

Gretchen Wilke Whipple

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Academic Employment:

- *Department Chair, Mathematics Department*
Warren Wilson College, Asheville, NC 2004 - 2010, Fall 2012 - present
The responsibilities of this position include coordinating curriculum planning, mentoring and evaluating department faculty, attending Natural Science Division Meetings, and assessing the mathematics program. The chair annually develops and submits course schedules, submits catalog copy, and oversees the completion of all departmental business.
- *Professor of Mathematics*
Warren Wilson College, Asheville, NC 2001 - present
The responsibilities of this position include teaching mathematics courses which satisfy general education requirements, science major requirements, and mathematics major requirements; remaining active in scholarly studies; participating in the college community; and participating in all departmental business.
- *Director of Academic Advising*
Warren Wilson College, Asheville, NC 2010 - 2015
The responsibilities of this position include developing, coordinating, assessing, and revising academic advising program; including faculty development tools and workshops, as well as assigning new students to advisors
- *Assistant Professor of Mathematics*
Hartwick College, Oneonta, New York 1999 - 2001
The responsibilities of this position include teaching Precalculus, Calculus, Calculus II, Problem Solving, Introduction to Abstraction, Abstract Algebra, and Introduction to Statistics; guiding independent student projects/research; supervising student teachers; and participating in all departmental business.
- *Part-Time Instructor of Mathematics*
Louisiana State University, Baton Rouge, Louisiana 1997 - 2001
In recognition of my teaching achievements, LSU promoted me to the position of part-time instructor. This enabled me to be the instructor of record for Calculus courses in addition to Business Calculus and Trigonometry.
- *Graduate Teaching Assistant*
Louisiana State University, Baton Rouge, Louisiana 1993 - 1997
The responsibilities of this position include teaching three courses an academic year. The courses may include College Algebra, Trigonometry, and Business Calculus for (approximately) 40 students.

- *Adjunct Instructor of Mathematics*
Virginia Commonwealth University, Richmond, Virginia Summer 1992
This position of teaching Business Calculus was granted due to my success, and previous experience, in teaching. Summer support was not generally available to graduate students.
- *Graduate Teaching Assistant*
Virginia Commonwealth University, Richmond, Virginia 1991 - 1993
This position included running recitations from large lecture courses and supervising self-paced developmental courses. Due to my extensive teaching experience, I was instructor of record for College Algebra and Trigonometry.
- *Instructor of mathematics*
John Tyler Community College, Chester, Virginia 1989 - 1991
This instructorship involved teaching Basic Arithmetic, Precalculus, Trigonometry, and Calculus. I had the opportunity to teach a very diverse population of recent high school graduates as well as adults returning to studies.
- *Mathematics Teacher*
Highland Springs High School, Highland Springs, Virginia March 1989 - June 1989
This 4 month position required salvaging a year of mathematics for students in Geometry, Algebra II, and Consumer Mathematics. I was also responsible for an after school SAT Preparation course.
- *Mathematics Teacher*
Notre Dame High School, Fairfield, Connecticut 1985 - 1988
- *Mathematics Teacher*
Sacred Heart Academy, Stamford, Connecticut 1982 - 1985

Teaching Experience:

I have 35 years of experience teaching at the high school, community college, college, and university levels. I have taught a wide variety of courses. I have employed the reform curriculum with a student-centered classroom, using technology extensively, as well as the traditional curriculum with a lecture-style course.

I have expanded my understanding of student learning by reading about Math Anxiety from a psychological and from a pedagogical point of view. I am endeavoring to incorporate my knowledge from this reading into my teaching.

While at Warren Wilson College, I have developed a History and Philosophy of Mathematics course, a Geometry course, several Freshmen Seminars, and several Math for Liberal Arts courses. I have directed senior research projects, each of which culminated in paper and a presentation to mathematics faculty and students.

