

# Spring Conference

## 21-22 April, 1989

Co-Sponsored  
By

Kansas Association of Teachers of Mathematics

and

Kansas Section of  
The MATHEMATICS ASSOCIATION OF AMERICA

Including Sessions for  
The Kansas Mathematics Association  
of Two-Year Colleges

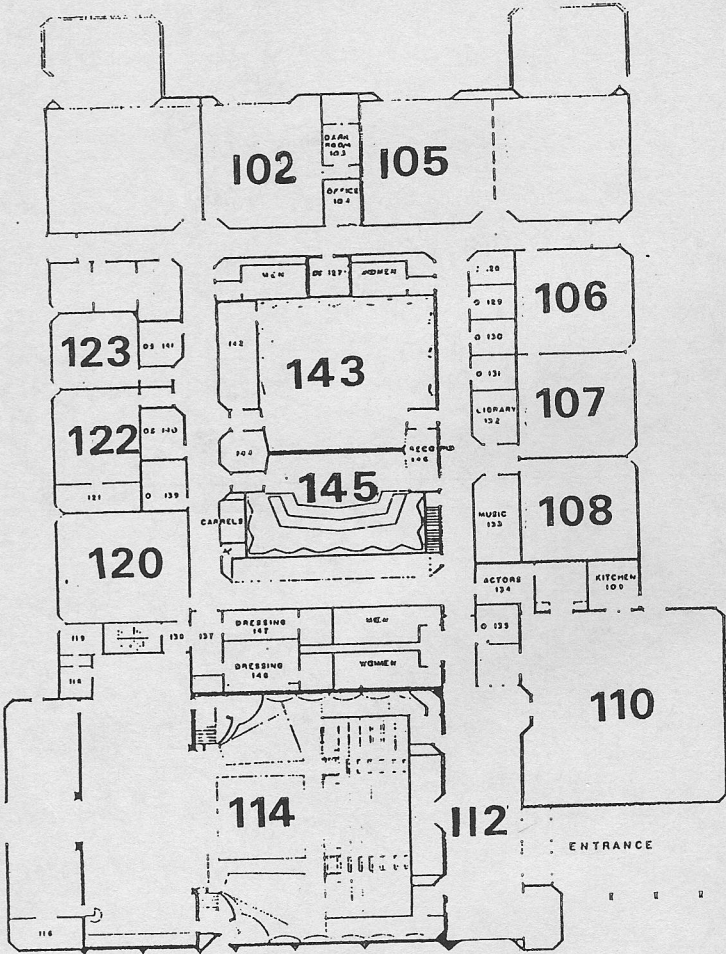
Hosted by

Hutchinson Community College  
Fine Arts Building  
1300 North Plum  
Hutchinson, Kansas

# HUTCHINSON COMMUNITY COLLEGE

1300 NORTH PLUM/HUTCHINSON, KANSAS 67501/TELEPHONE (316)665-3500

## FINE ARTS BUILDING



## CONFERENCE SCHEDULE

### Friday Evening, 21 April 1989

- 7:00 JOINT REGISTRATION - Lobby 112, Fine Arts Building
- 7:30 OPENING GENERAL SESSION Room 114  
Presiding: Kendall Griggs, Chairman-Elect, Kansas  
Section of MAA, Mathematics Dept.,  
Hutchinson Community College  
Greetings: Ellen Veed, Chairman, Kansas Section  
of MAA, Mathematics Dept., Fort Hays  
State University  
Glenn Coltharp, President, Kansas  
Assn. of Teachers of Mathematics,  
Assistant Superintendent, Desoto  
School District  
Speaker: Shirley Frye, President, National  
Council of Teachers of Mathematics  
Topic: "Implementing the NCTM STANDARDS"
- 9:00 RECEPTION - Kansas Cosmosphere  
(You will have the opportunity to visit with  
Shirley Frye and math educators from across the  
State of Kansas. Refreshments will be served and  
"The Dream is Alive" will be shown courtesy of the  
Cosmosphere.)

