

CURRICULUM VITA

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EDUCATION

Ph. D. in Mathematics Education	University of Texas at Austin	1990
M. Ed. with major in Mathematics	Southwest Texas State University	1974
B.S. in Education (Summa Cum Laude)	Southwest Texas State University	1972
High School	San Marcos	1968

PROFESSIONAL EXPERIENCE

Associate Professor of Mathematics - UTB/TSC	1992- present
Instructor of Mathematics - Texas Southmost College, Brownsville, Texas	1976 - 1992
Instructor of Mathematics - Our Lady of the Lake University, San Antonio, Texas (summer)	1976
Instructor of Mathematics - Edison High School, San Antonio, Texas	1975 - 1976
Instructor of Mathematics - Southwest Texas State University, San Marcos, Texas	1974 -1975
Instructor of Mathematics - Gary Job Corps, San Marcos Texas	1974 (summer)
Teaching Assistant - Southwest Texas State University, San Marcos, Texas	1972 – 1974

RESEARCH INTERESTS

Cooperative learning, homework assignment schedules, web-based learning systems, graphing calculator, and mathematics education.

COURSES TAUGHT(1976- present)

Basic Mathematics; Introductory Algebra; Intermediate Algebra; College Mathematics; Mathematics for Elementary Teachers; Technical Mathematics; College Algebra; Trigonometry; Business Algebra; Business Calculus; Math for Liberal Arts; Analytic Geometry; Pre-calculus; Calculus I, Calculus II, Calculus III; History of Mathematics; Differential Equations; Theory of Numbers;

COMMITTEE ASSIGNMENTS

Chair of Department of Mathematics Undergraduate Curriculum Committee
Member of College of Science, Mathematics & Technology (CSMT) Undergraduate Curriculum Committee
Member of Department of Mathematics Search Committee
Member of Graduate Faculty
Member of Department of Mathematics Personnel Committee
Member of CSMT Scholarship Committee
Member of the Teacher Education Committee

PROFESSIONAL ACTIVITIES

Member - Mathematical Association of America (MAA)
Member - Society for the Advancement of Chicanos and Native Americans in Science (SACNAS)
Member - Brownsville Lodge No. 1032 - B.P.O. Elks
UTB/TSC Coordinator - TEAMS (Tests of Engineering Aptitude, Mathematics, and Science)

PUBLICATIONS

T. Lerma, The Effects of a Cumulative Review Online Homework Assignment Schedule Upon Achievement in College Algebra. Submitted for publication

T. Lerma, Cooperative Study Groups: Give Your Students the Home Team Advantage, submitted for publication (6/07) and will appear in the fall issue of NADE Digest .

Review and Edited Chapter, *Precalculus: Graphs and Models* 3rd Ed. By Barnett, Ziegler, & Byleen (5/07).

T. Lerma, *Doctoral Thesis: The Effects of a Cumulative Review Homework Assignment Schedule Upon Achievement in Intermediate Algebra and Attitude Toward Mathematics*. (University of Texas, 1990): University Microfilms – 1990

RESEARCH EXPERIENCE

Cooperative Learning in College Algebra. I conducted a study on the effects of cooperative learning groups upon achievement in College Algebra. The study involved two College Algebra classes in which students were randomly assigned to cooperative learning study groups. The cooperative learning groups consisted of 4 students per group. The cooperative groups worked on homework assignments and in-class projects. However, each student was on his or her own for chapter tests and for the final exam. No significant difference was found between posttest means of the study groups. However, the experimental group had a higher number of final grades of C or higher. (Spring, 2001)

The Effects of a Cumulative Review Homework Assignment Schedule upon Achievement in College Algebra. The control group was taught using a traditional lecture-discussion approach. The experimental group received the same lectures. However, the homework assignments given to this group were cumulative in nature. The intent was to continuously review all topics throughout the semester. The results of the posttest indicated a significant difference in favor of the experimental group. (Fall, 1999)

Assessment of the Mathematics Major Survey Instrument. Collaborated with Dr. A.J. Herrerra on the creation of questions for a survey instrument to collect data from students concerning the mathematics curriculum, advising, and scheduling of classes. (Spring, 1999)

Time-on-Task and its Effects upon Achievement and Retention. One group of College Algebra students met three hours a week and a second group met 6 hours a week. The retention and achievement was significantly higher for the group that met 6 hours a week. (Fall, 1998)

The Effects of CAI upon Achievement in College Algebra. The control group was taught using a traditional lecture-discussion approach. The experimental group received the same lectures and assignments but was required to attend a CAI lab. The findings indicated no significant difference in achievement based on the scores of the posttest. (Spring, 1997)

The Effects of a Cumulative Review Homework Assignment Schedule Upon Achievement in Intermediate Algebra and Attitude Toward Mathematics. This study was conducted to complete my dissertation. The results indicated a significant difference in achievement in favor of the group that received the cumulative review homework assignment schedule as opposed to the group that received the traditional assignments. No significant difference in attitude toward mathematics was found between groups. (Fall, 1989)

