

MARK D. COLGAN

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Education

- Ph.D. Mathematics Education -- Indiana University, Bloomington, Indiana, December 1991.
- M.A. Mathematics -- Indiana University, Bloomington, Indiana, May 1988.
- B.A. Mathematics and Computer Science/ Christian Education -- Anderson University, Anderson, Indiana, May 1985. Graduated Summa Cum Laude with Honors in Mathematics.

Teaching Experience

Professor, Associate Professor, Assistant Professor, Taylor University, 1992-1998, 1999-present.

Professor of Mathematics - Teach a variety of mathematics and mathematics education courses, advise students, and am involved in various student activities and other areas of service. Classes taught include:

MAT 110 Finite Mathematics	MAT 230 Calculus II
MAT 130 Algebra/Trigonometry	MAT 210 Introductory Statistics
MAT 145/146 & MAT 151 Calculus I	MAT 250 Transitional Math
MAT 201 Math for Elem. Teachers I	EDU 312 Math Methods
MAT 202 Math for Elem. Teachers II	MAT 382 Advanced Statistics
MAT 280 Math in the Middle Grades	MAT 120 Investigations in Math (also online)
MAT 140 Fundamental Calculus	MAT 262 Special Problems (TEMP)
IAS 110 Discussion Group	MAT 110 Correspondence Course
MAT 205 Explorations in Elem. School Math	MAT 301 Number Concepts for Elem. Teachers
MAT 170 Calculus Support Course	MAT 301 Junior Methods Practicum supervisor

Associate Professor, Greenville College, 1998-1999.

Visiting Assistant Professor, Anderson University, 1991-92.

Administrative Experience

Science Division Associate Dean, 2006-2008
Mathematics Department Chair, 2002-2005, 2009-2013
Chair, Faculty Personnel Committee, 2004-2005, 2015-2016, 2016-2017
Chair, Academic Policy Committee, 2020-2021, 2021-2022
Free Methodist Bible Quiz National Co-Director, 1999-2002
Free Methodist Bible Quiz Regional Director, 1990-1995, 2007-2008
Bedi Center for Teaching and Learning Excellence Fellow, 2012-2013, 2017-2018
Taylor University Faculty Vice Moderator & Moderator, 2022-2023, 2023-2024

Professional Organizations

Member of The National Council of Teachers of Mathematics (NCTM)
Member of The Indiana Council of Teachers of Mathematics (ICTM)
Member of the Association for Christians in the Mathematical Sciences (ACMS)
Member of the American Mathematical Association of Two-Year Colleges (AMATYC)
Reviewer for the *Journal for Research in Mathematics Education*
Attended the SENCER (Science Education for New Civic Engagement) summer institute, 2011

Publications & Papers

- 2023 "A Beginner's Guide to Faith-Learning Integration in Mathematics," ACMS Journal and Proceedings, with Daniel Rodman and Derek Thompson.
- 2022 "Moving in Mathematics Class: Fun Ways to Engage Students through Active Learning," MathAMATYC Educator, Volume 13, Issue 2, 53-56.
- 2022 "25 Bible Verses to Connect Faith and Mathematics using Weekly Devotionals, Written Reflections, and Memory Verses," Taylor University Pillars, <https://pillars.taylor.edu/ett-conference/14>.
- 2020 "Active Learning through Physical Movement," Taylor University BCTLE Teaching Academy Blackboard Module.
- 2017 "A 'Big Idea' Reflection Assignment Inspires Students to Learn and Value Mathematics," Proceedings of the Association of Christians in the Mathematical Sciences, (Fall 2017), with Jeremy Case.
- 2016 "Defining, Expressing, and Assessing Faculty Teaching at Taylor University," Taylor University Handbook, Appendix 10, with Barb Bird.
- 2015 "Simple and Sustainable Faculty Development Initiatives that Promote Collaboration among Faculty Members," MathAMATYC Educator, Volume 7, Issue 1, 24-26, with Matt DeLong.
- 2015 "How to Make the NCAA Tourney," Mathematics Teaching in the Middle School, February 2015, Volume 20, Issue 6, 384.
- 2015 "A Teaching Polygon Makes Learning a Community Enterprise," PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies, Volume 25, Issue 1, 41-49, with Matt DeLong.
- 2012 NCTM *Real World Math* online project, lesson plan and activity sheets, a supplement to "March Math Madness: The Mathematics of the NCAA Basketball Tournament" article in Mathematics Teaching in the Middle School (see below).
www.realworldmath.nctm.org
- 2011 "Collaborating to Improve Student Learning: An Interdisciplinary 'Big Idea' Reflection Assignment," Learning Communities Journal, volume 3, with Barb Bird, Jeremy Case, Carol Sisson, and Tricia Stan.
- 2007 "Breathing Life into the Liberal Arts Math Course: Ten Teaching Tips," Proceedings of the Association of Christians in the Mathematical Sciences, (June 2007).

