from Austin Community College, Austin, TX, presented a comprehensive list of needs of new faculty from the perspective of the department chair.

First and most important is the need for connections. New faculty should be encouraged to communicate with more experienced faculty on a regular basis. Members of the department must make an effort to welcome new faculty and be respectful of their input into decisions. Assigning a supportive mentor that is not involved in the faculty evaluation process is key to meeting new faculty needs.

In addition, new faculty need help understanding their new work environment. This includes the procedures, politics, and expectations of the institution. To help prepare for the classroom, it is important to convey information about the student body, the courses offered, and the technology used. An early class observation can be helpful to the development of the instructor.

Finally Chin and Elko prepared the list (slightly edited) below of messages that we as mentors need new faculty to hear.

1. Teaching is a much harder career than most new faculty expect.
2. Teaching is truly a rewarding career.
3. Teaching is much more time-consuming than most new faculty expect.
4. Great teachers never reach a point where they do not work on improving their teaching and their learning of mathematics.
5. Feeling overwhelmed is normal when all courses, students, the department, and the institution are new to you.
6. No two institutions are alike.
7. The first time you teach a course it is likely you will have to do the most work. YOU should learn a lot the first time you teach a course.
8. RELAX! Be flexible, be professional, listen, and respect everyone.
9. You're not alone.

This list is also a good one for all faculty to hear.

Sharpen Your Skills at This Year's NCMATYC Conference! ...Local Information by Rob Kimball



The 2006 NCMATYC Conference will be in Raleigh at Wake TCC. School will be in session, and parking will be a challenge for those who arrive after 9:00 a.m. Please use Parking Lot L as can be found on the Campus Map.

For overnight Lodging, a large block of rooms has been reserved at the Wingate Inn in Garner. Ask for the special NCMATYC rate if you book by February 15, 2006. The hotel, along with others, is located where HWY 401 and US 70 split in Garner, about two miles south of I-40 and about six miles north of the campus.

Complete information about lodging and other local information can be found at <http://www.waketech.edu/~rlkimbal/2006ncmatyc.htm>.

Tools for Teaching Online

Continued from Page

One of the hardest things about a hybrid course is keeping the students engaged. Claire has used the discussion board to help with this problem. After each lecture, a set of questions is posted. Students are expected to answer the questions for 10% of their grade. A discussion question is posted weekly. This counts as another 10% of their grade. Students must reply twice during the week to this question. She gives them examples of replies she will not accept. Their replies must be posted two days before class, so students can not wait until the last minute to reply. Claire also takes part in the discussion board.

For group projects, a discussion board is set up for each group. They must correspond with each other through the discussion board and not e-mail. She checks this regularly to be sure everyone is participating and they are on the right track.

I wish I had known all these tools before teaching my first on-line course. A different syllabus and grading system is necessary for hybrid and on-line courses than seated class. I plan to post questions from each lecture next semester to be sure every student is reading and understanding the notes. Participation on the discussion board will also be incorporated in their grade.



News from the Central Region

Cathy Johnson of Alamance CC is on the Advisory Committee for the 2006 Instructor's Conference in Greensboro. She asks everyone to consider presenting at the Instructor's conference, which is hoping to increase the number of math sessions at this meeting. If you are interested contact Cathy for more information

Raymond Griffith of South Piedmont CC is working on delivering a statistics course from one campus to another via the information highway. The course is scheduled to be offered in spring 2006.

Last fall Durham Tech welcomed Angela Fisher to their math faculty. Angela had worked previously as an adjunct at DTCC before taking some time off to have her children. Angela is a graduate of N.C. State, where she was a North Carolina Teaching Fellow, and in 1989 she was the North Carolina Azalea Festival Princess.



NCMATYC Website Gets New Coordinator and New Look by Chuckie Hairston

For several years, Matt Sherrard worked tirelessly to set up and run the NCMATYC website. Now that he is living in South Carolina, Sean Brain has agreed to assume Matt's responsibilities for the site. Together, they are making the transition and, in the process, a few changes in the structure. Part of the change will be that the homepage will have a crisp new look thanks to Andy Hairston. Observe the progress by going to www.ncmatyc.com.

EMPT is a program you will find in many states. The Early Math Placement Test (EMPT) program is designed to provide a “wake up” call to high school students planning to attend a university or college. In North Carolina, the NC EMPT is supported by the UNC Office of the President and administered by a staff at ECU. The Program Director is Dr. Robert L Bernhardt and the Program Manager is Mrs. Ellen L Hilgoe.

