

**Mr. Robert M. Payne**  
Lecturer

## **CURRICULUM VITAE**

### **PROFESSIONAL ADDRESS**

Stephen F. Austin State University  
Mathematics and Statistics  
Nursing/Math 332  
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### **EDUCATION**

**51 Hours beyond Master's degree**, 1995.  
Institution: University of North Texas  
Specialization/Major: Mathematics

**MS**, 1992.  
Institution: Stephen F Austin St University  
Specialization/Major: Mathematics

**BS**, 1990.  
Institution: Stephen F. Austin State University  
Specialization/Major: Mathematics  
Honors: Cum laude

**Associate of Science**, 1984.  
Institution: Angelina College  
Specialization/Major: Science Education

### **PROFESSIONAL EMPLOYMENT**

#### **Instructor**

Lamar State College - Orange, August 1996 - May 2001

Position Description:

Taught full load (~17 hours) of math classes and labs each semester. Typical responsibilities. Also served on Faculty Senate and various department and college committees.

#### **Independent Contractor**

Angelina College, January 1996 - May 1996

Position Description:

Taught Basics of Statistical Process Control and SPC for Turning Operators to employees of Lufkin Industries. Also taught Metrics and Computer Orientation to employees of Loral Electronics.

#### **Instructor**

Angelina College, August 1995 - December 1995

Position Description:

Taught College Algebra and Elementary Algebra

**Teaching Fellow**

University of North Texas, August 1993 - July 1995

Position Description:

Taught Business Applications of Calculus, College Algebra, and Structure of the Real Number System. Served on College Algebra textbook committee.

**Instructor**

Grayson County Community College, May 1995

Position Description:

Taught Statistics in an eleven-day minimester, four lecture hours per day.

**Instructor**

Stephen F. Austin State University, August 1992 - May 1993

Position Description:

Taught various mathematics classes including Mathematics for Elementary School Teachers, and Finite Mathematics.

**Graduate Teaching Assistant**

Stephen F. Austin State University, August 1990 - May 1992

Position Description:

Taught developmental mathematics, Math for Elementary School Teachers, and Finite Mathematics with Business Applications.

**Supplemental Instruction Group Leader**

Stephen F. Austin Academic Assistance and Resource Center, 1989 - 1990

Position Description:

Duties involved taking notes in class, acting as a liaison between professor and students, coordinating and conducting group study sessions, and helping students with academic issues.

**Tutor of Mathematics**

Stephen F. Austin Academic Assistance and Resource Center, 1989 - 1990

Position Description:

Tutored students in such classes as algebra, calculus, and linear algebra. Scheduled appointments and helped other tutors.

**FACULTY DEVELOPMENT ACTIVITIES**

Seminar, "Light, Lasers and Quantum Mechanics: Controlling the Random with the Probabilistic", SFA Math Department (Yeagy Colloquium), Nacogdoches, Tx. (November 16, 2009).

"We examine the necessity for and the consequences of utilizing a quantum mechanical wavefunction description of atom-photon interactions. Processes, such as absorption and emission, which were once thought to be purely random can be manipulated and controlled with light. This realization has led to such novelties as electromagnetically induced transparency and lasing without inversion. We will discuss both the physical models and the mathematical constructs involving linear vector spaces and transformations between vector spaces. The use of operators with particular mapping properties produces some strange or undesirable effects, such as violating conservation of energy and causality."

Meeting with Publishers, "Using MyMathLab to Deliver Developmental Math Material with the Emporium Model", Pearson, Nacogdoches, Texas. (November 10, 2009).

Meeting with Pearson representatives for 3 hours to learn about the MyMathLab Study Plan feature and to discuss how it could be implemented to deliver a self-paced developmental math course.

Seminar, "The Necessity of Wavefunctions (Dr. Nick Long)", SFA Math Department, Yeagy Colloquium, Nacogdoches, Tx. (November 9, 2009).

"We will review the state of physics at the start of the 20th century and describe some of the experiments that shows the gaps between the physical models of the time and established experimental results. These experiments include both 1 and 2 slit interference patterns, the photoelectric effect, and the Michelson-Morley experiment. We will discuss how the results of these experiments lead physics to a very different view of the way matter and light interact."

Seminar, "ALEKS Seminar", McGraw Hill, Houston, Texas. (November 6, 2009).  
All day meeting to hear presentations by three other schools describing their successes using ALEKS as a delivery tool for developmental mathematics with an emporium model.