- 2006 "The Power of Intersecting Circles: A Model for Integrating Mathematics Teacher Knowledge" PMET project summaries online, written with Ron Benbow.
- 2006 "March Math Madness: The Mathematics of the NCAA Basketball Tournament," Mathematics Teaching in the Middle School, 11, 334-342.
- 2001 "The top ten web sites chosen by our students," Indiana Mathematics Teacher, 16, (spring/summer 2001, written with Ron Benbow).
- 2001 "Mathematics memory verses: weekly devotionals for math class," Proceedings of the Association of Christians in the Mathematical Sciences, (June 2001).
- 1998 "Simple open-ended projects with a graphing calculator," Indiana Mathematics Teacher, 12, (spring/summer 1998).
- 1998 "Departmental Review: Mathematics Department Taylor University," Interterm/Spring 1998.
- 1996 "Finite Mathematics Correspondence Course," Taylor University Institute of Extended Learning.
- 1995 "Why do students make so many errors in finite mathematics?" Unpublished paper.
- 1995 "A classification system for students' errors in mathematical problem solving." Unpublished paper.
- 1991 An analysis of problem-solving errors made throughout a college-level finite mathematics course. Doctoral Dissertation, Indiana University.

Presentations

- * AMATYC National Meeting – Omaha, NE (November 10, 2023)
Gave a presentation: "10 Fun Ways to Engage Students Through Games and Active Learning."
- * Taylor University Colleague's College faculty conference – Upland, IN (August 24, 2023)
Gave a presentation: "Scripture Engagement through weekly Bible verse memorization and discussion."
- * Taylor Univ. BCTLE "Engaging Teaching Today Conference" – Upland, IN (April 9, 2022)
Facilitated a session: "Faith & Learning Integration using Weekly Devotionals, Written Reflections, and Memory Verses."
- * NCTM Regional Meeting - Indianapolis, IN (March 17, 2022)
Gave a presentation: "Inspiring Students to See the Fun and Beauty in Mathematics."
- * AMATYC National Meeting – Spokane, WA (November 12, 2020)—Canceled
Presentation: "*Fun Ways to Engage Students in a Caring Classroom Community.*"
- * AMATYC National Meeting – Milwaukee, WI (November 14, 2019)
Gave a presentation: "Students Teaching Students: Fun Group Activities and Creative Projects."

