Jeffrey J. Dodd

Home address: 409 Church Ave. NE Apt. 6, Jacksonville, AL 36265
Office address: MCIS Department, JSU, 700 Pelham Road North, Jacksonville AL 36265
Home: 256-782-0118 • Office: 256-782-5112 • Email: jdodd@jsu.edu
Home page: http://mcis.jsu.edu/faculty/jdodd/
Birth date: July 11, 1963 in Russellville, AR (U.S. citizen)

EDUCATION

Ph.D., Mathematics, University of Maryland at College Park, 1996

- Ph.D. thesis: *Convective Stability of Shock Profile Solutions of a Modified KdV-Burgers Equation.*
- Oral candidacy examination topics: weak convergence methods, spectral properties of ordinary differential operators, nonlinear hyperbolic PDE, and invariant manifold theorems.
- Written qualifying examination areas: partial differential equations, numerical analysis, and algebra.

M.S., Mathematics, University of Pennsylvania, 1988

- Passed the written qualifying examination at the Ph.D. level (areas: real and complex analysis, topology, and algebra).

B.S., Mathematics, Magna Cum Laude, University of Maryland at College Park, 1985

ACADEMIC EMPLOYMENT

Professor of Mathematics, 2008 - present
Mathematical, Computing, and Information Sciences Department, Jacksonville State University

Associate Professor of Mathematics, 2002 - present
Mathematical, Computing, and Information Sciences Department, Jacksonville State University

Assistant Professor of Mathematics, 1996 - 2002
Mathematical, Computing, and Information Sciences Department, Jacksonville State University

Instructor, 1995 - 1996
Mathematics Department, University of Maryland at College Park

Graduate Teaching Assistant, 1989 - 1995
Mathematics Department, University of Maryland at College Park

Graduate Teaching Assistant, 1987 - 1988
Mathematics Department, University of Pennsylvania

Strauss Undergraduate Teaching Assistant, 1984 - 1985
Mathematics Department, University of Maryland at College Park

OTHER PROFESSIONAL EMPLOYMENT

Research Analyst, 1988 - 1989
ANSER (Analytic Services Inc.), Arlington VA

- Provided Air Force clients with day-to-day scientific and technical support.
- Researched and prepared written reports and oral briefings on several topics, including a written report proposing a new application of remote sensing technologies and a descriptive briefing on a satellite communications system.

TEACHING AND ADVISING

Assistant, Associate, and Full Professor of Mathematics, Jacksonville State University (1996 - present)

Courses Taught:

LS 100 First Year Orientation	MS 344 Differential Equations
MS 100 Intermediate Algebra	MS 390 Numerical Analysis
MS 108 Exploring Mathematics	MS 415 Advanced Calculus I
MS 112 College Algebra	MS 416 Advanced Calculus II
MS 113 Plane Trigonometry	MS 441 Abstract Algebra I
MS 115 Precalculus	MS 451 Complex Variables
MS 126 Calculus I	MS 484 Partial Differential Equations
MS 127 Calculus II	MS 499 Undergraduate Research in Mathematics
MS 227 Calculus III	MS 528 Theory of Equations and Functions for Teachers
MS 300 Intro. to Advanced Math.	MS 530 Foundations in Calculus for Teachers
MS 309 Combinatorics	MS 549 Selected Topics in Mathematics for the Secondary Teacher
MS 323 College Geometry	MS 598 Directed Readings (in Linear Algebra)

Academic Advising:

- Advisor, MCIS Department (1996 - present): regularly advise mathematics and computer science majors during preregistration, open enrollment periods, and Visitation Days (Parents' Days).
- Faculty Mentor, JSU Freshman Orientation Program (2000): received 30 hours of training in advising, university programs and resources, and leadership skills. Staffed five two-day orientation sessions for students and their parents and one evening session for transfer students during the summer. Provided academic advisement for 60 freshman during their first two semesters at JSU.

Instructor, University of Maryland at College Park
1995 - 1996

Courses Taught:

Math 001 Review of High School Algebra
Math 002 Advanced Review of High School Algebra

(Responsibilities: lecturing, grading, and office hours.)

Graduate Teaching Assistant, University of Maryland at College Park
1989 - 1995

Cooperative Learning Projects:

ACCEL Project, 1991-1994: a restructuring of the traditional discussion sections for Math 140-141 (Calculus 1 and 2 for science and mathematics majors) as cooperative learning workshops.