### Saturday, 22 April 1989

- 7:00 BREAKFAST - Room 110, Fine Arts Building  
(Department Chairs and other  
interested individuals.)
- 8:00 JOINT REGISTRATION - Lobby 112, Fine Arts Building

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| 8:00 - 3:00 EXHIBITS AND REFRESHMENTS - | Room 105 |
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- 9:00 (Elementary Session) Room 102  
Speaker: Suzanne Mitchell, Kansas City (MO)  
School District  
Topic: "Mathematics as Communication"  
Discuss and model ideas and techniques  
for mathematics as communication in the  
areas of reading, writing, speaking, and  
listening.

- 9:00 (Elementary Session) Room 107  
 Speaker: Gloria Robb, Chapter 1 Math, Wichita Public Schools  
 Topic: "... and Visions of Sugar Plums Danced In Their Heads"  
 Suggestions and activities will be presented that relate lessons in numeration to the grouping of physical models and concrete experiences.
- 9:00 (Middle School Session) Room 120  
 Speaker: Jeffrey C. Barnett, Fort Hays State University  
 Topic: "Teaching Probability and Statistics in the Middle School Mathematics Curriculum"  
 Will present a brief overview of the 11 strands of the mathematics curriculum STANDARDS, with more details on mathematics as Communication, Statistics, and Probability.
- 9:00 (Middle School Session) Room 123  
 Speaker: Lyle Baker, Washburn University  
 Topic: "Three For the Price of One — Problem Solving, Communication & Reasoning"  
 Several problem solving situations will be explored to show they can incorporate problem solving strategies, mathematical communication, and reasoning.
- 9:00 (Senior High Session) Room 122  
 Speaker: Vickie Jackson, Wichita High School East  
 Topic: "Motivating Mathematics Students to be Problem Solvers"  
 Will share student-tested ideas for creating an environment which encourages student motivation.
- 9:00 (Senior High Session) Room 108  
 Speaker: Don Hight, Pittsburg State University  
 Topic: "Conceptual Underpinnings of Calculus"  
 Will discuss STANDARD 12, Senior High Level, and illustrate some content and methods for teaching. (Bring titles of software you use and your scientific calculators.)

9:00 (Senior High Session) Room 106  
Speaker: Richard T. Driver, Topeka Public Schools  
Topic: "Statistics in the High School  
Mathematics Curriculum"  
Standard topics important to the high school mathematics curriculum will be discussed, together with ways to implement them.

9:00 KAMATYC SESSION Room 114  
Speaker: Ron Beller, Vice President of AMATYC,  
East Central College, Union, Missouri  
Topic: "What is College Algebra?"  
Will discuss the results of the survey of two- and four-year colleges in Kansas on topics included in College Algebra, and will attempt to come to some consensus.

9:00 CONTRIBUTED PAPERS Room 143  
Presider: Edward Lee Dubowsky, Southwestern  
College  
"Using Computers to Teach Testing of  
Statistical Hypothesis," Peter Flusser,  
Kansas Wesleyan  
"A Comparison of Instant Lottery Games  
Across the USA," Ronald L. Wasserstein,  
Washburn University

9:00 CONTRIBUTED PAPERS Room 145  
Presider: Jim Anderson, Emporia State University  
"Galois Connection," Richard A. Laird,  
Emporia State University  
"The Representation Rings of Some  
Classical Groups," Essam A. Abbotteen,  
Emporia State University

- 10:00 (Elementary Session) Room 107  
Speaker: Ruth Harbin, Math Coordinator, Olathe District Schools  
Topic: "Number Sense and Numeration — Standard 5 of the K-4 Math Curriculum"  
Will show manipulatives that provide concrete experiences for children. Essential that teachers provide activities with physical materials before emphasizing work with symbols.
- 10:00 (Elementary Session) Room 101  
Speaker: Forrest Coltharp, Pittsburg State University  
Topic: "Novel Ways to Gather, Display, Interpret and Project Data"  
Will involve participants in working with data that can be gathered in the elementary classroom.
- 10:00 (Middle School) Room 122  
Speaker: Connie S. Schrock, Emporia State University  
Topic: "Computation or Estimation, Selection of the Proper Tool"  
Discuss changes in computational skills due to available technology, and how to help students recognize the importance of selecting the proper computational tool.
- 10:00 (Middle School) Room 106  
Speaker: Cherry Hart, Mayberry Middle School, Wichita  
Topic: "Using the Computer to Teach Problem Solving"  
Demonstrate various software programs that can be used to teach problem solving.
- 10:00 (Middle School) Room 123  
Speaker: John Dalida, Kansas State University, Manhattan  
Topic: "Mathematical Investigations (6-10)"  
Will experience open-ended problem solving and discuss sample mathematical investigations.