- * ACMS National Meeting – Marion, IN (May 30, 2019)
Gave a presentation: “25 Bible Verses to Connect Faith and Mathematics using Weekly Devotionals, Written Reflections, and Memory Verses.”
- * AMATYC National Meeting – Orlando, FL (November 17, 2018)
Gave a presentation: "Simple Ways to Begin and End Math Class that Make Learning More Fun.”
- * Taylor University Colleague’s College faculty conference – Upland, IN (August 22, 2018)
Gave a Pecha Kucha presentation: "How Connecting Basketball, Bible Quizzing, and the BCTLE has Shaped my Scholarship."
- * ACMS National Meeting – Charleston, SC (June 2, 2017)
Gave a presentation with Jeremy Case: “A ‘Big Ideas’ Reflection Assignment Inspires Students to Make Valuable Connections.”
- * Taylor University’s BCTLE– Upland, IN (October 27, 2016)
Gave a presentation: "Collaborative Learning Techniques."
- * Taylor University Colleague’s College faculty conference – Upland, IN (August 26, 2015)
Facilitated a session: "Critical Thinking in our Foundational Core Courses."
- * AMATYC National Meeting – Nashville, TN (November 13, 2014)
Gave a presentation: "Math is Fun: Ten Ways to Engage Students in an Interactive Classroom.”
- * Midwest Scholars Conference – Indianapolis, IN (March 13, 2014)
Gave a presentation: “Learning is Fun: Ten Ways to Engage Students in an Interactive College Classroom.”
- * Taylor University "Technology for Teaching" Conference – Upland, IN (August 15, 2013)
Gave a presentation: “The Flipped Classroom –Restructuring class time to increase student learning.”
- * Taylor University "Technology for Teaching" Conference – Upland, IN (August 16, 2013)
Gave a presentation: “Searching for Ways to Use iPads in the College Classroom—Come and Share your ideas.”
- * Taylor University Colleague’s College faculty conference – Upland, IN (August 22, 2013)
Gave a presentation: "Foundational Core Curriculum: What do we do now?"
- * Taylor University "Technology for Teaching" Conference – Upland, IN (August 16-17, 2012)
Gave a presentation: “Discussion on Khan Academy and the Future of Education.”
- * SNAS School Luncheon (November 15, 2011)
Gave a presentation with colleagues: SENCER (Science Education for New Civic Engagements and Responsibilities).
- * AMATYC National Meeting -Austin, TX (November 11, 2011)
Gave a presentation: "Making Calculus Come Alive through Group Projects and Activities."

- * ACMS National Meeting – Santa Barbara, CA (June 3, 2011)
Gave a presentation: “Encouraging Students to Connect topics in Calculus with Biblical Ideas using weekly Reflection Papers.”
- * CTLE Panel Discussion – Taylor University (April 18, 2011)
Served on a panel discussing: "Cooperative Learning Assessment."
- * AMATYC National Meeting - Boston, MA (November 12, 2010)
Gave a workshop: "Ten Cooperative Learning Techniques for Building Classroom Communities."
- * Taylor University "Technology for Teaching" Conference – Upland, IN (August 19, 2010)
Gave a presentation: “Let a Video...Show Step by Step How to Solve a Problem with LectureScribe.”
- * Midwest Scholars Conference – Indianapolis, IN (March 5, 2010)
Gave a presentation with Faye Chechowich, Tracy Hoskins, Jeanne Sigworth, Patricia Stan, and Joseph Pak: “The So-What Factor: Connecting Students to Life Implications in the General Education Core.”
- * Taylor University "Coaching Coffee" – Upland, IN (January 7, 2010)
Led a discussion with Jeremy Case: “Engaging Students with the Big Ideas of a Course.”
- * Lilly National Conference on College Teaching – Miami, OH (November 21, 2009)
Gave a presentation with Jeremy Case, Phil Collins, Carol Sisson, and Patricia Stan: “The Big Idea: Reflection Papers on the Big Questions of a Course.”
- * Taylor Faculty Enrichment Luncheon – Upland, IN (November 12, 2009)
Gave a presentation with Jeremy Case, Phil Collins, Carol Sisson, and Patricia Stan: “What is a Learning Community and What Did it Do?”
- * Sabbatical Reports from Taylor Faculty – Upland, IN (September 10, 2009)
Gave a brief presentation: “Pictures from Sabbatical Trips: Ideas for Classrooms, Interaction Areas, and Math Labs.”
- * ACMS National Meeting – Wheaton, IL (May 28, 2009)
Gave a presentation: “Pictures from Sabbatical Trips: Ideas for Classrooms, Interaction Areas, and Math Labs.”
- * Midwest Scholars Conference – Indianapolis, IN (March 6, 2009)
Gave a presentation: "Best Practices for Cooperative Learning: Ten Techniques for Building Classroom Community.”
- * AMATYC National Meeting - Washington, DC (November 21, 2008)
Gave a presentation: "March Math Madness: The Mathematics of the NCAA Basketball Tournament."
- * Taylor University Colleagues College – Hartford City, IN (August 20, 2008)
Gave a presentation: "Best Practices for Cooperative Learning: Ten Techniques for Building Classroom Community.”
- * Association of Mathematics Teacher Educators (AMTE) Conference - Tulsa, OK (Jan. 26, 2008) Gave a presentation with Ron Benbow: "The Power of Connections: Integrating Content and Pedagogical Knowledge in a New Middle Grades Math Course."

