

Laura Erin Watley

The University of Alabama
Department of Mathematics
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Education

Ph.D., Mathematics, The University of Alabama, May 2017.

Dissertation: Structural Validity and Reliability of Two Observation Protocols in College Mathematics

Advisor: Jim Gleason

Examined the internal structure, internal reliability, and relationship between the constructs of the Mathematics Classroom Observation Protocol for Practices (MCOP²) and the abbreviated Reformed Teaching Observation Protocol (aRTOP) in the undergraduate mathematics classroom.

M.A., Mathematics, The University of Alabama, December 2013.

B.S., Mathematics, Troy University, May 2011.

Teaching Experience

Assistant Professor (Fall 2019-present)

The University of Alabama

As an Assistant Professor, I coordinate multi-section courses, provide professional development for Graduate Teaching Assistants teaching courses, and work within the department to improve courses. I also independently designed syllabi, constructed homework, quiz, and exams. I have also led class lecture, maintained course records, proctored exams, created weekly correspondence, and hold weekly office hours.

- Discrete Mathematics (Math301), Spring2020, Fall 2019
- Geometry and Measurement (Math209), Spring 2020, Fall 2019
- Numbers and Operations (Math 208), Spring 2020
- Precalculus Algebra (Math112), Winter Interim 2019

Full Time Instructor (Fall 2017-Spring 2019)

The University of Alabama

As a full time instructor, I have independently designed syllabi, constructed homework, quiz, and exams. I have also led class lecture, maintained course records, proctored exams, managed the online course component (MyMathLab, Hawkes, and WebAssign), created weekly

correspondence, and held weekly office hours in the Mathematics Technology Learning Center (MTLC) and in my office.

- Geometry and Measurement (Math209), Spring 2019, Fall 2018, Spring 2018, Fall 2017
- Discrete Mathematics (Math301), Spring 2019, Spring 2018
- Calculus (Math 125), Fall 2018
- Precalculus Algebra (Math112), Fall 2018, Spring 2018
- Finite Mathematics (Math110), Summer 2018(pilot), Fall 2017
- Precalculus Algebra (Math112-Online), Spring 2018

Course Leader for Math 301 (Fall 2019-Spring 2020)

The University of Alabama

As the course leader for the Discrete Mathematics course (Math301), I coordinate multi-section of Math 301. I also created and edited the syllabus, schedule, class notes, homework assignments, quiz assignments, and exams.

Course Leader for Math 209 (Fall 2017-present)

The University of Alabama

As the course leader for the Geometry and Measurement course (Math209), I created and edited the syllabus. I also created and edited the MyMathLab component of the course, including creating the schedule, homework assignments, quiz assignments, and exams.

Course Developer for Math 110 (Summer 2018)

The University of Alabama

I volunteered to run a pilot study during the Summer of 2018. I was integral in the decision to changing to the new textbook and software after the pilot was complete. In order to have data with the least amount of variance, I taught two section of Finite, one with the previously used textbook and software and the other section with the new software and textbook. I helped in the creation and editing of the pilot online component of the course, including creating the schedule, homework assignments and exams. I also created notes and a homework solutions manual which is being used in future semester by other instructors at the university.

Course Development Assistant for Math 112 (Fall 2017)

The University of Alabama

I assisted the Precalculus (Math 112) course leader in developing the Math 112 course for Fall 2017. I edited the syllabus. I also edited the WebAssign component of the course, including editing the schedule, homework assignments, quiz assignments, and exams.

Graduate Teaching Assistant (Fall 2011-Spring 2017)

The University of Alabama

As the GTA instructor of record, I led class lectures, maintained course records, proctored exams, managed the online course component (MyLabsPlus or WebAssign), created weekly correspondence, and held weekly office hours in the Mathematics Technology Learning Center (MTLC).

- Precalculus Algebra (Math 112), Spring 2017, Fall 2016, Spring 2016(pilot), Fall 2015, Spring 2014
- Calculus and Its Applications (Math 121), Spring 2015, Fall 2014
- Precalculus Algebra and Trigonometry (Math 115), Fall 2013
- Precalculus Trigonometry (Math 113), Spring 2013

Teaching Assistant (Fall 2011-Fall 2013)

The University of Alabama

As a Teaching Assistant, I led weekly calculus recitation classes. I also graded homework, quizzes, and exams. I also led test review sessions and homework sessions.