Seminar, "An Alternative Distributional Model for Control of Process ... (Dr. Henderson)", SFA Math Department (Yeagy Colloquium), Nacogdoches, Tx. (October 26, 2009).  
"Process control plans for particle or defect count distributions have historically been based on the assumption of an underlying Poisson distribution adequately describing the observed process data. However, it has been observed that particle and defect count distributions for semiconductor processes commonly have a heavier high end tail than what can be accounted for using a Poisson model. Previous work has suggested the use of an exponential distribution as more appropriate distributional model for wafer particle or defect counts; however, this model is a special case of a gamma distribution with a coefficient of variation set equal to one. This talk will explore the use of gamma distributional models in evaluating wafer count parameters, specifically considering approaches to determine if use of such a model is appropriate for a given process and how to establish reasonable process control plans for such processes using either traditional single-point beyond an upper control limit, or a sequential process control rule."

Seminar, "Motivating Students", SFA Math Department Brown Bag Seminar Series, Nacogdoches, Tx. (October 23, 2009).  
"We'll discuss ways to motivate students: what works, what doesn't, what different instructors have tried in their courses. We'll discuss the ... case study, 'Study Habits'."

Seminar, "Some Perspectives on Working in Industry (Dr. Henderson)", SFA Math Department, Nacogdoches, Tx. (October 12, 2009).  
"...a brief overview of the semiconductor business and the primary steps in manufacturing semiconductors. Following this, there will be a brief overview of a few of the kinds of problems the presenter worked on during his 27 years as an industrial statistician ...as well as an introduction of several problems for which there is as yet no widely accepted industry "solution" or approach – even though, there may be a widely accepted approach already being taught or that may have already been researched in academia. Some discussion of approaches to training statistics and statistical tools in an industrial setting will also be included."

Conference Attendance, "Mathematics and Science Higher Education Conference", Charles A. Dana Center, Austin, Tx. (October 8, 2009 - October 10, 2009).  
Conference sessions focus on the needs of...faculty who teach mathematics or science courses, especially for incoming college students...who are not "college ready."

Seminar, "Assessment Webinar", Stephen F. Austin, Nacogdoches, Tx. (September 23, 2009).  
Webinar on implementing and maintaining assessment of university goals.

Seminar, "Study Skills Seminar", SFA Early Alert Program, Nacogdoches, Tx. (September 22, 2009).  
Pannel discussion by SFA students, the AARC, and Early Alert to advise incoming students of proper study skills for academic success.

Seminar, "The Case of Meganesian Carnivores (Dr. Judson)", SFA Math Department (Yeagy Colloquium), Nacogdoches, Tx. (September 21, 2009).  
"...We...use a predator-prey model to help explain why reptilian predators flourished in Meganesia and why their mammalian counterparts had little success."

"Clickers", Teaching Excellence Center, Nacogdoches, Tx. (September 21, 2009).  
Discussion on the use of "clickers" in the classroom.

Meeting with Publishers, "ALEKS", McGraw Hill, Nacogdoches, Tx. (September 16, 2009).  
Meeting with McGraw Hill representative to discuss and solve problems associated with using ALEKS to deliver developmental mathematics material.

"Managing Classroom Behavior Workshop", Teaching Excellence Center, Nacogdoches, Tx. (September 14, 2009).  
Meeting to discuss techniques and campus resources available to help manage troublesome student behavior.

Seminar, "Webassign Webinar", Webassign, Nacogdoches, Tx. (May 14, 2009).  
Webinar presentation on how Webassign can help deliver developmental mathematics materials.

Seminar, "Hawkes Webinar", Hawkes, Nacogdoches, Tx. (May 12, 2009).  
Webinar presentation to learn about how Hawkes software can help deliver developmental mathematics materials.

Seminar, "Grading Issues", SFA Math Department - Brown Bag Seminar Series, Nacogdoches, Tx. (April 24, 2009).  
Round table discussion of issues concerned with grading student papers, especially in connection with fairness, partial credit, and consistency.

Seminar, "Oscillations in an intrahost model of Plasmodium falciparum", SFA Math Department (Yeagy Colloquium), Nacogdoches, Tx. (April 20, 2009).  
"We consider an intrahost model of malaria that allows for antigenic variation within a single species. More specifically, the host's immune response is compartmentalized into reactions to major and minor epitopes. We investigate parameter conditions that lead to transient oscillations, which correspond to recurrent clinical episodes of the diseases. We then investigate how a small delay in the activation of the immune response can lead to persistent oscillations and then describe how the disease parameters affect the severity and duration of the disease episodes."