- * Taylor University "Technology for Teaching" Conference – Upland, IN (August 16, 2007)
Participated in a panel presentation: "How Turning Point is being used in TU Classrooms."
- * ACMS National Meeting – Grantham, PA (June 1, 2007)
Gave a presentation: "Breathing Life into the Liberal Arts Math Course: Ten Teaching Tips."
- * Taylor University "Technology for Teaching" Conference – Upland, IN (August 21, 2006)
Gave a presentation: "Adding New Life to an Old Class with Technology: Math for Elementary Teachers (MAT 201)."
- * Preparing Mathematicians to Educate Teachers (PMET) Conference - Kent, OH (June 3, 2006)
Gave a presentation with Ron Benbow: "Exploring the Challenges of Designing a Program for Middle Grades Mathematics Licensure."
- * NCTM National Meeting - St. Louis, MO (April 27, 2006)
Gave a presentation: "March Math Madness: The Mathematics of the NCAA Basketball Tournament."
- * ICTM State Meeting - Indianapolis, IN (October 17, 2005)
Gave a presentation: "March Math Madness: The Mathematics of the NCAA Basketball Tournament."
- * Ft. Wayne Dean's Conference - Ft. Wayne, IN (February 18, 2005)
Gave a presentation with Matt DeLong: "Sharing our Teaching Biographies."
- * ICTM State Meeting - Indianapolis, IN (October 18, 2004)
Gave a presentation: "Activities and Projects to Make Calculus Fun."
- * Taylor University Colleagues College - Pokagon State Park (August 2004)
Gave a presentation with Matt DeLong: "Numerical Patterns in Nature: Fibonacci Numbers and the Golden Ratio."
- * ICTM State Meeting - Indianapolis, IN (October 12, 2003)
Gave a presentation with Ron Benbow: "Fun and Versatile Games for Achieving Indiana Math Standards."
- * Taylor University Colleagues College - Ft. Wayne, IN (August 29, 2003)
Gave a presentation with Gary Friesen: "Balancing the Call."
- * Taylor University Colleagues College - Upland, IN (August 28, 2003)
Gave a presentation with Matt DeLong: "Activities for Developing a Philosophy of Teaching."
- * NCTM Regional Meeting - Indianapolis, IN (January 23, 2003)
Gave a presentation: "March Math Madness: The Mathematics of the NCAA Basketball Tournament."
- * ACMS National Meeting - Grand Rapids, MI (June 2, 2001)
Gave a presentation: "Mathematics Memory verses: Weekly Devotionals for Math Class."