In 2004-2005, nearly 44,000 students from public and non-public high schools across the state participated. Every participant gets a letter explaining the results based on the student’s indicated major and post secondary institution. Dr. Molly Broad, president of the UNC system, recently said “It’s increasingly important to get a college education in order to get a good job or to even keep a good job. The world has changed. Mathematical skills can often be the gatekeeper to college campuses and the original mission of the NC EMPT Program is as worthy as ever: to provide high school students with a reality check of readiness for college-level mathematics.”

Edith Lang and I serve on the NC EMPT Advisory Committee. It is important to know, that if a student selects a NC CC as an option for post secondary work, the response is tailored both to the student’s intended major and to the math courses we offer. You can find out more online at <http://www.ncempt.org/>.

Here are a few of the questions missed most frequently last year.

Percent of students answering incorrectly: 75%

1. If $f(x) = x^2$, then $f(x + a) =$

- | | |
|-----------------------|-----------------|
| (A) $x^3 + x^2 a$ | (B) $x^2 + a^2$ |
| (C) $x^2 + a$ | (D) $2x$ |
| (E) $x^2 + 2xa + a^2$ | |

Percent of students answering incorrectly: 70%

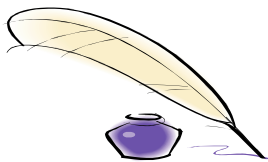
2. One of the solutions of the equation $x^2 + 2x = -10$ is

- | | |
|---------------|--------------|
| (A) $3i$ | (B) $6i$ |
| (C) $1 + 3i$ | (D) $1 - 3i$ |
| (E) $-1 + 3i$ | |

Percent of students answering incorrectly: 67%

3. An equation of the line passing through $(-5, 5)$ and having a slope $\frac{6}{7}$ is

- | | |
|---------------------|--------------------|
| (A) $6x + 7y = -5$ | (B) $6x + 7y = 5$ |
| (C) $6x - 7y = -65$ | (D) $6x - 7y = -5$ |
| (E) $6x - 7y = 65$ | |



A Note from Your Editor

by Helen Kolman Central Piedmont CC

Phew! I am about to send out the second newsletter under my tenure as editor.

Thank you to Rob Kimball for his continued contributions and suggestions.

Thank you to all contributors – particularly the faculty from across the state who attended the AMATYC conference in San Diego and reported on their experiences to all of us who were unable to go. The enthusiasm generated by the sessions is transmitted by the articles.

I’ll see you in Raleigh in March and I will be looking for your articles for the next edition of the newsletter in my email – deadline- April 7th. (helen.kolman@cpcc.edu)

Proposed Constitutional Changes by *Chuckie Hairston*

The Board is proposing several constitutional changes to accommodate the expanding role of the Secretary and to bring the Constitution in line with what has already been taking place for a number of years.

The big change is that of splitting the office of Secretary into two separate offices, Recording Secretary and Membership Secretary. The reasoning behind this separation is twofold. First, the job of keeping up with membership requires a substantial amount of time for a voluntary position. Second, the skill sets required for recording minutes and for handling membership are entirely different. The downside is that creating another officer will cost NCMATYC approximately \$100-\$150 per year, depending on whether the fall board meeting can be held in conjunction with the NCCCS conference or must be held separately. Several AMATYC affiliates whose size is comparable to NCMATYC's have made this split or have a membership committee.

Should the membership vote to split these responsibilities, the Board proposes that the Constitution be changed to say that the position of Membership Secretary be an appointed position for 2006-2008 and an elected position thereafter. Having the elections before the Constitutional vote necessitates this move. If the split occurs, all references to "secretary" in the Constitution will be amended to read "Recording Secretary" or "Membership Secretary" as appropriate.

The other proposed constitutional changes are alignment issues having to do with elections and are outlined in the table below.

Location	Present Wording	Proposed Wording
Article 4, Sect. 3 (addition)	---	A member in good standing is one whose dues are no more than 4 months in arrears.
Article 7, Sect. 6.f.2	Ballot distribution by March 15	Ballot distribution six weeks before the spring conference
Article 7, Sect. 6.f.3	Vote tally received by April 15	Vote tally received two weeks before the spring conference
Article 7, Sect. 7.c	Ballot distribution by March 15	Ballot distribution at least six weeks before the spring conference
Article 7, Sect. 7.d	Ballots returned by March 31	Ballots returned at least 3 weeks prior to spring conference

Information on all proposed constitutional changes will be posted on the NCMATYC website prior to the conference.



Call for Presenters

We are already starting to receive proposals for some great presentations for this year's conference. If you have been thinking about presenting, now is the time to send in your proposal. We are especially hoping to increase the number of offerings for developmental math courses. If you have ideas for fostering success in developmental courses, how about sharing those ideas in a session at the conference? If you know someone at your school who might be willing to present, we encourage you to pass this information along. So whether it's developmental, college algebra, technical math, or calculus, sharing ideas is what the conference is all about. The quality and quantity of sessions is up to you.