- 10:00 (Senior High) Room 120  
 Speaker: Craig Jaggard, Olathe South High School  
 Topic: "NCTM Emphases on 3-Dimensional Geometry — Polyhedra Constructions"  
 Will distribute handouts of over 12 different polyhedras, and discuss how they can enhance your geometry class.
- 10:00 (Senior High) Room 108  
 Speaker: Bob Keefer, Wichita High School West  
 Topic: "Contemporary Application of Algebra (Standard 5)"  
 Modern technology and contemporary real-world applications can make teaching high school more fun and the learning of mathematics more interesting to students.
- 10:00 (Senior High) Room 102  
 Speaker: Terry J. Scofield, Chapman High School  
 Topic: "Applied Mathematics — Meeting the Standards for the High School Curriculum"  
 The Applied Mathematics course stresses applications in real-world situations, problem-solving skills, and has been shown to reduce math anxiety.
- 10:00 CONTRIBUTED PAPERS Room 143  
 Presider: Donald Killian, Wichita State University  
 "A New Condition for Block-Diagonalization of Some Systems," Gholam Reza Sarhangi, Wichita State University  
 "Hedges," Glenn Adamson, Emporia State University  
 Presider: Charles Votaw, Fort Hays State University  
 "Networking a Microcomputer Lab for Mathematics Instruction," Ron Sandstrom, Fort Hays State University  
 "Using a Graphing Approach to Pre-Calculus Mathematics," Ruth A. Pruitt, Fort Hays State University

**11:00 GENERAL SESSION Room 114**

**President:** Kendall Griggs, President-Elect,  
Kansas Section of MAA, Hutchinson  
Community College

**Speakers:** Jeanne Agnew and John Jobe, Oklahoma  
State University

**Topic:** "Problem Solving in Industry"

A discussion of problems provided by  
representatives of industry. Some of  
these problems use only pre-calculus  
mathematics, some use calculus,  
differential equations, or numerical  
methods.

**11:00 (Elementary Session) Room 108**

**Speaker:** Ed Schroeder, Wichita Public Schools

**Topic:** "Integrating Problem Solving Into Your  
Curriculum"

Will learn several problem solving  
strategies and how to make them a part  
of their daily instruction.

**11:00 (Middle School) Room 106**

**Speaker:** Jerry D. Belske, Indian Woods Middle  
School, Overland Park

**Topic:** "Teaching Problem Solving - Grades 5-8"

Discuss and/or illustrate how to  
incorporate problem solving activities  
in the classroom on an on-going basis.

**11:00 (Middle School) Room 106**

**Speaker:** Beverly Bideau, Royster Junior High,  
Chanute

**Topic:** "NCIM Curriculum Standards for  
Geometry in the Middle School"

Learn what geometry should be  
included, take home some ideas, and  
discover where to find materials to  
use in developing your own ideas.

**11:00 (Middle School) Room 107**

**Speaker:** Ellen Landess,

**Topic:** "Mathematics as Problem Solving"

Practical suggestions and activities  
for helping students become better  
problem solvers, and organizing the  
classroom to accomplish this purpose.



11:00 SENIOR HIGH TEACHERS are encouraged to attend the GENERAL SESSION (Room 114) on "Problem Solving In Industry."

12:00 LUNCHEON and SPEAKER Room 110  
President: Forrest Coltharp, Pittsburg State University  
Speaker: Shirley Frye, President, National Council of Teachers of Mathematics  
Topic: "Critical Issues in Mathematics Education"

1:30 (Middle School) Room 102  
Speaker: Ethel A. Edwards, President, Shawnee County Association of Teachers of Mathematics, Topeka  
Topic: "Algebra in the Middle School — Activities for Everyone"  
Will share activities that students "can do" (hands-on) so they are actively involved in understanding the concept.