WORKSHOPS, CONFERENCES, AND PUBLIC PRESENTATIONS

Session Facilitator at 15th Annual South Texas Mathematics Consortium held at The University of Texas at Brownsville and Texas Southmost College. (2/07)

Collaborate, Communicate, and Connect with In-class Activities. Presentation given at the AMATYC Conference in Orlando, Florida. (11/04)

Presenter: TI-82 and TI-83 Calculator Workshop at UTB/TSC. (11/03)

Presenter: TI-89 Calculator Workshop at UTB/TSC. (10/03)

Presenter: Introductory Algebra Final Examination Review in the Graphing Calculator Workshop series offered by the Department of Mathematics. (04/03)

Presenter: TI-89 Calculator Workshop at UTB/TSC. (04/03)

Presenter: TASP Workshop at UTB/TSC. (03/03)

Presenter: Scientific Calculator Workshop at UTB/TSC. (03/03)

Presenter: TI-89 Calculator Workshop at UTB/TSC. (02/03)

Cooperative Learning and Literacy: Working Together for Success. Presentation given at the College Academic Support Programs National Conference (CASP 2003) in Austin, Texas. (02/03)

Cooperative Learning and Literacy: Working Together for Success. Presentation given at the College Academic Support Programs Conference (CASP 2002) in Fort Worth, Texas. (10/02)

TASP Workshops. I conducted these workshops for the benefit of my developmental students. The workshops provided participants with sample TASP problems and focused on strategies and problem solving techniques. A power point presentation can be accessed from my home page, under the *Research and Presentations* link. (4/02) & (6/02)

Cooperative Learning Groups: A Study in College Algebra. Presented at the 2002 10 the Annual Meeting of the South Texas Mathematics Consortium at the campus of The University of Texas – Pan American. (2/02)

In-class activities for developmental students: Get your students involved. Presented with colleague Olivia Garcia at the College Academic Support Programs Conference (CASP 2001) in Houston, Texas. (10/01)

Career Day at Oliveira BISD Middle School. Co-presenter with Olivia Garcia. (5/01)

South Texas Mathematics Consortium (9th annual conference). A participant at this conference that was hosted by UTB/TSC and the Department of Mathematics. (2/01)

Career Day at El Jardin BISD Elementary School. Guest speaker to promote the importance of education and of mathematics in the real world. (12/00)

TEAMS Strategies. A presentation given to TEAMS coaches at Rivera BISD High School. The presentation provided the TEAMS coaches with test-taking strategies to better prepare their teams for the competition. (10/00)

WEBCT Workshop. A 3-day workshop held at the Mead Lab at UTB/TSC. The participants were provided with hands-on experiences on how to use the features of WEBCT in the traditional classroom and in distance education classes. (5/00)

Advising Workshop. Dr Eli Pena conducted the workshop and it demonstrated to the participants how to access information necessary to properly advise our students. (4/00)

Real World Applications of Functions. Presentation given to Ms. Valdez's Algebra II class at BISD Homer Hanna High School. (9/98)

Read-A-Thon. Guest reader at BISD Russell Elementary School. (10/97)

Grant Writing Workshop. This workshop provided the participants with some strategies of grant writing. (9/97)

TASP Workshops. I conducted these workshops for the benefit of my developmental students. The workshops provided participants with sample TASP problems and focused on strategies and problem solving techniques. (10/95) & (2/96)

Note-Taking and Test-Taking Techniques Workshops. These workshops provided my students with ways to take better notes in Math class and to use proper techniques when taking a test. (9/95) & (2/96)

TEAMS Conference. TEAMS (Tests of Engineering, Aptitude, Mathematics, and Science) Coordinators reported on the previous year's competition and discussed new changes in the TEAMS format and the addition of a home school division. The conference was held at the TSPE building in Austin, Texas. (9/97)

TEAMS Conference. TEAMS Coordinators met to discuss procedures and brainstorm about recruitment of schools for the TEAMS competition. The conference was held at the University of Texas at Austin, Texas. (9/96)

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PROFESSIONAL SERVICE

I continue to assist the Department of Mathematics in activities that promote the welfare of the Department, the University, and the Community.

As chair of the Department of Mathematics Undergraduate Curriculum Committee, I work for and support meaningful curriculum changes.

I promote pre-college engineering education and mathematics and science excellence among high school students by serving as a host for the Annual TEAMS Competition. I have been the UTB/TSC TEAMS coordinator since 1994. UTB/TSC has hosted the competition since 1993.

BISD City Math Meet. I continue to assist in the proctoring and grading of tests at the annual city math meet. High school and middle school students from Brownsville compete in this annual competition.

I continue serving as an ELKS lodge # 1032 member and continue supporting the activities of this fraternal organization. The Order of Elks organization sponsors and supports several activities that benefit the youth of our community. Some of these activities include the hoop shoot competition for children 8 to 13, essay competitions, and the student of the year award. The organization also awards scholarships to deserving students.

I continue to represent the University and the Mathematics Department in activities involving the area public schools. I have made presentations at several of the high schools and middle schools in the area.