Seminar, "Lie Algebras and the Spencer Cohomology (Dr. Judson)", SFA Math Department (Yeagy Colloquium), Nacogdoches, Tx. (April 6, 2009).  
"We ...study local geometries by examining pseudogroups and their Lie algebras. If we choose a coordinate system and replace each infinitesimal automorphism (which is a vector field) with its Taylor series expansion about the origin, we obtain a Lie algebra of formal vector fields. These Lie algebras have a natural filtration..."

Meeting with publisher, "MyMathLab", Pearson, Nacogdoches, Tx. (April 2, 2009).  
Meeting with Pearson representative to discuss ideas and issues associated with teaching mathematics using MyMathLab.

Seminar, "Optimization in the Upstream Oil and Gas Industry", SFA Math Department (Yeagy Colloquium), Nacogdoches, Tx. (March 23, 2009).  
"This talk will provide an overview of the challenging optimization problems facing current and future oil and gas exploration and production activities. The resulting models cover almost all areas of optimization technology, from continuous to combinatorial, from linear to nonlinear and from deterministic to stochastic."

Seminar, "Using Algebra to Build Topological Space (Dr. Jane Long)", SFA Math Department (Yeagy Colloquium), Nacogdoches, Tx. (February 16, 2009).  
In this last talk of the series, we'll discuss how the algebraic structure of particular kinds of finite groups gives a natural way to build topological spaces (the CW-complexes discussed last time).

Obstacles to using this construction for other groups will be discussed and an open conjecture presented.

Seminar, "Model-based Pre-processing in Protein Mass Spectrometry", SFA Math Department (Yeagy Colloquium), Nacogdoches, Tx. (February 13, 2009).

Candidate Talk: "The discovery of proteomic information through the use of mass spectrometry (MS) has been an active area of research in the diagnosis and prognosis of many types of cancer. This process involves feature selection through peak detection and quantification but is often complicated by many forms of non-biological bias. The need to extract biologically relevant peak information from MS data has resulted in the development of statistical techniques to aid in spectra pre-processing. Estimation and subtraction of the baseline is an important pre-processing step because the subsequent quantification of peak heights depends on this baseline estimate. A new mixture model will be introduced to estimate the baseline and peak heights simultaneously through the EM algorithm and a penalized likelihood approach. The performance of the method is illustrated using mass spectrometry data from a popular ovarian cancer data set."

"Classroom Management (Scott Lewis)", Teaching Excellence Center, Nacogdoches, Tx. (February 12, 2009).

Discussion of various classroom management issues facing faculty, the reasons for them, and techniques for dealing with these issues in a professional manner.

Seminar, "Local-Moment Polynomial-Smoothed Histograms with Application to Pre-Binned Data", SFA Math Department (Yeagy Colloquium), Nacogdoches, Tx. (February 9, 2009).

Candidate's Presentation: "Data-driven research is often hampered by privacy restrictions in the form of limited datasets or graphical representations without the benefit of actual data. This research introduces a variety of nonparametric techniques that circumvent these issues by using local moment information. In particular, these methods utilize binned data and their moments, such as area, mean, and variance, in order to estimate the underlying distribution of the data."

Seminar, "Group Actions: An Introduction to a Problem in Algebraic Topology (Dr. Jane Long)", SFA Math Department (Yeagy Colloquium), Nacogdoches, Tx. (January 26, 2009).

This talk will give an introduction to the field of algebraic topology via the study a specific, really interesting problem. We will address questions such as "What is topology?" "How does algebra relate to problems in topology?" and will ultimately reach the question "What is a free action on a topological space, and when does one exist?"

Seminar, "Dr. Frantzen", SFA Math Department, Nacogdoches, Tx. (November 17, 2008).  
Part of Yeagy Colloquium Series

Seminar, "Dr. McGoff", SFA Math Department, Nacogdoches, Tx. (November 3, 2008).  
Part of Yeagy Colloquium Series.

Seminar, "Dr. Nick Long (part 3)", SFA Math Department, Nacogdoches, Tx. (October 20, 2008).  
Part of Yeagy Colloquium Series

Seminar, "Dr. Nick Long (part 2)", SFA Math Department, Nacogdoches, Tx. (October 13, 2008).  
Part of Yeagy Colloquium Series.