1:30 (Middle School) Room 122  
Speaker: Harlan Koca, Washburn University  
Topic: "Mathemagic"  
Will use tricks and puzzles to illustrate mathematical reasoning, develop pre-algebra concepts, enhance understanding of place value, and provide opportunity for problem solving.

1:30 (Senior High) Room 120  
Speaker: Natalie Ryan, Olathe South High School  
Topic: "Topics for the Low Motivated and Low Level Students and their Teachers"  
Will discuss how to incorporate everyday activities in mathematics.

1:30 (Senior High) Room 106  
Speaker: Sue Neal, Secondary Mathematics Coordinator, Wichita Public Schools  
Topic: "With Probability and Statistics For All"  
Will discuss techniques which will make the study of probability and statistics appealing and applicable for any level of learner.

1:30      **CONTRIBUTED PAPERS**      Room 143  
President: Richard Rempel, Bethel College  
"Mathball," Scott E. Jackson, Duane L. Porter,  
Kansas Wesleyan  
"Written Assignments in College Freshman and  
Sophomore Mathematics Courses," Jean Alliman,  
Hesston College  
"Using Writing as a Tool in Teaching Mathematics,"  
Rosalie S. Nichols, Marymount College

1:30      **CONTRIBUTED PAPERS**      Room 145  
President: Robert Brown, University of Kansas  
"The Topological Ingredients of Chaos," Mohammad  
Riazi, Fort Hays State University  
"Quadratic and Cubic Reciprocity," John Kholdi,  
Emporia State University

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| 2:30 | Kansas Association of Teachers of<br>Mathematics BUSINESS MEETING | Room 114 |
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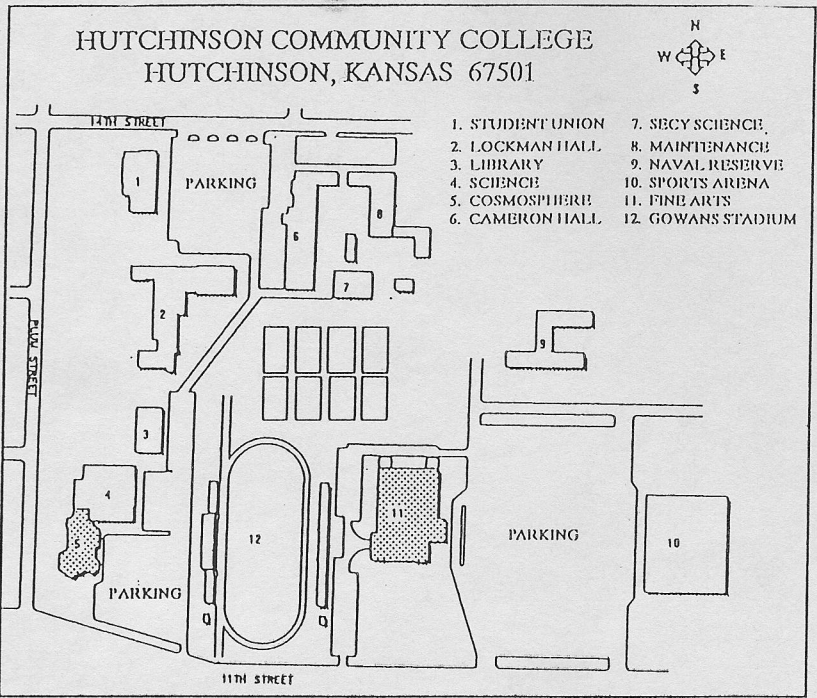
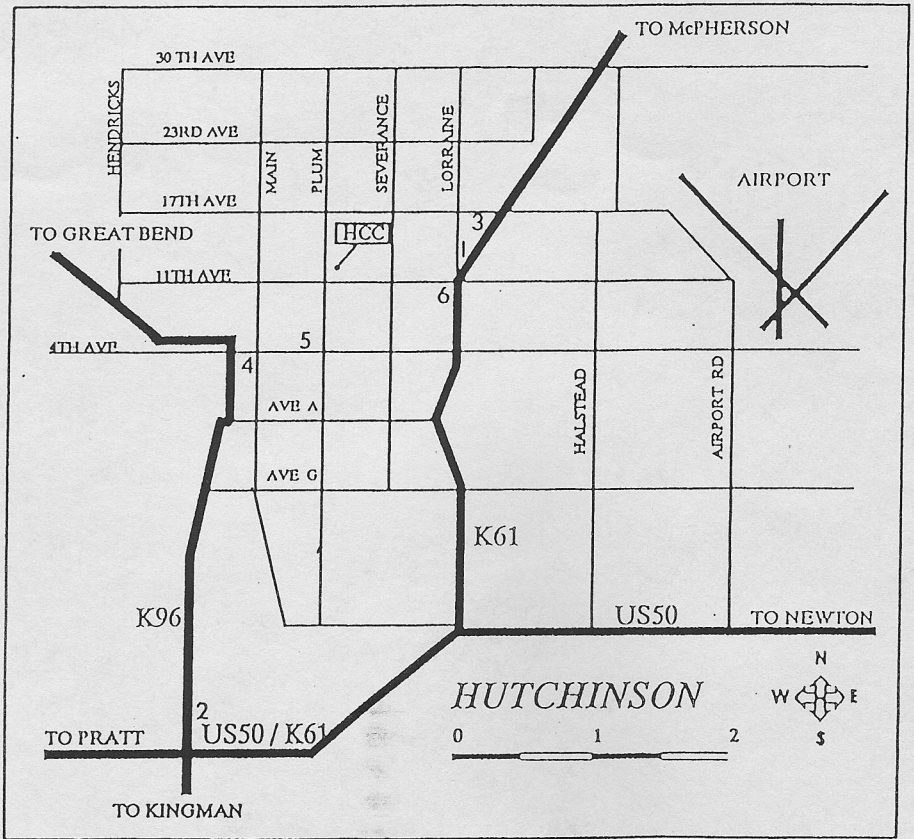
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| 2:30 | Kansas Section of Mathematics<br>Association of America BUSINESS<br>MEETING | Room 145 |
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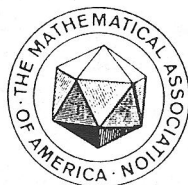
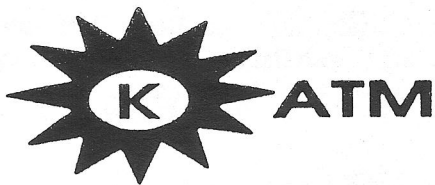
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**PROGRAM  
SUPPLEMENT**