CALL FOR PRESENTERS

2006 NCMATYC CONFERENCE

NORTH CAROLINA MATHEMATICS ASSOCIATION
OF TWO-YEAR COLLEGESHosted by
Wake Technical Community College
Raleigh, NC
March 9 - 10, 2005If you are willing to present at the 2006 Conference, please complete the following form and return it no later than February 1, 2006
(Please type or print neatly)

Name _____

Title _____

School _____

Office Phone Number _____

Email Address _____

Work Address _____

Title of Presentation _____

Description of Presentation _____

Is there any day/time you cannot present? _____

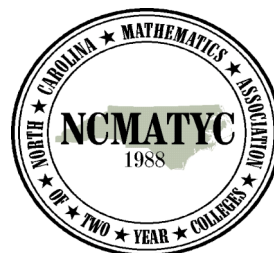
TYPE OF SESSION: ___ Quick Presentation (15 min) ___ Regular Presentation (45 min)
___ Workshop (90 min) ___ Other (Please specify on the back of this form.)

Please circle the equipment you would like for us to provide:

Overhead Projector TV/VCR Computer Lab Other (Please specify.)

(We ask that you provide your own calculators, laptops, and equipment for power-point presentations.)

Thank you for agreeing to enrich our conference with your experiences and expertise.

Send to: **Janet Mays**
Program Chair
Elon University
2137 Campus Box
Elon, NC 27244or email: jmays@elon.edu
Phone: 336-278-6297 Fax: 336-278-6245

REGISTRATION FORM--2006 NCMATYC Conference

Wake Technical Community College, Raleigh, NC

March 9-10, 2006

Form must be POSTMARKED by Feb. 27, 2006 for early registration discount.

[A] Print or type the following information.

Name: _____
 School: _____
 E-mail Address: _____
 Preferred mailing address: _____

[B] Please circle your membership status:

current member non-member (joining) non-member (not joining)

[C] **NCMATYC Membership Fee**

One-year membership (new___ renewal___)	\$10.00_____
Three-year membership (new___ renewal___)	\$25.00_____

[D] **Registration Fee** (Includes lunch on Thursday and breakfast on Friday)

Early Registration (postmarked by Feb. 27, 2005).....	\$30.00_____
On Site Registration.....	\$35.00_____

[E] **GRAND TOTAL...** (Funds payable to NCMATYC)

.....	\$ _____
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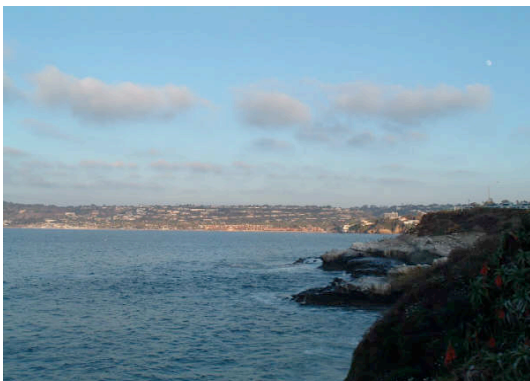
OTHER INFORMATION: Vegetarian Meal_____ Non-Vegetarian Meal_____

I am an AMATYC member. Yes_____ No_____

Mail form and payment to:

Sharon Killian
 AB Tech
 340 Victoria Road
 Asheville, NC 28801
 (828) 254-1921 ext. 228

Refund Policy: No refunds will be issued after Feb. 27, 2006.
 Conference registration fees are the same for presenters and non-presenters



San Diego Area November, 2006

Photographed by Joey Anderson CPCC

NORTH CAROLINA MATHEMATICS ASSOCIATION OF TWO-YEAR COLLEGES

INDIVIDUAL MEMBERSHIP APPLICATION

Name	
Affiliation (College):	

Preferred Mailing Address

City

State

Zip

Phone number	
e-mail address	

	1 year	\$10.00
	3 years	\$25.00
Choose an option.		
Funds Payable to NCMATYC		

Mail to:
Sharon Killian
AB Technical Community College
340 Victoria Rd.
Asheville, NC 28801

Committee(s) on which you would like to serve (please check):

<input type="checkbox"/>	Technology in Mathematics Education	<input type="checkbox"/>	Faculty Development
<input type="checkbox"/>	Student Mathematics League	<input type="checkbox"/>	Other:

Are you willing to be the Campus Rep to NCMATYC?	YES	
	NO	
Place a check in the appropriate space if you are a member of these other professional organizations.	AMATYC	
	MAA	
	NCCTM	
	NCTM	

2004 – 2006 NCMATYC Leadership

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