

Tamara Anthony Carter

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EDUCATIONAL EXPERIENCE

- Ph.D., **Texas A&M University**, 2005 – College Station, Texas
Ph.D. in Curriculum and Instruction with emphases in Mathematics Education and Educational Research, Dissertation “Knowledge and Understanding of Probability and Statistics Topics by Pre-service K-8 Teachers” under the direction of Dr. Gerald O. Kulm, Curtis D. Robert Professor of Mathematics Education.
- M.S., **Texas A&M University**, 1999 – College Station, Texas
M.S. in Mathematics.
- M.A., **Rice University**, 1995 – Houston, Texas
M.A. in Computational and Applied Mathematics, Thesis “An Introduction to Linear Algebra: A Curricular Unit for Pre-Calculus Students” under the direction of Dr. Richard A. Tapia, Noah Harding Professor of Computational and Applied Mathematics and Dr. Anna Papakonstantinou.
- B.A., **Rice University**, 1994 – Houston, Texas
B.A. in Computational and Applied Mathematics.

STATE LICENSURE

- Teaching Certificate**, State Board for Educator Certification, 1995 – Austin, Texas
Lifetime Texas Secondary School Teaching Certificate in **computer information systems**.
- Teaching Certificate**, State Board for Educator Certification, 1994 – Austin, Texas
Lifetime Texas Secondary School Teaching Certificate in **mathematics**.

OTHER ACADEMIES AND CERTIFICATIONS

- Academic Chair Academy**, University of Central Oklahoma, 2009 – 2010
This leadership program included single-day and multi-day sessions arranged to help department chairs throughout the state of Oklahoma. Sessions included information on time management, hiring, effective planning, leadership vision, work-life balance, communication skills, conflict management, and networking.
- Educators’ Leadership Academy**, University of Central Oklahoma, 2008 – 2009
This leadership program included single-day and multi-day sessions arranged to help faculty and administrators throughout Oklahoma’s colleges and universities. Sessions included information on academic leadership, accountability, continuous improvement, strategic planning, organizational culture, and networking.

Leadership OCCC – Inaugural Class, Oklahoma City Community College,
2008 – 2009

This leadership program included a diverse mix of faculty, administrators, and staff from all areas of Oklahoma City Community College. Each monthly session focused on a different aspect of campus. By the end of the year, we had a better understanding of the mission of the college, financial aid, admissions, student affairs, academic affairs, and the interactions between them. We also had connections through our Leadership OCCC classmates which greatly facilitated inter-campus collaboration.

Master Academic Advisor certification, Oklahoma City Community College, 2006

This program trained faculty on the core curriculum requirements, placement testing, transfer grids, and other items we needed to advise students accurately.

Distance Learning Certification, Center for Technology and Distance Learning,
Conroe, Texas. 1998

TEACHING AND ADMINISTRATION EXPERIENCE

2014–present **Texas A&M University**, College Station, Texas

Instructional Associate Professor of Mathematics (2020 – present)

Instructional Assistant Professor of Mathematics (2014 – 2020)

Prepare and teach mathematics courses, collaborate with colleagues, and serve on committees. Taught Structure of Mathematics I (Math 365), Structure of Mathematics II (Math 366), Basic Concepts of Geometry (Math 367), Mathematics for Business and Social Sciences (Math 140), Topics in Contemporary Mathematics II (Math 166), For All Practical Purposes / Explorations in Mathematics (Math 167), and the academic success center's concurrent enrollment course for Math 167 (ASCC 001).

Graduate faculty member.

Taught Week-in-Review for Math 167. The Week-in-Review sessions are weekly sessions where students from all sections of the course can come for a summary of the week's lessons with additional examples and opportunities to ask questions. I maintained a website so the students could download the notes outlines prior to each session and could see the completed work after each session. The website is www.math.tamu.edu/~tcarter/Math167WIR_2019c/

Served as course coordinator for Math 167, Math 168, and Math 140. The course coordinator is the person who communicates with faculty members about course expectations and reviews faculty members' exams before they are administered with the goal of providing consistency across sections of the course. The course coordinator also serves as a mentor to the graduate students and faculty who are newer to the course or to the profession.

Participated as the Math 365 lead on an inter-collegiate collaboration on mathematics and mathematics education led by Roger Howe. Members of this team represented the Department of Mathematics and the Department of Teaching, Learning, and Culture on courses that are required by future elementary

school teachers (MASC 351, Math 365, and Math 366). We took a close look at each course with the goal of aligning the courses so that students receive a consistent message across sections and through the sequence about unifying themes such as place value, the number line, and problem solving while presenting the topics in an engaging manner to help the students retain the ideas beyond our classes and into their classrooms. As a part of this collaboration, we created and modified materials for students and for professors to aid in the desired consistency. I am also coordinating the efforts of an interdepartmental team working to redesign the mathematics curriculum for future elementary and middle-school teachers.

