

DR. MARGARET BYRNS

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EDUCATION

University of West Florida, Pensacola, FL

EdD in Curriculum & Instruction

Dec 2023

Area of Concentration: Instructional Design and Technology

Dissertation: *“The Impact of a Flipped Classroom Pedagogy on Conceptual Understanding of Confidence Intervals for Undergraduate Statistics Students”*

University of West Florida, Pensacola, FL

EDs in Curriculum and Instruction

April 2019

4.0 GPA

Area of Concentration: Instructional Design and Technology

Jacksonville University, Jacksonville, FL

MA in Mathematics

April 2015

4.0 GPA

Advisor: Dr. Pam Crawford

Thesis: *“The Effect of Videos and In-Class Problem-Solving on Calculus Students’ Exposure to Volumes of Revolution Using the Shell Method”*

University of Florida, Gainesville, FL

MEd in Secondary Mathematics Education

Aug 2003

Areas of Concentration: Teaching problem-solving skills to International Baccalaureate students

University of Florida, Gainesville, FL

BS in Mathematics

Aug 2002

Area of Concentration: Applied Mathematics

TEACHING EXPERIENCE

Flagler College, St. Augustine, FL

Assistant Professor of Mathematics

Aug 2015- current

- Develop course syllabi, set course pacing, provide instruction, hold office hours, and assign grades. Subjects taught include Calculus I, Calculus II, Statistics, Business Calculus, History of Mathematics, Pre-Calculus, College Algebra, and Essentials of Mathematics.
- Designed and developed curriculum for new Core Statistical Inquiry course.
- Designed and developed curriculum for new History of Mathematics course.
- Literacy Mentor for Quantitative Reasoning college-wide literacy. Develop and approve course syllabi, hiring new faculty, and ensuring all department quantitative reasoning courses are consistent with the Core program and college mission.
- Work as student advisor for business administration majors.
- First Year Advisor to Flagler first year students.
- Created co-curricular course with College Algebra and Microeconomics.
- Member of college-wide Core committee.

- Member of college-wide committee on assessment.
- Member of department committee on mathematics placement.
- Member of search committees for new department colleagues.

St. Johns River State College, St. Augustine, FL

Adjunct Instructor

Summers 2015-2018

- Develop course syllabi, set course pacing, provide instruction, hold office hours, and assign grades. Subjects taught include Intermediate Algebra and Developmental Mathematics.

Nease High School, St. Augustine, FL

Aug 2006-Aug 2015

Instructor: AP Calculus AB, AP Calculus BC

Aug 2008-Aug 2015

- Major course topics include derivatives and applications, integration and applications, integration techniques, infinite series, parametric and polar functions, and solving differential equations.
- Developed course pacing, lessons and PowerPoints, and annually prepare students for AP exams.
- AP exam success rates annually 85-95%.

Instructor: IB Mathematics HL and SL

Aug 2008-Aug 2015

- Major Higher-Level and Standard-Level course topics include calculus, vectors, matrices, complex numbers, statistics, and induction.
- Developed course pacing, lessons and PowerPoints, assigned and assessed Internal Assessments per International Baccalaureate criteria, and annually prepare students for IB exams.
- IB exam success rates annually 90-100%.

Instructor: Adv. Math Topics, Pre-Calculus, Liberal Arts Math

Aug 2006-Aug 2010

- Provided instruction to students with a wide range of abilities in topics covering algebra, trigonometry, and remedial mathematics.
- Developed course pacing, all lessons, and provided remedial help to students as needed.
- Worked on teacher-led committees to write county-wide formative assessments and pacing guides for Pre-Calculus and Liberal Arts Math.

Jacksonville University, Jacksonville, FL

Upward Bound Instructor

June 2005-June 2015

- Mathematics teacher to low-income high school students in subjects including: geometry, precalculus, calculus, college algebra, and SAT preparation.
- Advise students in suggested college coursework.
- Teach students during four-week summer program and on Saturday mornings during the school year.

Englewood High School, Jacksonville, FL

Aug 2003-Aug 2006

Instructor: AP Calculus AB, Pre-Calculus, Geometry, Algebra 2, Intensive Math

- Provided instruction to students with a wide range of abilities in topics covering calculus, algebra, geometry, trigonometry, and remedial mathematics.
- Regularly worked with remedial students after school.

- Served as National Honor Society sponsor.