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Be sure to visit the book exhibits in Room 105 and express your appreciation to all exhibitors, especially to those who financially sponsored the Reception.

**BOOK EXHIBITORS (\* Reception Sponsors)**

- Globe
- \* Harcourt Brace Jovanovich
- \* Houghton Mifflin
- MacMillan
- \* McGraw Hill
- Saxon
- \* Saunders
- \* Scott Foresman
- Silver Burdett & Ginn

**BREAKFAST MENU:**

Scrambled Eggs  
Sausage or Bacon  
Hash Brown Potatoes  
Biscuits  
Butter & Jams  
Orange Juice  
Coffee, Tea, Milk

**LUNCHEON MENU:**

Potato Salad  
Chicken Noodle Soup  
Make Your Own Sandwich  
Roast Turkey/Ham  
Apple & Banana Cream Pie  
Tea & Coffee

CORRECTIONS & [ ADDITIONS ]

7:00 BREAKFAST - ~~Room 110, Fine Arts Building~~  
[ Holiday Inn - Holidome ]  
(Department Chairs and other  
interested individuals.)

9:00 KAMATYC SESSION Room 114  
Speaker: ~~Ron Beller~~ [ Beeler ]

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Speaker: ~~Ellen Landess~~ [ Suzanne Mitchell ]  
Kansas City (MO) School District

[ 1:30 (Elementary Session) Room 107 ]  
Speaker: Ray Kurtz, Kansas State University,  
Manhattan  
Topic: "Tangrams and Attribute Blocks are  
Excellent Manipulatives"  
Activities that use tangrams and  
attribute blocks to introduce concepts  
in elementary school mathematics.