As the core curriculum coordinator for mathematics, I work with the faculty who are teaching our eleven core curriculum courses to help ensure that we meet both the goals and requirements of Core Curriculum Mathematics courses at Texas A&M University.

Founding Member of the IDEATE (Innovation and Design for Exploration and Analysis in Teaching Excellence) community at Texas A&M (2020). As members of this community, we explore and conduct research on the Scholarship of Teaching and Learning. Currently, I am involved in a project exploring cooperative and collaborative aspects of group projects and one exploring the impact of having an authentic audience for mathematics. I was also an IDEATE Faculty Fellow 2021-22.

2005 – 2014 **Oklahoma City Community College**, Oklahoma City, Oklahoma

Professor of Mathematics (2005 – 2007 and 2013 – 2014)

Prepared and taught mathematics courses, participated on and chaired committees, advised students, and collaborated with colleagues for departmental syllabi, calculator videos, help sheets, reading assignments, and other projects. Taught Basic Mathematics, Elementary Algebra, Intermediate Algebra, College Prep Math II, College Prep Math III, College Algebra (face-to-face and online), Statistics, and Contemporary Mathematics. Served on local, state, and national committees.

Director of the Mathematics Department (2007 – 2013)

Led redesign of developmental mathematics sequence. Responsible for departmental concerns including communication, scheduling, budget, curriculum, hiring, and evaluation for a department with approximately 100 faculty/staff and 5000 students per semester. Also acted as a mediator for concerns between students and mathematics faculty. Served on local, state, and national committees. Taught one course per year. Founding member of the Institutional Review Board for Oklahoma City Community College. Faculty advisor for Phi Theta Kappa.

Acting Dean of Science and Mathematics (Fall 2007)

Represented the Division of Science and Mathematics on Dean's Council and other committees while our dean was on extended professional leave.

Mathematics Department Co-chair (2006 – 2007)

Primarily responsible for interaction with adjunct faculty including communication, scheduling, and recommendations for hiring. Also acted as a mediator for student concerns regarding adjunct faculty. Held joint responsibility for other departmental concerns. Taught 3 courses per semester.

2004 – 2005 **Texas A&M University**, College Station, Texas

Mathematics Education Adjunct Instructor (2004 – 2005)

Prepared and taught Integrated Mathematics (MASC 450) and Mathematics in the Middle and Senior High Schools (TEFB 407).

Mathematics Adjunct Instructor (Summer 1999)

Prepared and taught Business Math I (MATH 141).

2003 – 2004 **Project Supervisor Middle School Mathematics Project**, Texas A&M University, College Station, Texas

Middle School Mathematics Project: the Texas A&M subcontracted portion of the five-year, \$5.6 million grant *Improving mathematics teacher practice and student learning through professional development* which was funded by the Interagency Education Research Initiative (IERI), a joint program of the National Science Foundation, the Department of Education, and the National Institute of Child Health and Human Development. Responsibilities included participating in meetings and electronic communications with the other sites on this grant (the American Association for the Advancement of Science Project 2061 and the University of Delaware), communicating with teachers, school district officials and project members, procuring data from school districts, distributing and receiving testing materials, preparing for video-taping, scheduling video-taping with teachers and project members, planning for professional development, working with the Research Foundation to pay project participants and buy supplies, organizing data and facilitating the movement of physical data between sites, and supporting teachers, graduate students, and faculty members in the project.

1999 – 2003 **University of North Texas**, Denton, Texas

Mathematics Lecturer (2001 – 2003)

Prepared and taught College Math with Calculus, Calculus with Business Applications, and Structure of the Number System.

Co-coordinated College Math with Calculus: Worked with other instructors to align class sections with respect to exams, student workload, and time devoted to each topic; hosted orientation meetings each semester; provided sample class materials to new instructors; and mediated student complaints about instructors.

Mathematics Instructor (1999 – 2001)

Prepared and taught College Algebra, College Math with Calculus, Calculus with Business Applications, and Structure of the Number System.

1999 – 2000 **Texas Woman's University**, Denton, Texas

Mathematics Instructor

Prepared and taught Elementary Analysis II, Business Analysis II and Introduction to Mathematics.

1995 – 1999 **North Harris Montgomery Community College District (renamed as Lone Star College)**, Houston, Texas

Associate Professor of Mathematics (1997 – 1999)

Prepared and taught Pre-algebra, Introduction to Algebra, Intermediate Algebra, College Algebra, Finite Mathematics, and Pre-calculus.

Tutored students in the math lab, participated in committee work, attended professional conferences, and was a co-organizer of the Compaq Sci://Tech '99 science and mathematics fair and competition.