- Selected as one of two graduate students to teach the pilot workshop sections in 1991.
- Taught workshop sections from the Spring of 1991 through the Spring of 1994.
- Contributed to the evolution of the program both by classroom experimentation and through vigorous discussion and debate with professors and other graduate assistants.

C2 ("Close Contact") Calculus, 1994-95: an expanded version of ACCEL making the workshop method available to over two hundred Math 140-141 students, and featuring the TI-81 graphics calculator.

- Wrote new problem sets for use in C2 cooperative learning workshop sections with another graduate assistant and textbook author Professor Denny Gulick.
- Participated in planning many aspects of the C2 program, including a two-day teacher orientation.
- Assisted in evaluating and adjusting the program as the year progressed.

Courses Taught as Traditional Lectures:

Math 110 Finite Mathematics	Math 115 Precalculus
Math 111 Introduction to Probability	Math 240 Introduction to Linear Algebra

- For all these courses, responsibilities included lecturing, grading, and office hours. For the probability and linear algebra courses, it also included the design of syllabus, homework sets, and exams.
- Math 111 was part of the Summer of 1992 Minority Scholars in Computer Science and Engineering Program for disadvantaged high school students.

Academic Advising:

- Advise-Five Program, University of Maryland at College Park (1994-1996): volunteered each year to serve as the principal academic advisor for five freshmen entering with undecided majors, meeting three times per semester with each student.
- Mentors Program, Mathematics Department, University of Maryland at College Park (1990-1996): served as an informal advisor to incoming graduate students.

Graduate Teaching Assistant, University of Pennsylvania
1987 - 1988

Courses Taught:

Math 140-141 Calculus 1 and 2 (traditional discussion sections supplementing a large lecture)
Math 360 Advanced Calculus 1 (full responsibility)

Strauss Undergraduate Teaching Assistant, University of Maryland at College Park
1984 - 1985

Courses Taught:

Math 140-141 Calculus 1 and 2 (traditional discussion sections)

PUBLICATIONS, PRESENTATIONS, AND SCHOLARLY ACTIVITY

Scholarly Papers

- *Generalizing the Equal Area Zones Property of the Sphere*, Journal of Geometry, Vol. 90 (2008), 47–55
- *Spectral Stability of Undercompressive Shock Profile Solutions of a Modified KdV-Burgers Equation*, Electronic Journal of Differential Equations, Vol. 2007 (2007), No. 135, pp. 1-13.
- *Which Surfaces of Revolution Core Like a Sphere?*, submitted to Mathematics Magazine.
- *Some Combinatorial Questions*, Alabama Journal of Mathematics, Vol. 24 No. 2, Fall 2000.
- *A Novel Tournament: A New Combinatorial Design for the Final Round of the Alabama Statewide Mathematics Contest*, Alabama Journal of Mathematics, Vol. 23 No. 1, Spring 1999.

Book Review

- *Some Books on the Art of Problem Solving*, Alabama Journal of Mathematics: Vol. 26 No. 1 2002.

Textbook Contributions

- "The Paris Guns: An Episode in the History of the Science of Ballistics", project for the textbook Differential Equations with Computer Lab Experiments by Dennis G. Zill, Jones and Bartlett Publishers (Sudbury, Massachusetts), commissioned and in preparation.
- "Tricky Timing: The Isochrones of Huygens and Leibniz", project for the textbook Advanced Engineering Mathematics by Dennis G. Zill and Michael R. Cullen, Jones and Bartlett Publishers (Sudbury, Massachusetts), to appear, accepted July 17, 2009.
- "When Differential Equations Invaded Geometry: Inverse Tangent Problems in the 17th Century", project for the textbook Advanced Engineering Mathematics by Dennis G. Zill and Michael R. Cullen, Jones and Bartlett Publishers (Sudbury, Massachusetts), to appear, accepted July 17, 2009.
- "Potassium - Argon Dating", project for the textbook Calculus with Early Transcendental Functions by Dennis G. Zill, Jones and Bartlett Publishers (Sudbury, Massachusetts), to appear, accepted January 10, 2008.
- "Making Waves", project for the textbook Advanced Engineering Mathematics by Dennis G. Zill and Michael R. Cullen, Jones and Bartlett Publishers (Sudbury, Massachusetts), to appear, accepted September 1, 2007.
- "Two Properties of the Sphere", project for the text book Differential Equations with Computer Lab Experiments by Dennis G. Zill, Jones and Bartlett Publishers (Sudbury, Massachusetts), to appear, accepted August 15, 2007.
- "Vibration Control: Vibration Isolation", project for the textbook Advanced Engineering Mathematics by Dennis G. Zill and Michael R. Cullen, Jones and Bartlett Publishers (Sudbury, Massachusetts), to appear, accepted July 10, 2007.