- * Eastbrook Community Schools In-service Day - Mathews, IN (April 11, 2001)
Gave a presentation with Ron Benbow to the Matthews Elementary teachers: "Number Sense and Computation Activities for Fun and Understanding."
- * AMATYC National Meeting-- Chicago, IL (November 9, 2000)
Gave a presentation: "Fun with Finite Mathematics: Activities and Projects."
- * ICTM State Meeting -- Indianapolis, IN (November 5, 2000)
Gave a presentation: "Fun with Finite Mathematics: Activities and Projects."
- * ACSI Meeting -- South Bend, IN (October 5, 2000)
Gave a presentation: "Fun Ways to Involve Students in Activities and Projects for Pre-Calculus and Calculus."
- * ICTM State Meeting -- Indianapolis, IN (November 9, 1998)
Gave a presentation with Ron Benbow: "Internet Resources and Communication in Mathematics Teacher Education."
- * NCTM Regional Meeting -- Louisville, KY (October 15, 1998)
Gave a presentation with Ron Benbow: "Internet Resources and Communication in Mathematics Teacher Education."
- * NCTM Regional Meeting -- Memphis, TN (October 25, 1997)
Gave a presentation: "Fun with Calculus Doing Activities and Projects."
- * NCTM Regional Meeting -- South Bend, IN (October 31, 1996)
Gave a presentation: "Exploring Calculus with Projects, Labs, and Cooperative Learning Activities" and took three Taylor students with me to serve as student hosts.
- * ACMS Conference -- Taylor University (May 31-June 3, 1995)
Gave a presentation with Ron Benbow on the Taylor Math Lab, and served on a panel discussing "Teaching the Dreaded Liberal Arts Mathematics Course."
- * ICTM State Meeting -- Indianapolis, IN (October 7, 1994)
Gave a presentation: "Capitalizing on Students' Problem-Solving Errors in Finite Mathematics."
- * MAA Indiana Section--Indiana University at Kokomo (Oct. 16, 1993)
Gave a presentation: "The Nature of Problem-Solving Errors in Finite Mathematics."

Professional Development Short Courses & Projects

- * Taylor University BCTLE "Community of Practice" on Team-based Learning (Spring 2023)
- * Taylor University BCTLE "Community of Practice" on Student Belonging (Spring 2022)
- * Taylor University BCTLE "Course Design Institute" (Summer 2021)
- * Taylor University "Blue Zones" faculty workshop and learning community (Summer 2021)
- * Sabbatical Project: Retooling and Course Development for Math for Elementary Teachers (Spring 2020)

- * Taylor University BCTLE Mini-Grant: "Developing a Corequisite Support Course for Calculus" (Summer 2019), which included two Universal Design for Learning (UDL) workshops
- * Taylor University BCTLE Mini-Grant: "Updating my Reflection Assignments and Weekly Devotionals" (Summer 2018)
- * Taylor University Women's Giving Circle \$3000 grant for the TU & IWU Math Field Day (October 2017)
- * Taylor University BCTLE Mini-Grant: "Teaching Critical Thinking Skills" (Summer 2014)
Critical Thinking Classroom Research Study participant (Fall 2014 and Spring 2015 semesters)
- * Taylor University Instructional Technology Mini-Grant: "Exploring Technologies for Teaching Mathematics" (Summer 2013)
- * Taylor University CTLE Civil Rights Trip
Study Trip traveling through Alabama and Georgia with 8 TU faculty (May 22-26, 2012)
- * Council of Independent Colleges Department Chair Workshop
St. Paul, MN (June 2-4, 2010)
- * Taylor University Instructional Technology Mini-Grant: "Using Video Segments to Engage Students in MAT 120 (Investigations in Mathematics)" (Summer 2010)
- * Taylor University Learning Community: "The Big Idea: Reflection Papers on the Big Questions of a Course" (Spring 2009)
- * Sabbatical Project: Math Labs and Learning Environments (Fall 2009)
- * Taylor University Instructional Technology Mini-Grant: "Investigations in Mathematics as a Summer Online Blackboard Course" (Summer 2008)
- * Taylor University Instructional Technology Mini-Grant: "Adding New Life to an Old Class with Technology: Math for Elementary Teachers--MAT 201" (Summer 2006)
- * Taylor University Challenge Grant: "Internet Resources and Communication in Mathematics Education" with Ron Benbow (Summer 1997)
- * Reform Calculus Workshop -- Saint Mary's College,
Notre Dame, IN (June 4-5, 1997)
- * Calculus Reform Workshop: "An Active Approach with Projects"
-- Northern Kentucky University (July 9-14, 1995)
- * Project CALC (Calculus As a Laboratory Course) Chautauqua Course
-- University of Dayton (May 22-24, 1995)
- * Christian College Coalition "The Use of Scripture in Teaching the Liberal Arts"
-- Calvin College (October 7-9, 1993)
- * National Science Foundation Project "Preparing Elementary Teachers to Teach Mathematics" -- Indiana University (Research Assistant 1989-91)