Montgomery College, 1997 – 1998; Tomball College, 1998 – 1999.

Adjunct Mathematics Instructor (1995 – 1997)

Prepared and taught Pre-algebra, Introduction to Algebra, Math for Liberal Arts, Finite Mathematics, and Pre-calculus.

Taught for North Harris College, Montgomery College, and Tomball College.

1995 – 1997 **Tomball High School**, Tomball, Texas

Mathematics Teacher

Prepared lessons and taught 10th – 12th grade students in pre-calculus, statistics, Algebra II, Math of Money, and TAAS Remediation (a course for students who failed the required Texas Assessment of Academic Skills). Coached the calculator UIL team. Participated on the Algebra team to provide a consistent algebra curriculum.

1993 & 1994 **Rice Summer School**, Houston, Texas

Student Teacher

Prepared lessons in coordination with my master teacher; taught 8th – 11th grade students in pre-algebra, algebra, and calculus while my master teacher observed; consulted with my master teacher daily; and prepared descriptive assessment reports.

HONORS AND AWARDS

2021-2022 IDEATE Faculty Fellow

Citation stated: “Five Faculty members from the IDEATE community are honored for their commitment and enthusiasm to conduct excellent Scholarship of Teaching and Learning (SoTL) research. The IDEATE Faculty Fellows Program is designed for highly-motivated faculty who are dedicated to the improvement of teaching and learning at Texas A&M University to design, conduct, and disseminate cutting-edge SoTL research.”

2017

Outstanding Service Award, Department of Mathematics, Texas A&M University
Citation stated: “Tamara Carter has assumed a critical leadership role in the Department’s outreach efforts as the coordinator for the Texas A&M Mathematics and Statistics Fair, which provides an engaging, educational, and enjoyable mathematical experience for school-age children and the general public. She has undertaken a massive curriculum revamp in the Math 365-366 sequence for future teachers, which will impact many thousands of schoolchildren in the near future. In addition, Tamara Carter serves on the Department’s Outreach Committee and

on the Academic Professional Track Committee. This award expresses the Department's appreciation for her extensive service efforts."

- 2015 Outstanding Teaching Award, Department of Mathematics, Texas A&M University
- 2010 Robert P. Todd Leadership Award, Oklahoma City Community College
- 2007 NISOD (National Institute for Staff and Organizational Development) Excellence in Teaching Award representing the Division of Science and Mathematics at Oklahoma City Community College
- 1997 Outstanding Math Educator Award presented by the 1960 Area Mathematics Council
- 1996 Sallie Mae First Class Teacher Award nominee and Certificate of Commendation
The purpose of the award was to recognize beginning teachers from across the United States for outstanding performance in their first year of service in the teaching profession.
- 1995 American Association of University Women Selected Professions Fellowship
- 1994 Rice Engineering Alumni Senior Scholar Award in Computational and Applied Mathematics
- 1994 The Donald I. Wood Award for Excellence in Teaching, Rice University

OTHER PROFESSIONAL EXPERIENCE

- 2002 – 2003 **Undergraduate Mathematics Advisor**, University of North Texas, Denton, Texas
Advised undergraduate students pursuing mathematics degrees and made evaluations about transfer course equivalencies.
- 2000 – 2001 **Chairman and Director for In-Home Tutoring, Inc.**, Denton, Texas
Advertised, hired tutors, made initial contact with the clients, matched the clients with tutors, handled billing and payroll, and tutored.
- 1994 – 1995 **Coordinator of Tutoring Outreach**, The Rice School / La Escuela Rice, Houston, Texas
Identified sixth-grade students in need of remediation in mathematics. Recruited Rice University undergraduate and graduate students to tutor. Planned curriculum. Supervised and taught weekly sessions.
- 1985 – 1994 **Computer Consultant**, E. Mark Anthony, D.D.S., Inc., Van, Texas
Installed and maintained an MS-DOS based computer system for a dental office. Trained employees to use the computer system. Managed scheduling and monthly billing. Managed the front desk of the office during summers and school vacations.

PROFESSIONAL SERVICE

State, National, and International

Member of the National Science Foundation's College of Reviewers for Undergraduate Education, 2018 – 2021

Review NSF proposals as needed, write feedback to the applicants, and rate the proposals to aid the NSF in their funding decisions.

Reviewer for EURASIA Journal of Mathematics, Science and Technology Education, 2018

Panel Reviewer for National Science Foundation, 2014, 2015, 2017

Reviewed NSF proposals, met in person to discuss the merits of the proposals, wrote feedback to the applicants, and rated the proposals to aid the NSF in their funding decisions.