Courses Taught:

Developmental Mathematics
Statistics using MiniTab, Excel, TI83
Workshop Statistics
Math for Liberal Arts
First Year Seminar
Workshop Precalculus
Precalculus
College Algebra

Trigonometry
Business Calculus
Calculus I
Calculus II
Discrete Mathematics
Introduction to Abstraction
Introduction to Mathematical
Rigor

Differential Equations
Linear Algebra
Multi-variable Calculus
Geometry
Abstract Algebra
Real Analysis
History and Philosophy of
Mathematics

Student Research Projects Directed:

Alan Bowman

A Philosophical Look at Zero

Spring 2003

Sarah Cox

Vector Spaces and Applications

Fall 2003

Walker Keel

Cantor's Transfinite Numbers

Spring 2004

Bethany (SarahBeth) Phillips

Graph Theory and its Applications

Spring 2005

Candice Dougherty

Quilting Mathematics

Spring 2005

Nathan Soule

Fractals and the Mandelbrot Set

Fall 2005

Elizabeth (Icky) Evans

Pythagoras and the Pythagorean Brotherhood

Fall 2006

Travis Weiland

The Math behind Electricity

Spring 2007

Teshale Byan

Strength and Stability of Structures

Spring 2008

Veda King Blanchard

A proof of the fixed-point theorem

Spring 2008

Patrick Hurley

A topology based method for automating analysis of sea ice distribution

Spring 2009

Robin Dhakal

Modeling the Trajectory of a Cricket Ball

Spring 2010

Swarup Thapa

Generation of Micro-Hydro-electricity

Fall 2010

Dan Jackson

Results in Elliptical Geometry

Spring 2013

Alex Haynes

Analysis of Wind Turbine Air

Compressors

Spring 2013

Laetitia Mead

Exploration of Dynamical Systems: period 3 implications to Chaos

Spring 2014

David Francis

The Galois Mystery

Fall 2014

Julia Ross

Fibonacci/Lucas Numbers and Their Connection to Trigonometric Functions

Fall 2015

Cameron Abrams

A Study of Graph Theory with Turan's Theorem

Spring 2016

Rediet Amare

Integrating math and Education with Service

Spring 2016

Zachary Barber

Are Uncountable Products Normal? A Topological Counter Example

Spring 2016

Presentations for Warren Wilson College Faculty

First Year Advisor Development Workshop

Laursen Conference Room

June 6, 2013 (alternative date July 15, 2013)

July 26, 2013

We are Changing the World, at least the world of Advising

Faculty Retreat, Canon Lounge August 16, 2012

First Year Advisor Development Workshop

Laursen Conference Room

August 7, 2012 and August 14, 2012

We are not utopia, but maybe you are not that unrealistic

First Year Seminar Instructors' Workshop, Upper Fellowship Hall

May 14, 2012

What We Talk About When We Talk About Advising

Faculty Retreat, Canon Lounge

January 10, 2012

Faculty Development Lunch and Learn: Advising

Laursen Conference Room

October 26, 2011

What we talk about when we talk about Advising

Faculty Retreat

August 2011

The Big Think 2: General Education and Advising Program Development Workshop

Fellowship Hall, Warren Wilson College

August 1-3, 2011

Academic Advising Triage Report

Canon Lounge

Faculty, April 5, 2011

How to use Benchmark College's to aid Program Assessment

WWC Department Chairs

September 1, 2010

Education:

- **Ph. D. in Mathematics** August 1999
Dissertation: *Totally Ordered Monoids*
Advisor: Dr. James J. Madden
Louisiana State University, Baton Rouge, Louisiana
- **M. S. in Mathematics** May 1997
Louisiana State University, Baton Rouge, Louisiana
- **M. S. in Mathematics** May 1993
Thesis: *An Exploration of Character Tables*
Advisor: Dr. Gary Thompson
Virginia Commonwealth University, Richmond, Virginia
- **B. A. in Mathematics and English** (both) May 1982
Mathematics Thesis: *Error Correcting Codes*
Advisor: Dr. Gerard Kiernan
Manhattanville College, Purchase, New York

Selected Graduate Coursework (outside specialty area):

- Number Theory
 - Elementary Number Theory
 - Algebraic Number Theory
 - The Theory of Quadratic Forms
- Combinatorics and Graph Theory
 - Combinatorics
 - The Theory of Graphs
 - Combinatorial Theory
- Studies of the Learning Process
 - Philosophical foundations of Education
 - Classroom Dynamics
 - Mathematics Problem Solving
 - Studies in the Teaching of Mathematics
 - Diagnostic and Prescriptive Teaching in Mathematics