AWARDS

Nease High School Teacher of the Year Nominee 2014

Star Award recipient for excellence in teaching 2012

Nease High School Teacher of the Year Nominee 2010

PUBLICATIONS AND PRESENTATIONS

“The Impact of a Flipped Classroom Pedagogy on Conceptual Understanding of Confidence Intervals for Undergraduate Statistics Students”

Dissertation research, University of West Florida

Dec 2023

“Flipped Classroom Best Practices”

FSCJ Mathematics Mini-Conference, Jacksonville, FL

Feb 2022

“Flipped classroom strategy effects on K-12 mathematics learning outcomes: A meta-analysis”

Contributor, 2021 AECT Convention, Chicago, IL

Nov 2021

“Experiences with a College Algebra Flipped Classroom”

Scholarship 20/20 Presentation, Flagler College

Feb 2019

“The Effect of Videos and In-Class Problem-Solving on Calculus Students’ Exposure to Volumes of Revolution Using the Shell Method”

Thesis research, Jacksonville University

April 2015

“Elliptic Curves”

Diophantine Equations that are known as Elliptic Curves.

Number Theory course (MATH-507), Jacksonville University

June 2014

“Tropical Geometry”

Operations in Tropical Geometry.

Geometry course (MATH-502), Jacksonville University

March 2014

“Cardano and the Solution of the Cubic Equation”

Historical presentation given on Cardano’s contributions to algebra.

History of Math course (MATH-510), Jacksonville University

June 2013

Byrns, M., & Boldan, C. (2013). *The Florida Value-Added Model*

Unpublished manuscript example of modeling using statistics.

April 2013

LEADERSHIP

Flagler College, St. Augustine, FL

- Course Coordinator for Core and Business Calculus Courses** 2023-2024
- Work with colleagues to determine common pacing, grading structure, and other course policies.

- Core Literacy Mentor** 2023-current
- Mentor faculty through the development and approval of new Core classes for the Quantitative Reasoning Literacy.
 - Assist with planning and leading sessions in the annual June Classical and Liberal Education Week.
 - Work with director of the Classical and Liberal Education Center and director of Institutional Research to develop and maintain assessment procedures for the literacy.
 - Work with director of the Classical and Liberal Education Center to observe and evaluate adjuncts and visiting lecturers in the literacy.

- Core Committee Member** 2022-current
- Make decisions regarding college-wide Core program implementation and evaluation.
 - Assisted committee with designing and implementing new core curriculum.
 - Serve as Quantitative Reasoning Literacy mentor; revised and approved course syllabi for various value pathways within the Quantitative Reasoning curriculum.
 - Designed course curriculum and all course materials for courses COR141, COR142, COR143, and COR144.

- Advising Committee Member** 2020-2022
- Focused on updating and revising campus-wide procedures for advising students.

- Advisory Board for Center for Teaching and Learning** 2019-2020
- Provided recommendations for mission and responsibilities for newly formed Center for Teaching and Learning.

- Assessment Committee Member** 2015-2019
- Assisted departments with updates to annual assessment plans required for college accreditation.

- Course Coordinator for College Algebra** 2015-16, 2018-19
- Lead colleagues to determine common pacing, grading structure, and other course policies for College Algebra course.

Nease High School, St. Augustine, FL

- Math Team Coach** 2010-2015
- Founded Nease High School's Florida Mu Alpha Theta competitive math team. Responsible for membership growth from 5 to 35 members.
 - Coach students in Algebra 2, Pre-Calculus, Statistics, and Calculus subjects. Created all subject-matter study materials.
 - Guided and followed team to annual regional competitions. Team annually places in the top five at regional competitions.

- Senior Class Sponsor** 2011-2014

- Organized graduation ceremony and all class activities.

St. Johns County School District, St. Augustine, FL

Race to the Top Committee Member

2010-2012

- Served as teacher representative for St. Johns County’s Race to the Top grant committee.
- Worked with district superintendent to schedule meetings, plan agendas, and finalize district grant applications.

St. Johns Education Association – Treasurer

2008-2010

- Approved of all purchases and served on Executive Board.
- Handled budget of over \$60,000, issued checks, and filed tax returns.

PROFESSIONAL CERTIFICATIONS AND MEMBERSHIPS

- Association for Educational Communications and Technology.
- American Mathematical Society.
- International Baccalaureate Certified instructor.
- Pi Mu Epsilon Mathematical Honor Society member. (Jacksonville University *Florida Lambda* chapter.)

PROFESSIONAL DEVELOPMENT

FSCJ Mathematics Mini-Conference, Jacksonville, FL	Feb 2020
MAA-FTYCMA Annual Joint Meetings, Lakeland, FL	Feb 2019
Title IX Sensitivity and Panel training, Flagler College	Aug 2018
Introduction to Title IX training, Flagler College	Aug 2016
“Data Analysis Key Skills and Topics to Teach” webinar	Nov 2015
St. Johns County technology grant training, St. Augustine, FL	Feb 2015
FLIBS IB Math HL Training, St. Petersburg, FL	June 2014
IB Math HL Institute, IB World School, Montezuma, NM	July 2009
CASIE IB Math HL Workshop, Atlanta, GA	Oct 2008
AP Calculus BC Institute, University of Central Florida	June 2007
AP Calculus AB Institute, The Bolles School	June 2006