Seminar, "Nick Long (part 1)", SFA Math Department, Nacogdoches, Tx. (October 6, 2008).  
Part of Yeagy Colloquium Series

Seminar, "Dr. Delzell's talk", SFA Math Department, Nacogdoches, Tx. (September 29, 2008).  
Part of the Yeagy Colloquium Series.

Observation of colleague, "Observation of Dr. Hubbard". (April 23, 2008).

I observed Dr. Hubbard's calculus class, including a prebriefing, critique, debriefing, and formal written record of the observation.

Conference Attendance, "Math and Science Articulation Conference", SFA College of Math and Science, Nacogdoches, Tx. (April 18, 2008).

Meeting with area junior colleges on articulation issues.

Seminar, "Dr. Morrison, Univ. Houston", SFA Math Department, Nacogdoches, Tx. (March 31, 2008).  
Yeagy Colloquium Series talk.

Conference Attendance, "K-16 Alignment", Nacogdoches High School, Nacogdoches, Tx. (March 24, 2008).

Meeting with area high schools to discuss K-16 alignment.

"Cooperative Learning", Teaching Excellence Center, Nacogdoches, Tx. (February 22, 2008).  
Discussion/seminar on cooperative learning in the classroom.

Seminar, "Thomas Judson Presentation", SFA Math Dept., Nacogdoches, Tx. (February 8, 2008).  
Open presentation of research topic to faculty as part of interview process.

Seminar, "Nick and Jane Long Presentation", Stephen F. Austin Math Department, Nacogdoches, Tx. (February 4, 2008).

Open presentation of research to faculty as part of interview process.

Seminar, "Dreamweaver", OIT, Nacogdoches, Tx. (January 30, 2008).

Seminar on the use of Dreamweaver for delivering online course content.

Conference Attendance, "Math Conference", Addison Wesley/Pearson, Plano, Tx. (January 25, 2008).

Book publishers speaking on teaching techniques and pedagogy.

Colleague observed me teaching, "Dr. Hubbard observed me teaching". (January 23, 2008).

Dr. Hubbard observed my college algebra class. First I discussed with him what I wanted him to particularly watch for. Next he observed me in class. Then he debriefed me on his observations, and later provided me with a written critique.

Seminar, "An Introduction to Geometric Function Theory, Part 2", SFA College of Science and Mathematics, Nacogdoches, Texas. (November 5, 2007).

Part of the R.W. Yeagy Colloquium Series. Lecture by Dr. Clint Richardson, SFASU. "One of the major results in Complex Analysis known as the Riemann Mapping Theorem guarantees that there is a function that maps a disk onto any simply connected shape in the plane, but gives no insight into how to construct such a function. Geometric Function Theory attempts to address this problem by analyzing the behavior of simple functions and using the insight gained to construct more complicated functions. Part I will introduce the structure of the complex numbers, discuss some basic maps, and address why one would care about such maps in the first place. Part II will look a little deeper into some actual problems in the field and how they are solved."  
(Quote from the abstract.)

Seminar, "An Introduction to Geometric Function Theory, Part 1", SFA College of Science and Mathematics, Nacogdoches, Texas. (October 29, 2007).

Part of the R.W. Yeagy Colloquium Series. Lecture by Dr. Clint Richardson, SFASU. "One of the major results in Complex Analysis known as the Riemann Mapping Theorem guarantees that there is a function that maps a disk onto any simply connected shape in the plane, but gives no insight into how to construct such a function. Geometric Function Theory attempts to address this problem by analyzing the behavior of simple functions and using the insight gained to construct more complicated functions. Part I will introduce the structure of the complex numbers,

discuss some basic maps, and address why one would care about such maps in the first place. Part II will look a little deeper into some actual problems in the field and how they are solved." (Quote from the abstract.)

Seminar, "On Innovation in American Mathematics & Science Education", SFA College of Science and Mathematics, Nacogdoches, Texas. (October 22, 2007).  
Part of the R.W. Yeagy Colloquium Series. This was a talk in two parts by Dr. Uri Treisman, a professional in the field of mathematics education.

Seminar, "Use of a Generalized Sigmoid Growth Equation with Serially Correlated Data, Part 2", SFA College of Science and Mathematics, Nacogdoches, Texas. (October 8, 2007).  
Part of the R.W. Yeagy Colloquium Series. Lecture in two parts by Dr. Dean Coble, SFASU. This talk focused on statistical analysis of the quality of a forest site and the problems posed by serially correlated data.