Professional Activities: Conference/Lecture Participation

Tenth Annual Undergraduate Math Conference

University of Tennessee Knoxville, Knoxville, TN

April 16, 2016

Dr. Lea Jenkins

Finding Math in Events Everyday

2016 Parsons Lecture "Chaos, Games, and Fractals"

Dr. Bob Devaney

Lipinsky Auditorium, UNCA, Asheville, NC

March 32, 2016

Ninth Annual Undergraduate Math Conference

University of Tennessee Knoxville, Knoxville, TN

April 11, 2015

Professor Jason Rosenhouse

The Monty Hall Problem, Reconsidered

2015 Parsons Lecture "The Shape of Space"

Dr. Jeff Weeks

Lipinsky Auditorium, UNCA, Asheville, NC

March 26, 2015

Eighth Undergraduate Math Conference

University of Tennessee Knoxville, Knoxville, TN

April 5, 2014

Professor Time Chartier

Sports Ranking March Madness to Twitter

Samantha Capps, WWC Alumnae: *Godel's Incompleteness Theorems*

2014 Parsons Lecture "The right Treatment for the Right Patient at the Right Time"

Dr. Marie Davidian

Lipinsky Auditorium, UNCA, Asheville, NC

April 9, 2014

Sixth Annual Undergraduate Math Conference

Carol P. Brown University Center, University of Tennessee Knoxville, Knoxville, TN

April 13, 2013

2013 Parsons Lecture "The Great Pi/e Debate"

Dr. Thomas Garrity and Dr. Colin Adams

Lipinsky Auditorium, UNCA, Asheville, NC

March 28, 2013

NACADA Academic Advising Administrator's Institute

Savannah, GA

Presentation: Action Plan 2-9-13

February 7-9, 2013

NACADA Regional Conference

Charlotte, NC

April 12-14, 2012

2012 Parsons Lecture "Codes are Everywhere!"

Dr. Judy Walker
Lipinsky Auditorium, UNCA, Asheville, NC
April 5, 2012

Smoky Mountain Undergraduate Conference on the History of Mathematics

North Carolina Center for the Advancement of Teaching, Western Carolina University, Cullowhee, NC
March 17, 2012

The Big Think 2: General Education and Advising Program Development Workshop

Fellowship Hall, Warren Wilson College
Presentations and Workshop Leader
August 1-3, 2011

FYS Teaching Workshop

Fellowship Hall, Warren Wilson College
May 16, 2011

Fourth Annual Undergraduate Math Conference

Carol P. Brown University Center, University of Tennessee Knoxville, Knoxville, TN
April 16, 2011

This Location Dislocation: Forming Innovative Relationships Between the Disciplines of Art, Science, and Archaeology

Matthew Kolodziej
Owen Hall 237, UNCA, Asheville, NC
April 14, 2011

Assessment of Academic Advising Institute

NACADA
Clearwater Beach, FL
February 23-25, 2011

Utilizing Research and Data to Increase Student Persistence and Retention

NACADA
Clearwater Beach, FL
February 20-22, 2011

Academic Advising Administrators' Institute

NACADA
Clearwater Beach, FL
February 16-19, 2011

Fourth Annual Undergraduate Math Conference

Carol P. Brown University Center, University of Tennessee Knoxville, Knoxville, TN
April 10, 2010

2010 Parsons Lecture: "This is SO Wrong!"

Dr. Stan Wagon
Lipinsky Auditorium, UNCA, Asheville, NC
April 1, 2010

Smoky Mountain Undergraduate Conference on the History of Mathematics

Stillwell Building, Western Carolina University, Cullowhee, NC
March 20, 2010

MAA Dinner and Lecture

Highsmith Union, UNCA, Asheville, NC
October 29, 2009

Department Chair Workshop

Fellowship Hall, Warren Wilson College, Asheville, NC
May 18, 2009

Eighth Annual Joe Parson's Lecture: From Flatland to Hypergraphics Geometry and Art in the 4th dimension

Dr. Tomas F. Banchoff
Lipinsky Auditorium, UNCA, Asheville, NC
March 26, 2009

Joint Mathematics Meetings

Washington, DC

Minicourses: *Educating about the state of the planet while enhancing Calculus*

Tom Pfaff

Developing Departmental Self-Studies

Donna Beers and Richard Gillman

January 5 – 8, 2009

ACA Institute for Teaching and Learning

Brevard College, Brevard, NC

June 2-7, 2008

The Consortium for Order in Algebra and Logic

University of Florida, Gainesville, FL

May 4-8, 2008

Second Annual Undergraduate Math Conference

Carol P. Brown University Center, University of Tennessee Knoxville, Knoxville, TN

April 12, 2008

Seventh Annual Joe Parson's Lecture: Mathematical Modeling in Biology: What is it? And how is it useful?

Dr. Mary Lou Zeeman

Lipinsky Auditorium, UNCA, Asheville, NC

April 10, 2008

Fourth Annual Smoky Mountain Undergraduate Conference on the History of Mathematics

Stillwell Building, Western Carolina University, Cullowhee, NC

March 28, 2008

Math Literacy Summit

UNCA, Asheville, NC

February 28, 2008

Math - The Liberating Art: Civil Rights: Constitutional Property to Constitutional People

Dr. Robert Parris Moses

Lipinsky Auditorium, UNCA, Asheville, NC

February 27, 2008

First Annual Undergraduate Math Conference

Carol P. Brown University Center, University of Tennessee Knoxville, Knoxville, TN

April 14, 2008

Smoky Mountain Undergraduate Research Conference on the History of Mathematics

Stillwell Building, Western Carolina University, Cullowhee, NC

March 31, 2007

Sixth Annual Joe Parson's Lecture: We vote, but do we elect whom we really want?

Donald Saari

Lipinsky Auditorium, UNCA, Asheville, NC

March 29, 2007

Smoky Mountain Undergraduate Research Conference on the History of Mathematics

Stillwell Building, Western Carolina University, Cullowhee, NC

April 22, 2006

Joint Mathematics Meetings

San Antonio, Texas

Presented a preliminary report on “Student understanding of the Inverse Relationship of Exponential and Logarithmic Functions”, in MAA Session on Research on the Teaching and Learning of Undergraduate Mathematics.

Minicourse: *Geometry with history for teaching teachers*

David W. Henderson and Daina Taimina

January 12-15, 2006

Workshop Precalculus Assessment Workshop

Dickinson College, Carlisle, Pennsylvania

April 7 – 9, 2005

Fourth Annual Joe Parson's Lecture: Ingenious mathematical amateurs: M.C. Escher (artist) and Marjorie Rice (homemaker)

Doris Schattschneider

Lipinsky Auditorium, UNCA, Asheville, NC

April 4, 2005

Joint Mathematics Meetings

Atlanta, Georgia

MiniCourse: *Assessing Undergraduate Mathematics Programs*

Bonnie Gold

January 5–8, 2005

Seventh Annual Conference in Ordered Algebraic Structures

University of Florida, Gainesville, FL

March 4-6, 2004

Second Annual Joe Parson's Lecture: Newton and Leibnez: Mathematician's at War

William Dunham

Lipinsky Auditorium, UNCA, Asheville, NC

April 3, 2003

Sixth Annual Conference in Ordered Algebraic Structures

Vanderbilt University, Nashville, TN

March 5-8, 2003

Fifth Annual Conference in Ordered Algebraic Structures

Vanderbilt University, Nashville, TN

March 2002.

NSF Summer Institute in Workshop Precalculus

Dickinson College, Carlisle, PA

Presented "Tips on employing the workshop method."

June 24-29, 2001

Joint Mathematics Meetings

New Orleans, LA

Presented "A property of totally ordered monoids of rank 2" in AMS Session on Algebraic Systems. January 10-13, 2001

Workshop on Ordered Algebraic Structures

Vanderbilt University, Nashville, TN

Presented "Totally ordered commutative monoids and *property (r)*". Travel support granted.

March 2000.

AMS Special Session: Lattice Ordered Groups and f-rings

University of Florida, Gainesville, Florida

Presented "a classification of totally ordered commutative nil monoids with 6, 7, and 8 elements."

March 1999

Latticed Ordered Groups and f-rings Conference

University of Florida, Gainesville, Florida

March 1998

Mid-Atlantic Algebra Conference

James Madison University, Harrisonburg, Virginia

Presented "Totally Ordered Monoids: Some uncharted territory."

May 1998

Real algebraic Geometry Seminar

Louisiana State University, Baton Rouge, Louisiana

Presented "A Non-formally real ring."

March 1997

Special Semester on Real algebraic geometry and ordered structures

Louisiana State University, Baton Rouge, Louisiana
Spring 1996

Twenty-Seventh Southeastern International Conference on Combinatorics, Graph Theory, and Computing

Louisiana State University, Baton Rouge, Louisiana
February 1996

Professional Activities: Publications

- Warren Wilson College *Math for Liberal Arts Workbook*. Fall 2010. Revised Fall 2013, Fall 2014.
- Warren Wilson College *Academic Advising Guide*. August 2008. Revised July 2009, Spring 2013.
- *A condition for constructing formally real monoid algebras*, Algebra Universalis. **54** (2005), 53-63.
- *Objectives and Comments* sections of Instructor's Manual for Workshop Precalculus Key College Press, 2004
- *Getting Started Using the Workshop Approach: Instructors Speak Out*, Key College Press, 2004
- *Totally Ordered Commutative Monoids*, Semigroup Forum Vol 62 (2001) 249-278 (work done with Students participating in an NSF Funded Research Program for Undergraduates)

Awards and Honors

David Oxley Memorial Graduate Student Teaching Award. Fall 1997, Louisiana State University
Certificate of Teaching Excellence, Fall 1994, Spring 1996, Fall 1996, and Spring 1999, Louisiana State University

Recognition for Superior Instruction of Freshman Students. alpha Lambda Delta Freshmen Honor Society, Spring and Fall 1998, Louisiana State University

Teaching Assistantship: Louisiana State University, Baton Rouge, Louisiana, 1993 – 1999

Teaching Assistantship: Virginia Commonwealth University, Richmond, Virginia, 1991 – 1993

Four Year Scholarship: Manhattanville College, Purchase, New York, 1978 – 1982.

Service: to the College

- Faculty Body Co-convener, fall 2016 to present.
- Staff Forum Member, fall 2016 to present.
- Serving as Director of Academic Advising, summer 2011 to September 2015.
- Served as the Chair of the Department of Mathematics from 2004 through fall 2010, fall 2012 to present.
- Routinely attend Admission Open Houses, Senior Dinners, Trustee Luncheons, Awards Night, and Graduation
- Participated in Advancement event, May 2015
- Participated in ERP Consultant and Selection Group.
- Served as a member of the Extended Contract Committee fall 2013.
- Participated in search for a new administrative data base system spring 2013; then consultant for a purchase fall 2013.
- Wrote a WWC *Academic Advising Guide* Summer 2008 for faculty, updated and revised it Summer 2009; revised spring 2013
- Developed Academic Advising Website summer 2013
- Served as General Education AIM Liaison
- Served as a member of the Retention action Team fall 2011 through spring 2013

- Participated in the librarian search which was discontinued due to funding, summer 2011
- Served as a member of the Extended Contract Committee Fall 2009 – Spring 2011
- Served as a member of the Climate Action Team Fall 2008 – Fall 2010
- Served as a Team Leader in the Strategic Planning process fall 2009 through spring 2010
- Served as the Chair of the Vice President of Academic Affairs/Dean of the College Search Committee Fall 2007-Spring 2008
- Served on the hiring committee for the Network Systems Administrator, June 2007
- Served as Faculty Body Co-Convener Fall 2004 – Spring 2006
- Served on the hiring committee for the Assistant to the Campus Store Supervisor, Spring 2006, June 2007
- Served as Secretary of Staff Forum Fall 2003 – Spring 2004
- Served as chair of AMS Session on Algebraic Systems January 10, 2001
- Student teacher content advisor (1999 – 2001)
- Mentor for new Graduate Teaching Assistants (1996 – 1999)
- Guest Lecturer (in various courses) (1996 – 1999)
 - Graduate: Real Algebraic Geometry, Algebraic Geometry
 - Undergraduate: The Nature of Mathematics
- Participant in Louisiana Systemic Initiatives Program (LaSIP) (August 1997)
- Proctor/Grader for various mathematics exams for the Louisiana State Rally (1993 – 1999)