- Calculus I (Math 125), Fall 2012, Spring 2012, Fall 2011
- Calculus II (Math 126), Fall 2011

Tutor

The University of Alabama

Tutoring all introductory college mathematics courses (Introductory Algebra, Intermediate Algebra, Finite Mathematics, Precalculus Algebra, Precalculus Trigonometry, and Calculus & Its Applications) at the Mathematics Technology Learning Center (MTLC) from Fall 2011 to present.

Mentoring Experience

Teacher Training Program Mentor for UA Graduate Teaching Assistants (Fall 2017-present)

The University of Alabama

As a mentor, I participated in helping develop and redesigning the new teacher training program implemented by the Mathematics Department at The University of Alabama for Graduate Teaching Assistants (GTA). The training has include GTA classroom observation throughout the semester, mock tutoring sessions, and mock teaching sessions. I also meet with GTAs outside of the training program to help them develop their teaching styles.

Awards, Fellowships, and Grants

2018 Innovation Scholar, College of Continuing Studies, The University of Alabama, (2018).
Awarded in recognition of excellence and innovation in online teaching.

Outstanding Teaching by a Doctoral Candidate 2015-2016, Department of Mathematics, The University of Alabama. *Awarded to only one graduate student each academic year for outstanding teaching.*

Graduate Teaching Assistantships, Department of Mathematics, The University of Alabama, (2011-2017).

Henry Miller Fellowship, Department of Mathematics, The University of Alabama, (2014).
Awarded to students with exceptional performance on qualifying exams and teaching.

Travel Grant, Department of Mathematics, The University of Alabama, (2012, 2016, 2018).

Computer Skills

Proficient with LaTeX, R, SPSS, Lisrel, Qualtrics, Pearson/MyMathLab, Cengage/WebAssign, Hawkes, Adobe, and MS Office. Previous experience with MatLab.

Research Interest

I am interested in the improvement of Undergraduate Mathematics Education. My current research involves the assessment of two classroom observation protocols, the Mathematics Classroom Observation Protocol for Practices (MCOP²) and the abbreviated Reformed Teaching Observation Protocol (aRTOP). I evaluated each protocol in 110 classrooms to look at the internal structure, internal reliability, and relationship between the constructs. The mathematical techniques I have used in my research includes, Structural Equation Modeling (SEM), Confirmatory Factor Analysis (CFA), regression analysis, and Cronbach's alpha analysis. I am interested in expanding this study to include more classrooms observations to be used in future research and publications. I am also interested in applying my knowledge in research in undergraduate mathematics education to help improve and develop courses in Mathematics.

Association Memberships

American Mathematical Society (AMS)
Mathematics Association of America (MAA)
Society of Industrial and Applied Mathematics (SIAM)
Association for Women in Mathematics (AWM)

Mathematics Conferences Presentations

Presented: Structural Validity and Reliability of Two Observation Protocols in College Mathematics at Alabama Association of College Teachers of Mathematics, Jacksonville, AL, Feb. 2018

Mathematics Conferences Attended

Alabama Association of College Teachers of Mathematics, Montgomery, AL, Feb. 2019

Alabama Association of College Teachers of Mathematics, Jacksonville, AL, Feb. 2018

Alabama Association of College Teachers of Mathematics, Birmingham, AL, Feb. 2017

Joint Mathematics Meeting, Atlanta, GA, Jan. 2017

Troy University MathFest, Troy, AL, April, 2016

Alabama Association of College Teachers of Mathematics, Tuscaloosa, AL, Feb. 2015

SIGMMA on Research in Undergraduate Mathematics Education, Denver, CO, Feb. 2013

Topology Student Workshop, Atlanta, GA, June 2012

Alabama Association of College Teachers of Mathematics, Athens, AL, Mar. 2012

Professional Development Workshop

UA Invisible Disabilities Workshop, Tuscaloosa, AL, Nov. 2018

MAA Minicourse, Teaching Introductory Statistic (GAISE 2016), Atlanta, GA, Jan. 2017

UA Online Learning Innovation Summit (OLIS), Tuscaloosa, AL, Jan. 2018

UA College of Continuing Studies' Online Educator Professional Development Program, Tuscaloosa, AL, Fall 2017