- "Vibration Control: Vibration Absorbers", project for the textbook Advanced Engineering Mathematics by Dennis G. Zill and Michael R. Cullen, Jones and Bartlett Publishers (Sudbury, Massachusetts), to appear, accepted May 21, 2007.
- "The Uncertainty Inequality in Signal Processing", project for the textbook Advanced Engineering Mathematics by Dennis G. Zill and Michael R. Cullen, Jones and Bartlett Publishers (Sudbury, Massachusetts), appears in the 3rd edition, copyright 2006.
- "Minimal Surfaces", project for the textbook Advanced Engineering Mathematics by Dennis G. Zill and Michael R. Cullen, Jones and Bartlett Publishers (Sudbury, Massachusetts), appears in the 3rd edition, copyright 2006.

Referee

- Refereed a mathematics paper for the Journal of the Alabama Academy of Science in 2008.

Invited Presentations

- "The Alabama Statewide Mathematics Contest: can one contest fit all?": Alabama Council of Teachers of Mathematics (ACTM) Annual State Conference, Auburn University at Montgomery, Montgomery AL, November 15, 2002.
- "Convective Stability of Shock Profile Solutions of a Modified KdV-Burgers Equation": Society for Industrial and Applied Mathematics (SIAM) Minisymposium on Dispersive Equations, Annual Joint Meetings of the American Mathematical Society (AMS) and the Mathematical Association of America (MAA), Washington D.C., January 21, 2000.

Session Organizing

- Contributed Paper Session Co-organizer: "Encouraging Underrepresented Groups of Students in Math Contests", Annual Joint Meetings of the American Mathematical Society (AMS) and the Mathematical Association of America (MAA), Baltimore, January 17, 2003.

Contributed Presentations

- "What Else Cores Like a Sphere?": Annual Meeting of the Alabama Association of College Teachers of Mathematics (AACTM), February 28, 2009.
- "Generalizing Some Geometric Properties of the Sphere": Colgate University Mathematics Department Seminar Series, November 12, 2007.
- "Generalizing a Coring Property of the Sphere": 2007 Annual Meeting of the Southeastern Section of the Mathematical Association of America, March 17, 2007.
- "Rings and Things": Mathfest 2006 (Annual Summer Meeting of the Mathematical Association of America), August 12, 2006.
- Panelist, "The No Child Left Behind Act": panel discussion at the Annual Meeting of the Southeastern Section of the Mathematical Association of America, March 26, 2004.
- "Mathematics Program Assessment at Jacksonville State University": article in a report prepared and distributed by Bernie Madison of the University of Arkansas at his Assessment Workshop at the Annual Meeting of the Southeastern Section of the Mathematical Association of America, March 26, 2004.
- "Using Challenging Problems from Elementary Mathematics to Stimulate and Motivate Preservice and Inservice Teachers": Annual Meeting of the Southeastern Section of the Mathematical Association of America (MAA-SE), Huntingdon College, Montgomery AL, March 30, 2001.

- "Generalizing the Equal Area Zones Property of the Sphere": Annual Joint Meetings of the American Mathematical Society (AMS) and Mathematical Association of America (MAA), New Orleans LA, January 13, 2001.
- "Some Combinatorial Questions": Annual Meeting of the Alabama Association of College Teachers of Mathematics (AACTM), Troy State University, Troy AL, February 12, 2000.
- "What Else Slices Like a Sphere?": Annual Meeting of the Alabama Association of College Teachers of Mathematics (AACTM), Jacksonville State University, Jacksonville AL, February 27, 1999.
- "Vignettes From the History of the Mathematics of Voting": JSU Math Department - Math Club Colloquium, February 11, 1998.
- "Alabama Commission on Higher Education (ACHE) Viability Standards" (with James Stagliano): Annual Meeting of the Alabama Association of College Teachers of Mathematics (AACTM), University of Mobile, Mobile AL, February 22, 1997.
- "An Introduction to the Mathematics of Voting": Fairview High School Mu Alpha Theta Math Club, Cullman AL, December 10, 1996.