Reviewer for School Science and Mathematics Journal, 2017

University of Central Oklahoma STEM "Double Bridge" NSF grant advisory committee, 2009 – 2014

I served on the advisory board for the \$2 million National Science Foundation grant *STEM Double Bridge: Connecting High Schools, Community Colleges, and Universities for Tomorrow's Leaders in Science, Technology, Engineering and Mathematics* which provides a multi-week summer lecture and research experience for high school students and a week-long orientation, skill-building, and research introduction for community college students who are transferring to Oklahoma universities with the intent to major in STEM fields.

Oklahoma's Math Success Group, **leadership team**, 2012 – 2014

I was on the team that helped the Oklahoma State Regents for Higher Education plan and implement strategies to improve the mathematics preparation of students entering college, reform developmental mathematics at the college level, and strengthen mathematics preparation of all students. Some of our specific outcomes included a Remedial Reform Summit for colleges and universities to review nation-wide best practices and share local and state-wide efforts and a statewide Mathematics Faculty Conference to expand the discussions from the Remedial Reform Summit.

Affinity Network, 2012 – 2013

Affinity Network is a partnership among Oklahoma City Public Schools, Oklahoma City Community College, and University of Central Oklahoma sponsored by The College Board with the goal of better alignment of English and Mathematics curricula and instruction from kindergarten through a bachelor's degree within the context of the Common Core State Standards.

Oklahoma's Higher Education Mathematics representative for PARCC (Partnership for Assessment of Readiness for College and Careers), 2011 – 2013

PARCC is a multi-state effort to help Pearson develop a set of assessments aligned with the Common Core State Standards to measure whether K-12 students are on track for success in college and careers at points when corrective interventions would be reasonable.

PARCC Educator Leadership Cadre, 2012

This team of educators studied the Common Core State Standards (CCSS) with many of the leaders who wrote the standards so we would be prepared to

disseminate accurate information to other educators and administrators as our state began implementation of the CCSS.

SREB (Southern Regional Education Board) Transitional Course Project
co-representative for the state of Oklahoma, 2012

We worked to plan strategies to help ensure that students were ready for college or a career upon completion of high school.

Presented to the Oklahoma House of Representatives' Common Education Committee,
September 25, 2012

Oklahoma Council of Teachers of Mathematics, **Treasurer** 2007 – 2010

SMART (Single Mothers' Academic Resource Team) hosted through the Oklahoma State Regents' office, 2008 – 2009

Reviewer for American Educational Research Journal: Teaching Learning and Human Development, 2005 – 2007

Graduate Student Reviewer for American Educational Research Journal: Teaching Learning and Human Development, 2004, 2005

Campus

Academic Professional Track Faculty Campus Committee, 2016 – *present*

Discusses APT issues from a campus perspective and communicates with the Dean of Faculties office and the Faculty Senate on those issues.

APT Faculty Hiring and Reclassification Guidelines Task Force, 2023

Our charge is to recommend guidelines for the hiring of APT (Academic Professional Track) faculty. This includes recommendations for hiring and reclassifying APT faculty into the appropriate (recently standardized) title and rank and make recommendations for APT faculty hiring practices.

Enrollment Management Committee, Oklahoma City Community College, 2012 – 2014

Search Committees, Oklahoma City Community College, 2008 – 2014 (as needed), 2018

Institutional Review Board for Oklahoma City Community College, 2007 – 2014

We **established** Oklahoma City Community College's Institutional Review Board which included writing the procedures, examples, forms, and website information. Once the procedures were in place, we reviewed proposals for research conducted on our campus or by our faculty/staff.

Entry Level Assessment Committee, Oklahoma City Community College, 2006 – 2014
(**Chair** 2006 – 2007)

We reviewed and revised the guidelines for student placement into the appropriate level of classes. When revisions were needed, we worked with the Dean's Council and the advisors to implement the changes.

Springboard to Graduation (a partnership between Oklahoma City Community College and Oklahoma City Public Schools), 2012 – 2013

I was the Oklahoma City Community College administrative lead for this week-long intervention hosted at Oklahoma City Community College for the benefit of students who were struggling to pass the required high school exit exams in mathematics.

Complete College OCCC Leadership Committee, 2012 – 2013

We lead Oklahoma City Community College's initiatives to increase our students' success rates in individual courses, increase persistence and retention rates,

develop new programs or courses to meet the needs of the workforce, and increase the percentage of high school students who earn college degrees.

Achieving the Dream Steering Committee, 2007 – 2013

Achieving the Dream is a national organization that promotes evidence-based institutional improvement for community colleges. Oklahoma City Community College's Steering Committee was the core group leading our efforts toward institutional improvement.