Seminar, "Use of a Generalized Sigmoid Growth Equation with Serially Correlated Data, Part 1", SFA College of Science and Mathematics, Nacogdoches, Texas. (October 1, 2007).  
Part of the R.W. Yeagy Colloquium Series. Lecture in two parts by Dr. Dean Coble, SFASU. This talk focused on statistical analysis of the quality of a forest site and the problems posed by serially correlated data.

"Lecture Induced Mind Paralysis: The Quest for A Cure", Teaching Excellence Center, Nacogdoches, Texas. (September 27, 2007).  
Lecture by Dr. Brad Garner. His flyer stated:  
"Participants will learn at least 12 different (preventive) strategies that can be readily transported into the classroom."

Seminar, "Bioinformatics: Computational Challenges and the New Biology", SFA College of Science and Mathematics, Nacogdoches, Texas. (September 24, 2007).  
Part of the R.W. Yeagy Colloquium Series. Lecture by Dr. Alan Dabney from Texas A & M University. A quote from the abstract: "I will present an overview of the vast and rapidly evolving field of bioinformatics. I will begin with some basic molecular biology and discuss some key current technologies, including expression microarrays, SNPs, RNAi, and protein mass spectrometry. Next, I will give an overview of some key statistical and computational tasks that arise in the context of these experiments. Finally, I will discuss the fact that, while there have been many bioinformatics papers published in recent years, results that actually produce cures for disease have been woefully lacking. Emphasis will be placed on the importance of cross-disciplinary collaborative research, with statisticians, computer scientists, engineers, and mathematicians working closely with biologists to carefully design, carry out, and analyze the most relevant experiments."

Seminar, "What is STEM Education?", SFA College of Science and Mathematics, Nacogdoches, Texas. (September 10, 2007).  
Part of the R.W. Yeagy Colloquium Series. Lecture by Drs. Lesa Beverly and Kimberly Childs, SFASU. "Science, Technology, Engineering and Mathematics (STEM) is one of the hottest new funding areas in education. STEM education is an effort to increase the number of mathematically and scientifically proficient students by promoting active collaboration between the disciplines." (Quote from abstract.)

Conference Attendance, "Redesigning Remedial Mathematics", AASCU and Dana Center, UT Austin, Austin, Texas. (July 16, 2007 - July 17, 2007).  
"Presidential teams of 4-6 persons per campus...[came] together to examine emerging national best practices, and then, in collaboration with other teams, develop[ed] campus plans to redesign the remedial mathematics programs at each of the participating institutions." (Quote adapted from conference announcement literature.)

Seminar, "Linear Dimension Reduction for Multivariate Skew-Normal Populations in", SFA College of Science and Mathematics, Nacogdoches, Texas. (April 27, 2007).  
Part of the R.W. Yeagy Colloquium Series. This was a lecture by Dr. Dean Young of Baylor University. The title was "Linear Dimension Reduction for Multivariate Skew-Normal Populations in Statistical Discriminant Analysis"

Seminar, "Improved Confidence Regions in SUR Models", SFA College of Science and Mathematics, Nacogdoches, Texas. (April 16, 2007).  
Part of the R.W. Yeagy Colloquium Series. Lecture by Dr. Kent Riggs, SFASU. "Statistical Inference of coefficient vectors in the Seemingly Unrelated Regressions (SUR) model are of interest. Maximum Likelihood (ML) methods are employed and shown to reduce the variability of estimators as compared to Ordinary Least Squares (OLS) approach. A Bartlett-type corrected critical value is used on a Wald statistic to improve confidence ellipsoid coverage problems. Several confidence ellipsoids are studied in a simulation and finally applied to a data set."  
(Quote from abstract.)

Seminar, "Confidence Intervals in a Complementary Poisson Model with Data Subject to Misclassification, Part 2", SFA College of Science and Mathematics, Nacogdoches, Texas. (April 2, 2007).  
Part of the R.W. Yeagy Colloquium Series. Lecture by Dr. Kent Riggs, SFASU. "In this presentation I consider interval estimation for a Complementary Poisson Model with Data Subject to Misclassification (CPSM). The CPSM allows one to estimate complementary Poisson rate parameters when the Poisson counts are potentially misclassified. I apply the CPSM and the Wald, Score, and Likelihood-Ratio confidence intervals to a problem involving the estimation of rates of injury and non-injury for people involved in traffic accidents." (Quote from abstract.)

Seminar, "Confidence Intervals in a Complementary Poisson Model with Data Subject to Misclassification, Part 1", SFA College of Science and Mathematics, Nacogdoches, Texas. (March 26, 2007).  
Part of the R.W. Yeagy Colloquium Series. Lecture by Dr. Kent Riggs, SFASU. "In this presentation I consider interval estimation for a Complementary Poisson Model with Data Subject to Misclassification (CPSM). The CPSM allows one to estimate complementary Poisson rate parameters when the Poisson counts are potentially misclassified. I apply the CPSM and the Wald, Score, and Likelihood-Ratio confidence intervals to a problem involving the estimation of rates of injury and non-injury for people involved in traffic accidents." (Quote from abstract.)

Seminar, "Defensive Driving and Van Certification", Stephen F. Austin UPD, Nacogdoches, Texas. (February 21, 2007 - March 7, 2007).  
This was a three-part defensive driving and 15-passenger van certification program delivered over two half-day periods through which the participants receive credentials to drive students in University vans to professional meetings.

Seminar, "Graphs and Networks: An Interdisciplinary Interplay", SFA College of Science and Mathematics, Nacogdoches, Texas. (February 26, 2007).  
Part of the R.W. Yeagy Colloquium Series. Lecture by Dr. Galen Turner, Louisiana Tech University. "Graph Theory deals with one of the most basic combinatorial structures in discrete mathematics. It is a vast subject embracing applications in many diverse areas, such as, chemistry, computer science, economics, engineering, genetics, operations research, physics, and sociology, to name a few. The aim of this talk is to showcase the interplay between graph theory and other disciplines." (Quote from abstract.)

Workshop, "Fundamental Instructional Technology Skills, parts 3 and 4", Stephen F. Austin OIT, Nacogdoches, Texas. (February 23, 2007).



This was a two and a half-hour workshop given by the Office of Instructional Technology in preparation to develop and teach an online course.

Seminar, "An Introduction to Matroid Theory --Part 3: Axioms and Examples", SFA College of Science and Mathematics, Nacogdoches, Texas. (February 19, 2007).

Part of the R.W. Yeagy Colloquium Series. Lecture by Dr. Brian Beavers, SFASU. "In the last 15 years, there have been major breakthroughs in analyzing the structure of graphs. Current research in matroid theory seeks to produce a comparable theory of matroid structure that generalizes the graph theory techniques of Robertson and Seymour. In this talk, we will discuss the structure of the separations in graphs and matroids, and connect with current research." (Quote from abstract.)

Workshop, "Blackboard Learning System", Stephen F. Austin OIT, Nacogdoches, Texas. (February 19, 2007).

Introduction to Blackboard Learning System, a online course content delivery facility. This workshop is part of the preparation of faculty to teach online courses.

Conference Attendance, "Mathematics and Science Collaboration Conference", Stephen F. Austin Mathematics Department, Nacogdoches, Texas. (February 16, 2007).

This was a collaboration conference with representatives from area community colleges and high schools for the purpose of discussing changes in courses, policy, procedure, advising and other issues of mutual interest.

Seminar, "An Introduction to Matroid Theory --Part 2: Axioms and Examples", SFA College of Science and Mathematics, Nacogdoches, Texas. (February 12, 2007).

Part of the R.W. Yeagy Colloquium Series.

Lecture by Dr. Brian Beavers, SFASU. "Matroid theory generalizes the concepts of dependence common to both linear algebra and graph theory. One attractive property of matroids is that they can be defined by several different equivalent axiom systems, similar to how topologies can be defined using open sets or closed sets. In this first talk on matroid theory, we will discuss different axiom systems and how they abstract the concepts of dependence in graphs, vector spaces, and projective geometries." (Quote from abstract.)

Seminar, "An Introduction to Matroid Theory --Part 1: Axioms and Examples", SFA College of Science and Mathematics, Nacogdoches, Texas. (February 5, 2007).

Part of the R.W. Yeagy Colloquium Series. Lecture by Dr. Brian Beavers, SFASU. "Matroid theory generalizes the concepts of dependence common to both linear algebra and graph theory. One attractive property of matroids is that they can be defined by several different equivalent axiom systems, similar to how topologies can be defined using open sets or closed sets. In this first talk on matroid theory, we will discuss different axiom systems and how they abstract the concepts of dependence in graphs, vector spaces, and projective geometries." (Quote from abstract.)