Service to the University

Community Life Committee
Skills Proficiency Committee
Math Club Faculty Sponsor
Math Field Day Co-sponsor
Mathematics Department Secretary
Mathematics Department Sophomore Dinner & Freshman Dinner
Mathematics Department Alumni Newsletter
Wing Hook-Up
Taylor Family Dinners
Summer Honors Program
Correspondence Course Grader
After-School Math Tutoring Coordinator
Student Teacher Supervisor
Taylor Eastbrook Mathematics Project (TEMP)
Taylor University-East Allen County Schools Partnership
Educational Issues Seminar Planning Team and Seminar Leader, 2000-present
Founding Taylor University Poster Contest Committee and judge
Forman Award (Research) Committee
Honorary Doctorate Committee
University Council for Assessment and Planning (UCAP)
Academic Council
Teacher Education Committee
Taylor University Colleagues College Planning Committee
Science Learning Center Building Project Committee
Sabbatical Projects: Updating TU Math Lab and collecting facilities information
SNAS Distinguished Lecture and Teaching Award Committees
University Planning Council (UPC)
SNAS Educational Issues Seminar Committee
SNAS Curriculum Management Committee
CTLE Teaching Squares Coordinator
CTLE Advisory Board
University Planning Council (UPC) Task Force on Online Learning
CTLE Faculty Mentor
General Education Committee
Writing Center Contest Judge
BCTLE Fellow 2012-13, 2017-18
Taylor University Retirement/Benefits Committee
Taylor University Staff Member of the Year Nomination Committee
Taylor University Distinguished Service Award Committee
University Assessment Council
2013 Taylor University Teaching Excellence and Campus Leadership Award
Taylor University Employee Advisory Group
Selection Committee for the Teaching Excellence and Campus Leadership Award
Academic Stewardship Task Force, University Program Review, Summer 2014-Fall 2015
AQIP Portfolio Writing Team
Honors Guild Faculty Mentor
Indiana Wesleyan—Taylor University Math Field Day planning team, 2015-present
Faculty Personnel Committee (FPC), chair 2004-05, 2015-16, 2016-17
Faculty Council member 2015-2017, 2022-2025
Critical Thinking Assessment Project
New Faculty Orientation Session Facilitator
Academic Policies Committee, Chair 2020-21, 2021-22

Mid-semester Feedback BCTLE Facilitator
Department Review External Reviewer
Faculty Vice Moderator & Moderator, 2022-23, 2023-24

Service to the Church

Bible Quiz National Co-Director, 1999-2002
Published a newsletter *The Free Methodist Quizzer* and monthly e-mail update.
Delegate to Free Methodist General Conference, 1999
Wabash Conference Family Camp Recreation Director, 1992-1994
Member of Wesley Free Methodist Church, Anderson, Indiana
Administrative Board Member
Delegate to Annual Conference
Chairman, New Pastor Transition Team
Chairman, Strategic Planning Committee
Sunday School Teacher
Bible Quiz coach and/or quizmaster, 1982-present
Bible Quiz regional director, 1990-1995, 2007-2008
Directed Free Methodist Bible Quizzing's 50th Anniversary Celebration at Rochester, NY, 2003
Bible Quiz National Finals Director of Quizmasters, 2008
Bible Quiz National Finals Divisional Leader, 2010, 2011, 2013, 2014
Bible Quiz National Finals Coaches Workshop Leader, 2011

Philosophy of Teaching Mathematics

Learning mathematics (at any level) should be active, interesting, and fun. Building on what students already know and using appropriate technology, teachers should give students creative opportunities to experience and value mathematics. Teachers need to ask thought-provoking questions, provide challenging problem situations, and involve students in group activities where they "do" mathematics. The main goals should be helping students learn to think and reason mathematically, to apply mathematics to real-world situations, and to communicate their mathematical thinking to others in a supportive classroom community.