Achieving the Dream Leadership Committee, 2007 – 2013

This was a group of about 40 people who met on a regular basis (usually monthly). We discussed what we thought should change to improve our campus, decided what evidence needed to be gathered concerning those ideas, explored the data, and prioritized the initiatives. We formed committees around each of the priorities. As the committees made and implemented plans, we reviewed those plans and the data that was gathered through implementation.

Achieving the Dream Developmental Education Committee, **Co-chair** 2007 – 2013

Developmental Education was at the forefront of our institutional improvement. As Director of the Mathematics department, I had the pleasure of leading the changes to the developmental mathematics classes. Before the redesign, we had three classes (Basic Math, Elementary Algebra, and Intermediate Algebra) to prepare students for College Algebra. However, we realized that some students did not have the mathematical background for Basic Math, so we created a class to give those students an entry point where they could be successful. We also decided that students at this level needed multiple learning avenues as well as assistance with study skills. We created a four-course sequence called College Prep Math (CPM). CPM I was built around models and hands-on work to help students build a mathematical foundation. CPM II, III, and IV integrated the arithmetic with the algebra and addressed the key concepts in multiple levels of the sequence. These classes involved a rotation of mini-lectures, group activities, and guided practice. We created and implemented the rotation schedule, faculty development workshops, course objectives, lecture guides, group activities, exams, and other materials for use in the classes. I also coordinated the changes to prerequisites that were required in over 350 courses across campus. This redesign affected approximately 3000 students per semester and analysis of the redesign indicated increases in student success.

Suspension Appeals Committee, Oklahoma City Community College, 2008 – 2012

Electronic Contracts Process Review Committee, Oklahoma City Community College, 2009 – 2010

Personnel Action Form and Adjunct Contract Workflow Committee, Oklahoma City Community College, *Spring 2010*

Organizational Climate Survey Implementation Committee, Oklahoma City Community College, 2008 – 2009

PeopleAdmin Recommendation Process Review Committee, Oklahoma City Community College, 2008 – 2009

Campus Climate Survey Committee, Oklahoma City Community College, 2007 – 2008

Developmental Studies Advisory Committee, Oklahoma City Community College, 2006 – 2007

Faculty Association Scholarship Committee, Oklahoma City Community College,
2006 – 2007

Phi Theta Kappa **Co-advisor**, Oklahoma City Community College, 2006 – 2007

Phi Theta Kappa is an honor society for two-year college students. I helped with the invitations for eligible students, the induction ceremony, and student activities.

Department and College

Core Curriculum Coordinator for the Department of Mathematics, 2022 – *present*

As part of my teaching responsibility, I coordinate with the OIEE (Office of Institutional Effectiveness and Evaluation), the CCC (Core Curriculum Council), and the course coordinators and faculty for core curriculum courses within the department of mathematics to help ensure that we are developing and assessing each core objective in every section of every core mathematics course every semester. I also share co-responsibility for writing the recertification applications.

Member of Subcommittee I&T (Instructional and Tenure), 2021 – 2023

Temporary member in 2021 and elected member in 2022.

This subcommittee prepares presentations to the full committee I&T for promotion votes and prepares files for candidates for promotion from Assistant to Associate ranks.

Co-Chair of Subcommittee I&T (Instructional and Tenure), 2023

As co-chair, I lead the Instructional portion of subcommittee I&T duties.

Faculty Advisory Council to the Dean, 2020 – 2022

Advisory body representing faculty of the College of Science to assist the Dean of the College of Science.

Faculty co-mentor for Priyanga Ganesan's Teaching as Research Fellows study

I mentored Ms. Ganesan as she chose a topic, wrote her IRB application, constructed her survey, collected data, and wrote her report, *Student Engagement in an Online Classroom*. I also invited students to participate in her survey, observed her class twice, and submitted a teaching report based on those observations.

Mathematics Outreach Committee, 2015 – 2022

Oversees and plans interactions with Department of Mathematics and the wider community.

Mathematics and Statistics Fair Organizer, 2017 – 2022

The Mathematics and Statistics Fair is an annual event held on the Texas A&M Campus to allow guests of all ages to enjoy one-on-one interactions with the Texas A&M community through mathematically related arts, crafts, puzzles, problems, games, speakers, and prizes. My role as organizer was to seek volunteers for and chair the planning committee, recruit volunteers for the fair, advertise the fair, volunteer on the day of the fair, and coordinate logistics for rooms, signage, supplies, prizes, and food for the volunteers. For 2021, we converted the fair to a virtual event for social distancing purposes.

Academic Professional Track Teaching Committee, 2018

Observes classes of colleagues and writes a thorough report of each class for use by the Academic Professional Track Committee.

Academic Professional Track Mathematics Committee, 2016 – 2018

Reviews APT faculty's annual reports and teaching evaluations and recommends annual evaluation ratings, discusses promotions from lecturer to senior lecturer, updates documents related to APT faculty, and participates in the APT faculty hiring process. Prior to the creation of the Academic Track Teaching Committee, we also observed classes of colleagues.

Core Curriculum Review Lead for Math 167, 2015 – 2016

Gathered evidence for and wrote the report requesting recertification for Math 167 as a core curriculum course.

Math Fair Art Room Organizer, 2016

My role as organizer was to choose mathematically-related arts and crafts appropriate for a wide range of students, create a supply request list, organize the supplies, recruit volunteers, match the volunteers to projects, train the volunteers, and volunteer on the day of the fair.

Texas A&M Math Circle presenter for Beginning and Intermediate groups, 2016

Panelist on "Careers in Mathematics" for Texas A&M's chapter of Association for Women in Mathematics, 2016

Math Fair Art Room Assistant Organizer, 2015

Rubric Committee for Mathematics for Core Curriculum assessment and Critical Thinking subcommittee, 2015

Wrote the rubrics that were presented to the campus Core Curriculum Committee for use in evaluation of the core curriculum mathematics courses.

Math Lab Committee, Oklahoma City Community College, 2006 – 2014

The Math Lab is a walk-in tutoring center where students can receive help on any mathematics class taught at Oklahoma City Community College. The lab offers these services for more than 70 hours per week during the main semesters with reduced hours during the summer. Our committee met in support of the Math Lab's efforts for continuous improvement.

Science and Mathematics Executive Council, Oklahoma City Community College, 2008 – 2013

The Dean of Science and Mathematics, the Director of Science, and the Director of Mathematics met weekly (or more often as needed) to make leadership decisions for the Division of Science and Mathematics.

STEM Planning Committee, Oklahoma City Community College, 2010

Developmental Mathematics Redesign committee, Oklahoma City Community College, 2005 – 2007

BOOK AND CHAPTER REVIEWS

Accuracy review for a chapter of Cengage's *Business Mathematics*, 2019

Book review for Macmillan's *For All Practical Purposes*, 2017

Book review for Cambridge University Press' *Quantitative Reasoning*, 2016

Core review for two chapters of Words and Numbers' *Basic Math*, 2015

Core review for two chapters of Words and Numbers' *Elementary Algebra*, 2015

Book review for Pearson's *Excursions in Modern Mathematics*, 8th edition, 2015

REFEREED PUBLICATIONS

- Zientek, L. R., Carter, T.A., Taylor, J. M., Capraro, R. M. (2011). Preparing prospective teachers: An examination of attitudes toward statistics. *The Journal of Mathematical Sciences and Mathematics Education*, 5, 25-38.
- Capraro, R. M., Capraro, M. M., Harbaugh, A. P., & Carter, T. A., (2010). Understanding, Questioning, and Representing: What Makes a Difference Mathematically in Middle-School Classrooms? *Research in Middle Level Education Online*, 34(4). Retrieved from <http://www.tandfonline.com/toc/umle20/34/4>
- Piccolo, D., Carter, T. A., Harbaugh, A.P., Capraro, M. M., Capraro, R. M. (2008). Quality of Instruction: Examining Discourse in Middle School Mathematics Instruction. *Journal of Advanced Academics*, 19, 376-410.
- Carter, T. A., & Dean, E. O. (2006). Mathematics Interventions for Grades 5-11: Teaching Mathematics, Reading, or Both? *Reading Psychology*, 27, 127-146.
- Carter, T. A., & Capraro, R. M. (2005). Stochastic misconceptions of pre-service teachers. *Academic Exchange Quarterly*, 9, 105-111.

OTHER PUBLICATIONS

- Carter, T.A. (2008). Preservice Teacher Knowledge and Understanding of Probability and Statistics. In G. Kulm (Ed.), *Teacher knowledge and practice in middle grades mathematics* (pp. 67-85). Rotterdam, The Netherlands: Sense.
- Carter, T. A., & Knox, L. (2005). *College Algebra Calculator Help*. Online at http://www.occc.edu/college_algebra/
Work completed as a result of an institutional grant from Oklahoma City Community College.
- Teel, M. A., Carter, T. A., & Grether, M. W. (2003). *Class notes to accompany the 9th edition of college mathematics for business, economics, life sciences and social sciences*. Denton, TX: University of North Texas.
- Carter, T. A., Tapia, R. A., & Papakonstantinou, A. (1995). *An introduction to linear algebra: A curricular unit for pre-calculus students*. Previously published online.

CURRICULUM DEVELOPMENT

Coordinating the efforts of our team to redesign the mathematics curriculum for future elementary and middle-school teachers. We are creating versions of the 100-level courses that are approved for transfer by the state, and we are redesigning our 300-level courses.

Developed class materials for Math 365 (Structure of Mathematics I)

This class is designed for prospective elementary and middle-school teachers to help them learn the reasoning and connections behind the mathematics they will teach. I created class notes that include activities and questions for exploration, and I modify these notes each semester to continue a cycle of improvement. I post a partially-completed version of these notes for students to download and use as a structure for their notes. I wrote reading assignments to help the future teachers as they gain experience reading a mathematics text. I created Formal Explanation assignments for which students work in groups to write more detailed (6-20 page) explanations of a concept using multiple approaches. I also write exams that require students to explain mathematics.

As part of my role as Math 365 lead on the inter-collegiate collaboration on mathematics and mathematics education led by Roger Howe, I worked to write information for future faculty teaching this course in order to help maintain consistency between sections and help with the alignment of the courses for these future teachers.

Developed class materials for Math 366 (Structure of Mathematics II)

This class is required for the same students who take Math 366, so Ali Foran and I developed the notes, activities, reading assignments, and Formal Explanations in the same style as I did for Math 365.

Developed class materials for Math 367 (Basic Concepts of Geometry)

This class is required for students who are planning to teach grades 4-8 mathematics or science. Over the years, we have had difficulty finding a textbook that is at the correct level of difficulty for this course. Most texts are aimed at future elementary school teachers or are designed for mathematics majors. By the time I taught the course in 2024, we had decided not to use a textbook. Therefore, I wrote notes and activities based on multiple sources to provide materials and learning experiences for the students.

Developed class materials for Math 167 (Explorations in Mathematics)

This class is designed for non-STEM majors and includes diverse topics such as graph theory, statistics, voting systems, fair division, apportionment, and coding and decoding of data. I collaborated with other faculty in the department to modify and enhance the class notes for this course. I write quizzes, exams, and other classroom activities for the course. As course coordinator, I provide materials to other professors and review their exams to help with consistency between sections. I co-wrote the curriculum proposal when we changed the name of the course and modified the content in 2015 and was the lead for this course when we requested recertification as a core curriculum course in 2015-16. For Week-in-Review, I am building on the work of colleagues by creating new problems for the partially-completed notes that I use to teach those weekly sessions for all Math 167 students. The website is www.math.tamu.edu/~tcarter/Math167WIR_2019c/

Developed class materials for Math 166 (Topics in Contemporary Mathematics II)

This class is designed for non-STEM majors and includes topics such as logic, sets, probability, permutations, combinations, statistics, matrices, and finance. Building on the work of colleagues, I wrote and posted partially-completed class notes. I also wrote quizzes, exams, and other classroom activities for the course.

Developed class materials for Math 140 (Mathematics for Business and Social Sciences)

This class is designed for non-STEM majors and includes topics such as systems of linear equations, matrices, probability, functions, and finance. Building on the work of colleagues, I wrote and posted partially-completed class notes. I also wrote quizzes, exams, and other classroom activities for the course.

Math Circle

I created and taught *CLUE in the Math Department* for the beginning and intermediate groups of students (mostly upper-elementary and middle-school students) at Texas A&M's Math Circle

Developed class materials for classes prior to teaching at Texas A&M University

I typically develop class notes, activities, quizzes, and exams for the courses I teach.

At Oklahoma Community College, I was able to play a significant role in our redesign of developmental mathematics. Our redesign involved changing the structure of the courses so they involved mini-lectures, group activities, guided practice, study skills, and team teaching. In addition to creating the mini-lectures, group activities, study skill activities, and standardized exams, we also created the professional development to help our faculty with active learning, team teaching, and teaching study skills. We worked with all six divisions on campus to change prerequisites for over 350 courses. We also changed placement testing and worked with advisors, the registrar, and financial aid to make adjustments for these new courses.

GRANT

Carter, T. A., Knox, L. & Türegün, M. (2006). *Web-Based Graphing Calculator Guide for Student Success in College-Level mathematics Courses (Phase I)*. \$4000 institutional competitive grant from Oklahoma City Community College. I was Co-PI, and my part was \$1333. The results of the portion on which I worked can be viewed at http://www.occc.edu/college_algebra/

PROFESSIONAL PRESENTATIONS

Carter, T. A. & Simmons, C. M. (2013, March). *Developmental Mathematics: Placement, Mathematics, Study Skills, and Teamwork*. Presentation at Innovation 2013 – 15th Annual Conference for League for Innovation in the Community College. Dallas, TX.

Carter, T. A. & Bakewell, D., (2012, February). *College Prep Mathematics: Teamwork in Action*. Presentation at D.R.E.A.M. - Achieving the Dream's Annual Meeting on Student Success. Dallas, TX.

Knox, L. & Carter, T. A., (2011, March). *Developmental Mathematics – Teams, Mini-Lectures, Manipulatives, Activities, MyMathLab, and Study Skills*. Presentation at the Twenty-Third International Conference on Technology in Collegiate Mathematics. Denver, CO.

