TEXAS STATE VITA

I. Academic/Professional Background

A. Name: Mary Jane Patterson Title: Lecturer

B. Educational Background

Degree	*Year*	*University*	*Major*	*Thesis/Dissertation*
Ph.D.	1995	Rice University	Chemistry	High Temperature Studies of Diamond and CVD Diamond Thin Films
B.A.	1991	Rice University	Chemical Physics	N/A

C. University Experience

Position	*University*	*Dates*
Lecturer	Texas State University	2013-present
Instructor	Rice University	1995-1996

D. Relevant Professional Experience

Position	*Entity*	*Dates*
Chemistry Teacher	Hays CISD	2004-2012
Adjunct Instructor	Austin Community College	2001-2002
Assistant Professor	Brazosport College	1996-2001
Adjunct Instructor	San Jacinto College	1995-1996

E. Other Professional Credentials (licensure, certification, etc.)

Texas Classroom Teacher Certificate: Physical Sciences (Grades 8-12) earn through Texas State University; issued 2004; renewed 2010
NHMCCD Distance Learning Certification, July 2000

II. TEACHING

A. Teaching Honors and Awards:
Nominated by the Department of Chemistry and Biochemistry for the Presidential Award for Excellence in Teaching, Assistant Professor or Lecturer Rank, Texas State, 2014
Linebarger Award, Hays CISD, 2008-2012
NISOD Excellence Award, Brazosport College, 2000
Piper Professor nominee, Brazosport College, 2000
College Achievement Award for the Presidential Award for Excellence in Teaching, 2014
Dean's Nominee for the Presidential Award for Excellence in Teaching, 2016

B. Courses Taught: Texas State University

CHEM 1341 General Chemistry I
CHEM 1342 General Chemistry II
CHEM 1142 General Chemistry II Lab
CHEM 1310 Introductory Chemistry for Non-Science Majors

For Hays CISD:
Chemistry
Pre-AP Chemistry
AP Chemistry
Biotechnology

For Austin Community College, Brazosport College and San Jacinto College:
CHEM 1405 Introductory Chemistry (traditional and via Virtual College of Texas), lecture and lab
CHEM 1411 General Chemistry I, lecture and lab
CHEM 1412 General Chemistry II, lecture and lab
CHEM 2423 Organic Chemistry I, lecture and lab
CHEM 2425 Organic Chemistry II, lecture and lab

C. Graduate Theses/Dissertations, Honors Theses, or Exit Committees (if supervisor, please indicate):
D. Courses Prepared and Curriculum Development:

CHEM 1141, General Chemistry I Lab: Difficulties with several of the experiments were identified, discussed among faculty, and solutions were implemented. Simple experimental issues were resolved by modifications of or additions to the procedures. A major issue addressed was the lack of scaffolding in the progression of the experiments. I wrote two labs designed to teach basic lab techniques to create a solid foundation on measurement techniques, significant figures and graphing techniques, including graphing with Excel.

CHEM 1142, General Chemistry II Lab: I reordered the experiments to align more closely with CHEM 1342. I also wrote two new experiments to help with the alignment – a kinetics experiment based on the iodine clock reaction, and a freezing point depression experiment. These changes were incorporated into a new lab manual with a new publisher in the fall of 2014.

In 2015, I implemented using Vernier LabQuests for electronic data acquisition and analysis in the lab. Their capabilities allowed expanding the experiments to include experiments with spectrophotometers, including Beer's Law, an integrated rate law experiment in kinetics, and measuring an equilibrium constant. Data acquisition was automated for several existing experiments. Revisions to the lab manual to include instructions for the LabQuests are ongoing, with a new edition of the lab manual expected in fall of 2016.