Seminar, "A Gentle Introduction to Graphs & Matroids", SFA College of Science and Mathematics, Nacogdoches, Texas. (January 29, 2007).

Part of the R.W. Yeagy Colloquium Series. Lecture by Dr. Brian Beavers, SFASU. "We begin with a lecture designed for all (undergraduates included) on graph theory. Graph Theory models computer networks and stop lights, cell phone towers and social networks. The next three lectures will introduce the basics of matroid theory (which should still be accessible to those having had linear algebra). Matroid theory generalizes the concepts of dependence common to both linear algebra and graph theory." (Quote from abstract.)

Seminar, "An Introduction to Bayesian Statistical Analysis: Applications of Bayesian Analysis", SFA College of Science and Mathematics, Nacogdoches, Texas. (December 4, 2006).

Part of the R.W. Yeagy Colloquium Series. Part 4 of a lecture by Dr. Patricia Bahnson, SFASU. "To conclude our series on Bayesian statistical analysis, we will investigate applications of the

various methods to the exploration of diabetes complication progression. This will include a brief introduction to the medical background motivating the research, direct computations using Bayes' Theorem, theoretical derivations of posterior distributions, and computational results for given data." (Quote from abstract.)

## **CONSULTING**

Dr. Chris Ninness, SFASU, approximately 80 hours spent for the year. (2004 - January 2007).

I provided expertise in developmental mathematics conventions, content, and pedagogy for Dr. Chris Ninness as he wrote several refereed papers, grants, and conducted research studies on methods of promoting better student retention of elementary algebraic concepts. My efforts on his behalf led to me being listed as a contributing author in a paper published in the Journal of Applied Behavior Analysis titled "Transformation of Mathematical and Stimulus Functions" by Ninness, C., Barnes-Holmes, D. Rumph, R., McCuller, G., Ford, A., Payne, R., Ninness, S., Smith, R., Ward, T., & Elliott, M.

## **TEACHING EXPERIENCE**

Stephen F. Austin State University, Fall 2009

MTH 98 8, FUNDAMENTAL MATHEMATICS  
MTH 99 13, FUNDAMENTALS OF COLLEGE ALGEBRA  
MTH 99 16, FUNDAMENTALS OF COLLEGE ALGEBRA

Stephen F. Austin State University, Summer 2 2009

MTH 138 2, COLLEGE ALGEBRA  
MTH 99 1, FUNDAMENTALS OF COLLEGE ALGEBRA

Stephen F. Austin State University, Summer 1 2009

MTH 138 2, COLLEGE ALGEBRA  
MTH 98 1, FUNDAMENTAL MATHEMATICS

Stephen F. Austin State University, Spring 2009

MTH 138 4, COLLEGE ALGEBRA  
MTH 138 6, COLLEGE ALGEBRA  
MTH 98 1, FUNDAMENTAL MATHEMATICS  
MTH 99 15, FUNDAMENTALS OF COLLEGE ALGEBRA

Stephen F. Austin State University, Fall 2008

MTH 138 3, COLLEGE ALGEBRA  
MTH 138 5, COLLEGE ALGEBRA  
MTH 98 5, FUNDAMENTAL MATHEMATICS  
MTH 99 13, FUNDAMENTALS OF COLLEGE ALGEBRA

## **PROFESSIONAL SERVICE OR VOLUNTEER WORK**

Math Clubs Supporter, Monetary and service supporter.

Student Tracking, Administrative Assignment, approximately 40 hours spent for the year.

Activity Description

Perform research on and tracking of developmental math student results. Includes supervision of a graduate assistant.

Wrote booklet titled "Teacher's Notes for MTH 099", Author.

Placement Test Committee, Member. (August 2007 - Present).

Activity Description

Research placement tests, discuss options, pros/cons with other members.  
Narrowed down possibilities. Have selected a placement test for close examination.

Coordinating Developmental Math Program, Administrative Assignment, approximately 450 hours spent for the year. (July 2001 - Present).

Activity Description

Develop and maintain the developmental math program (common exams, policies, software, material coverage, etc.), coordinate developmental math instructors, assist in training, advise and assist instructors on day-to-day problems, track and research results...