For the Alabama Statewide Mathematics Contest

- *Results of the Statewide Contest*, Alabama Journal of Mathematics: Vol. 22 No. 2 1998, Vol. 23 No. 2 1999, Vol. 24 No. 2 2000, Vol. 25 No. 2 2001, Vol. 26 No. 2 2002, Vol. 27 No. 2 2003.
- *Algebra II with Trigonometry Examination*, 1999 - 2003: editor and contributing author, 2009: editor and co-author.
- *Geometry Examination*, 1999 - 2003: editor and contributing author.
- *Final Round Ciphering Questions*, 1998 - 2003: co-author and editor.

Editorial and Developmental Book Reviews

- Prelude to Calculus, preliminary edition, by Sheldon Axler for Danielle Amico, Editorial Assistant at John Wiley and Sons, Inc., July 2006.
- Algebra: Form and Function, 1st ed., by William G. McCallum, Deborah Hughes-Hallett, and Eric Connally, for John Wiley and Sons Inc., Publishers, December 2004.
- Calculus: Early Transcendental Functions, by Larson, Hostetler, and Edwards, one hour telephone interview with Elizabeth Kassab, Editorial Assistant, Houghton Mifflin Publishers, Boston MA, November 2004.
- Just in Time Algebra and Trigonometry for Students of Calculus, 2nd ed., by Ronald I. Brent and Guntram Mueller, for Rachel S. Reeve, Senior Project Editor, Addison-Wesley, Boston MA, June 2004.
- Differential Equations and Mathematical Modeling (new book), for Amy Gembala, Development Editor, McGraw-Hill, San Francisco CA, July 2003.
- Differential Equations and Mathematical Modeling (new book), for Michelle Munn, Development Editor, McGraw-Hill, San Francisco CA, October 2000.
- Untitled new book on applied calculus, for Gale Epps, Editorial Assistant, Prentice Hall, Upper Saddle River NJ, August 2000.
- Advanced Engineering Mathematics, 2nd ed. by Dennis G. Zill and Michael R. Cullen, for Barbara Lovenvirth, Developmental Editor, Jones and Bartlett Publishers, Norwood MA, December 1998.
- Calculus, 5th ed. by C. Henry Edwards and David E. Penney, for Gale Epps, Editorial Assistant, Prentice Hall, Upper Saddle River NJ, March 1997.

Web Page

- "Mathematics Web Sites," a guide to finding information about mathematics on the web, specifically tailored to the faculty and students of JSU (http://mcis.jsu.edu/ms/ms-home.html).

AWARDS AND HONORS

- **College of Arts and Sciences Distinguished Service Award, 2007**: "Presented to Jeffrey J. Dodd by his colleagues in the College of Arts and Sciences, Jacksonville State University." (This is the College of Arts and Sciences' highest award for service. It is given each year to one faculty member selected by a faculty committee, and comes with a one course teaching reduction and $500 grant for the subsequent year.)
- **College of Arts and Sciences Dean's Service Award, 2005**: "Presented to Jeffrey J. Dodd for Institutional Service, College of Arts and Sciences, Jacksonville State University." (This award is given each year to several faculty members selected by the Dean based on recommendations from the department heads.)
- **College of Arts and Sciences Distinguished Service Award, 2002**: "Presented to Jeffrey J. Dodd by his colleagues in the College of Arts and Sciences, Jacksonville State University."
- **JSU College of Arts and Sciences Dean's Service Award, 1998**: "Presented to Jeffrey J. Dodd for Institutional Service, College of Arts and Sciences, Jacksonville State University."
- **Graduate Fellowship** (tuition remission and stipend with no teaching duties), Department of Mathematics, University of Pennsylvania: 1985 - 1987.
- **Student Speaker**, Mathematical and Physical Sciences Commencement, University of Maryland at College Park, May 1985.
- **Phi Kappa Phi National Honor Society**, 1984 - present.
- **Chancellor's Scholarship** (a merit based scholarship for in-state tuition and fees), University of Maryland at College Park, 1981 - 1985.

GRANTS

- JSU University Travel and Self Improvement Grant, 2007: funding a presentation at the Annual Meeting of the Southeastern Section of the MAA, Statesboro GA., March 17, 2007.
- JSU Faculty Development Grant, 2000: funding a presentation at the Joint Meetings of the AMS and MAA, New Orleans, LA, January 13, 2001.
- JSU Faculty Development Grant, 1999: funding a presentation at the Joint Meetings of the AMS, MAA, and SIAM, Washington D.C., January 21, 2000.
- Project NExT ("New Experiences in Teaching") - Southeast Fellowship: partial travel funding for two annual conferences of the Southeastern Section of the Mathematical Association of America (MAA-SE), funded by MAA-SE, 1998 - 1999.
- Mathematicians and Education Reform (MER) Forum on Teacher Education and Mathematics Departments, Chicago IL, November 7-10, 1996: selected from a national pool of applicants as one of 50 attendees receiving room and board funded by the National Science Foundation (NSF).

SERVICE

Regional

- Distinguished Service Award Selection Committee, Southeastern Section of the Mathematical Association of America (MAA-SE), 2003 - 2009.

  Studied, discussed, and ultimately voted on the applications for this award each year.

- Alabama State Director, Southeastern Section of the Mathematical Association of America (MAA-SE), 2000 - 2003.

  Organized and publicized the annual MAA Alabama State Dinner Meeting; wrote a "News from Alabama" article for the MAA-SE Newsletter each spring; served on the MAA-SE Executive Council and on the MAA-SE Award for Distinguished College or University Teaching Selection Committee.

State

- Director, Alabama Statewide High School Mathematics Contest, sanctioned by the Alabama Council of Teachers of Mathematics (ACTM), 1998 - 2003.

  The contest served approximately 1200 students from approximately 60 high schools located all over the state. It took place in two rounds: a first round consisting of three written examinations (Algebra, Geometry, and Comprehensive) administered at eight different university campuses throughout the state, followed by a second round "ciphering" (Jeopardy style) tournament here at JSU. My administrative and creative duties for the contest comprised an annual cycle of activity starting in early August and stretching well into May each year and occupying hundreds of hours of my time each year.

- Webmaster, Alabama Statewide High School Mathematics Contest, 1998 - present.

- Treasurer, Alabama Council of University Faculty Presidents (ACUFP), 2004 - present.

- Executive Council, Alabama Association of College Teachers of Mathematics (AACTM), 1997 - 1999.

University

- President, Jacksonville State University Faculty Senate, two terms: 2004 - 2006.

- Vice President - President Elect, Jacksonville State University Faculty Senate, 2003 - 2004.

- Strategic Planning Committee, 2005 - 2008.

- Recruitment and Retention Committee, 2005 - 2008.

- Organizing Committee, Charter Member, Publicity Officer: JSU Chapter of the Phi Kappa Phi Honor Society, 2001 - present.

- Regional Science Olympiad, 1997 - 2008.

- Task Team Leader, Strategic Planning Committee, 2006.

- Program Review Team (Internal Review of the Learning Services Department), 2006.

- Transportation Committee, 2005 - 2006.

- Admissions Committee, 2005 - 2006.

- Ad-Hoc Athletic Facilities Development Committee, 2005 - 2006.

- Graduate Council, 1997 - 2003.

- Graduate Appeals Committee, 1998 - 1999.
- Budget Committee (Expenditures Subcommittee), 1998 - 2002.
- JSU Faculty Senate Ad Hoc Committee for Academic Quality, 1998 - 1999.

Department

Leadership Positions

- Chair, Mathematics Graduate Curriculum Committee, 1999 - 2004, 2005 - present.
- Mathematics Program Coordinator, 2004 - 2005.
- Co-chair, Mathematics Undergraduate Curriculum Committee, 2003 - 2004.
- Chair, Mathematics Undergraduate Curriculum Committee, 1999 - 2003.
- Faculty Advisor, JSU Math Club and JSU Student Chapter of the Mathematical Association of America (MAA), 1996 - 1999.
- Departmental Liaison to the Mathematical Association of America (MAA), 1997 - present.

Active Service on Standing Committees (at least three years of active service and/or currently)

- Mathematics Undergraduate Curriculum.
- Outcomes Assessment - Major Field Test (MFAT).
- COMPASS (Mathematics Placement).
- Colloquium.
- Mathematics Search (Hiring).
- Visitation Days (Parents' Days) "Browse Sessions".
- Alabama Statewide Mathematics Contest: local administration of first round written examinations.
- MATHCOUNTS Tournament: local administration (discontinued in 2001).

PROFESSIONAL MEMBERSHIPS

- American Mathematical Society (AMS)
- Mathematical Association of America (MAA)
- National Council of Teachers of Mathematics (NCTM)
- Alabama Council of Teachers of Mathematics (ACTM)
- Alabama Association of College Teachers of Mathematics (AACTM)