Teaching Assistant Training: In August 2013, I implemented a two-day TA training session. The first day included an understanding of the role of the TA, safety, professionalism, FERPA, ethics, the honor code, grading, effective lab pedagogy, and classroom management. The second day the TAs spent with their lab coordinator, learning the specifics of their courses. This training was repeated in August 2014, incorporating changes suggested by the evaluations from 2013. This training continues to evolve and is now offered in January as well as August. The August

2015 training included a completely revised presentation from EHSRM on safety targeted specifically for TAs, including using fire extinguishers.

E. Funded External Teaching Grants and Contracts:
F. Submitted, but not Funded, External Teaching Grants and Contracts:
G. Funded Internal Teaching Grants and Contracts:
H. Submitted, but not Funded, Internal Teaching Grants and Contracts
I. Other: Funding was requested and provided first from the dean ($20,728, spring 2015), and then from the Department of Chemistry and Biochemistry Equipment Committee ($23,928, fall 2015), to purchase the LabQuests for CHEM 1142.

III. SCHOLARLY/CREATIVE

A. Works in Print (including works accepted, forthcoming, in press)
1. Books (if not refereed, please indicate)
a. Scholarly Monographs:
b. Textbooks:
c. Edited Books:
d. Chapters in Books:
e. Creative Books:

2. Articles
a. Refereed Journal Articles:
b. Non-refereed Articles:
Patterson, M.J. Developing an Internet-Based Chemistry Class. *J. Chem. Educ*. **2000**, 77, 554.

3. Conference Proceedings
a. Refereed Conference Proceedings:
b. Non-refereed:
4. Abstracts:
5. Reports:
6. Book Reviews:
7. Other Works in Print:

B. Works not in Print
1. Papers Presented at Professional Meetings:
2. Invited Talks, Lectures, and Presentations:
3. Consultancies
4. Workshops:
5. Other Works not in Print:
   a. Works “submitted” or “under review”
   b. Works “ in progress”
   c. Other works not in print

C. Grants and Contracts
1. Funded External Grants and Contracts:
2. Submitted, but not Funded, External Grants and Contracts
3. Funded Internal Grants and Contracts:
4. Submitted, but not Funded, Internal Grants and Contracts:

D. Fellowships, Awards, Honors:
Office of Naval Research Graduate Research Fellowship

IV. SERVICE

A. Institutional

1. University:
2. College:
3. Department/School:
   Safety Committee 2014, Stockroom Supervisor Search Committee 2014, REU: Tuesday evening seminars 2014
4. Other: Brazosport College: Capital Campaign Committee, Technology Committee, Grade Appeal Committee, Brazosport College Foundation Board

B. Professional:

1. General

Chair-elect, Chair and Past-Chair, Brazosport Local Section of the American Chemical Society, 1998-2000
National Chemistry Week Co-Chair, Brazosport Local Section of the American Chemical Society, 1997-2000.

2. Reviewer

For Hill, J.; Petrucci, R. *General Chemistry: An Integrated Approach*, 2nd ed.; Prentice Hall; Upper Saddle River, NJ, 1996.

For Burdge, J; Driessen, M. Introductory Chemistry: An Atoms First Approach, 1st ed.; McGraw Hill; 2016.

3. Organizations

American Chemical Society, Sigma Xi, Sigma Pi Sigma, Phi Lambda Upsilon

C. Community:
Blazier Elementary School, Classroom Volunteer, 2012 – present.
Hernandez Elementary School, Science Expo Volunteer, 5/13.
Blazier Elementary School, Science Fair Judge, 1/13/14
Blazier Elementary School, aided 3rd, 4th and 5th graders as they completed science fair projects, January, 2015
Blazier Elementary School, Career Day 2014, 2015, 2016

D. Service Honors and Awards:
Blazier Elementary School, AISD and Austin Partners in Education Parent Ambassador Award, May, 2015
E. Service Grants and Contracts

1. Funded External Service Grants and Contracts:
2. Submitted, but not Funded, External Service Grants and Contracts:
3. Funded Internal Service Grants and Contracts:
4. Submitted, but not Funded, Internal Service Grants and Contracts: