

Teaching

Dr. Talitha M. Washington

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TEACHING STATEMENT

To teach effectively, one must understand, motivate, and challenge students. Through engaging classroom interactions and supportive office discussions, I strive to inspire students to explore a variety of mathematical concepts and applications in meaningful ways.

In my courses, I create a stimulating atmosphere that supports students' mathematical, academic, and personal growth while adapting to their diverse needs. Encouraging students to contribute to discussions and present solutions has been pivotal in building engagement and enthusiasm. My teaching style incorporates just enough humor to make the experience both enjoyable and productive, allowing students to take an active role in their learning while I serve as a guide and motivator. I believe students learn best not just by observing, but by what they accomplish independently.

I also emphasize the importance of technical communication. In many of my courses, I assign group-based writing projects that encourage students to articulate mathematical concepts and organize their findings into technical reports. I guide students through the scientific writing process, helping them with revisions and encouraging the use of campus resources, such as the writing center. Writing reinforces concepts and enables students to think critically about mathematics.

As a result of my research in applied mathematics and data science, I incorporate real-world data science projects into the curriculum to make learning relevant and impactful. These projects provide students with hands-on experience in using data to address pressing societal issues. For example, I've guided students in projects that use real-world datasets to analyze topics such as public health trends, environmental changes, and economic disparities. These applications allow students to see how data science and mathematics can drive meaningful insights and solutions, preparing them for the workforce and research roles in a data-driven society.

My research background further allows me to integrate current topics into my teaching, exposing students to research-level concepts early in their academic careers. For instance, I enhance students' understanding of calculus through applications to scientific phenomena. Over the years, I've developed courses in mathematical biology and scientific computing that address real-world issues, such as the oscillations of the Tacoma Narrows Bridge, the spread of infectious diseases, and synthetic biology systems. These examples make mathematics "come alive" for students, showing them its relevance and beauty. I look forward to developing more research-based courses that allow students to see the applications of mathematics and its broader impact.

Accessibility is central to my teaching approach. I hold weekly office hours, conduct evening and weekend review sessions, and post materials on the online learning platform. Students often seek my advice on academic planning and balancing personal interests, and they appreciate having a supportive space to discuss their career goals and aspirations. I am sympathetic to their needs and aim to help them navigate academic challenges while encouraging them to stay committed to their dreams.

I believe that impactful teaching requires collaboration. I value open communication with colleagues, students, and administrators, which allows me to provide the best educational experience possible. As I continue to grow as an instructor and mentor, I take pride in my role as a motivator and educator, inspiring students to pursue knowledge and providing them with tools they need to be lifelong learners and leaders in their fields.

COURSES TAUGHT SINCE FALL OF 2001

Duke University, Durham, North Carolina, USA.

Spring 2002

MATH 31* Laboratory Calculus I

Fall 2002

MATH 31L Laboratory Calculus I

MATH 131 Elementary Differential Equations

The College of New Rochelle, New Rochelle, New York, USA.

Fall 2003

MTH 109 Quantitative Reasoning

MTH 111 College Mathematics

MTH 116 Precalculus/Elementary Functions

MTH 121 Calculus I

Spring 2004

MTH 117 Elementary Statistics

MTH 122 Calculus II

MTH 214 Differential Equations

MTH 330 Numerical Analysis

Fall 2004

MTH 100* Intermediate Algebra

MTH 121 Calculus I

MTH 390 Seminar in Mathematics: Geometry

Spring 2005

MTH 121 Calculus I

MTH 122 Calculus II

MTH 256 Discrete Mathematics

University of Evansville, Evansville, Indiana, USA.

Fall 2005

MATH 105* College Algebra

MATH 211 Calculus I with Precalculus Review

Spring 2006

MATH 222 Calculus II

MATH 324* Differential Equations

Fall 2006

MATH 323* Calculus III

MATH 495 Senior Seminar: Mathematical Modeling

CE 499 Topics Course on Modeling the Tacoma Narrows Bridge

**Two sections taught*

Spring 2007

MATH 324* Differential Equations
MATH 373 Numerical Methods

Fall 2007

MATH 134* Survey of Calculus
MATH 495 Senior Seminar: Mathematical Modeling

Spring 2008

MATH 202 Mathematics for Elementary Teachers
MATH 222* Calculus II
MATH 373 Numerical Methods (Independent Study)
DISC 300 African American Experience: Law and Society

Summer 2008

MATH 324 Differential Equations

Fall 2008

MATH 211 Calculus I with Precalculus Review
MATH 495 Senior Seminar: Mathematical Modeling

Spring 2009

MATH 222* Calculus II
MATH 373 Numerical Methods

Summer 2009

MATH 134 Brief Calculus

Fall 2009

MATH 101* Mathematical Ideas
MATH 355 Foundations of Geometry

Spring 2010

MATH 202 Mathematics for Elementary Teachers
MATH 222* Calculus II
MATH 490 Independent Study on Applied Differential Equations

Summer 2010

MATH 324 Differential Equations

Fall 2010

MATH 101 Mathematical Ideas
MATH 191 Mathematical Modeling in Synthetic Biology
MATH 222* Calculus II

Spring 2011

MATH 101* Mathematical Ideas
MATH 373 Numerical Methods

**Two sections taught*

Howard University, Washington, District of Columbia, USA.

Fall 2011

FRSM 001 Freshman Seminar Group Project Advisor
MATH 157 Calculus II
MATH 164 Numerical Analysis

Spring 2012

MATH 156 Calculus I
MATH 192/450^G Topics in Applied Mathematics: Mathematical Biology

Fall 2012

FRSM 001 Freshman Seminar Group Project Advisor
MATH 006 College Algebra I
MATH 159 Differential Equations
MATH 089 Directed Readings in Honors for Juniors: Modeling Calcium Homeostasis

Spring 2013

MATH 156 Calculus I
MATH 192/450^G Topics in Applied Mathematics: Mathematical Biology
MATH 166 Directed Readings: Discrete Programming in MATLAB and Proof Writing
MATH 166 Directed Readings: Stochastic Programming in Sage

Fall 2013

MATH 156 Calculus I
MATH 222^G Real Analysis I

Spring 2014

MATH 021 Fundamental Concepts of Mathematics for Education II
MATH 223^G Real Analysis II

Fall 2014

MATH 007 Honors Precalculus
MATH 020 Fundamental Concepts of Mathematics for Education I

Spring 2015

MATH 021 Fundamental Concepts of Mathematics for Education II
Math 450^G Topics in Applied Mathematics: Scientific Computing (with MATLAB)

Fall 2015

MATH 020 Fundamental Concepts of Mathematics for Education I
Math 101 Proof and Problem Solving I
Math 247^G Numerical Analysis I (of Differential Equations with MATLAB)

Spring 2016

MATH 006 College Algebra I
MATH 021 Fundamental Concepts of Mathematics for Education II
MATH 166/290^G Directed Readings: Introduction to Data Science with R/RStudio

^GIndicates graduate-level course

Fall 2016

MATH 084/296^G Data Science with R/RStudio Seminar
MATH 020 Fundamental Concepts of Mathematics for Education I
Math 158 Calculus III

Spring 2017

MATH 007 Precalculus
MATH 021 Fundamental Concepts of Mathematics for Education II
MATH 247^G Numerical Analysis I (of Partial Differential Equations with MATLAB)

Clark Atlanta University, Atlanta, Georgia, USA.

Spring 2020

MATH 480 Explorations in Data Science

^G*Indicates graduate-level course*