Carter, T.A. (2011, March). *Developmental Mathematics – Mini-lectures, Activities, Guided Practice, and Cooperation*. Presentation at the 44th Annual Oklahoma Association of Community Colleges Conference. Midwest City, OK.

Capraro, R. M., Capraro, M. M., Zientek, L. R., Carter, T. A., & Taylor, J. M. (2007, November). *Prospective teachers' attitudes and understanding of statistical concepts*. Paper presented at the annual meeting of the School Science and Mathematics Association. Indianapolis, IN.

Carter, T. A., & Knox, L. (2006, March). *Calculator Woes? Camtasia and SmartView to the Rescue*. Presentation at the 85th annual meeting of the National Council of Teachers of Mathematics, Atlanta, GA.

Carter, T. A., & Knox, L. (2006, June). *TI-Smartview and Camtasia in the Mathematics Classroom*. Presentation at the annual meeting of the Oklahoma Council of Teachers of Mathematics, Oklahoma City, OK.

Capraro, R. M., Capraro, M. M., Harbaugh, A., Carter, T. A., & Piccolo, D. (2006, April). *Meaningful discourse in middle school: Linking research to practice*. Paper presented at the research pre-session of the 84th annual meeting of the National Council of Teachers of Mathematics, St. Louis, MO.

Capraro, R. M., Capraro, M. M., Harbaugh, A., Carter, T. A., & Piccolo, D. (2006, April). *Rich mathematics classroom conversations: What are middle-school teachers and students actually saying?* Paper presented at the annual meeting of the American Educational Research Association. San Francisco, CA.

- Capraro, R. M., Littlefield-Cook, J., Carter, T. A., Capraro, M. M., Matteson, S. & Lager, C. (2006, February). *Mathematical Fluency*. Paper presented at the 33rd annual meeting of the Research Council on Mathematics Learning, Las Vegas, NV.
- Kulm, G., Capraro, R. M., Capraro, M. M., Carter, T. A., Li, X., Sahin, A., et al. (2005, April). *How do students in the middle grades represent data?* Paper presented at the 83rd annual meeting of the National Council of Teachers of Mathematics, Anaheim, CA.
- Capraro, R. M., Capraro, M. M., Harbaugh, A. P., Carter, T. A., Romero, C. T., & Naiser, E. (2005, April). *Using student achievement data to support teacher quality measures*. Paper presented at the research pre-session of the 83rd annual meeting of the National Council of Teachers of Mathematics, Anaheim, CA.
- Carter, T. A., & Capraro, R. M. (2005, February). *Statistical understandings of preservice K-12 teachers*. Paper presented at the 32nd annual meeting of the Research Council on Mathematics Learning, Little Rock, AR.
- Capraro, R. M., Harbaugh, A. P., Carter, T. A., & Romero, C. T. (2005, February). *Using middle grades student achievement data to support theoretical teacher quality measures*. Paper presented at the 28th annual meeting of the Southwest Educational Research Association, New Orleans, LA.
- Zientek, L. R., Carter, T. A., & Taylor, J. M. (2005, February). *Future teachers' understanding of statistical concepts*. Paper presented at the 28th annual meeting of the Southwest Educational Research Association, New Orleans, LA.
- Carter, T. A., Zientek, L. R., & Capraro, R. M. (2005, January). *Teaching statistical concepts – are future teachers prepared?* Paper presented at the annual meeting of the Association of Mathematics Teacher Educators, Dallas, TX.
- Sebesta, L., Carter, T. A., Li, X., & Wright, W. (2004, January). *Representations, contexts, manipulatives, and promoting thinking and learning in middle grades mathematics*. Paper presented at the 9th annual Educational Research Exchange, College Station, TX.
- Carter, T. A. (2001, October). *Secret codes using matrices*. Presented at the annual workshop Expanding Your Horizons in Science and Mathematics, Denton, TX.
- Carter, T. A. (2000, July). *Matrices – coding and Markov chains*. Paper presented at the annual Conference for the Advancement of Mathematics Teaching, Houston, TX.

OTHER PRESENTATIONS

- Carter, T. A., (2017, November). *Talking Technology*. Moderator and contributor for Teaching Brown Bag seminar hosted by Texas A&M University Department of Mathematics, College Station, TX.
- Matuesvich, L. F., Carney, G. E., Carter, T. A., Gaynanova, I., & Logan, A. (2016, March). *Careers in Mathematics*. Panel discussion at Texas A&M University Association for Women in Mathematics chapter meeting, College Station, TX.

- Carter, T. A., (2016, October). *CLUE in the Math Department*. Presentation at Texas A&M University Math Circle for the beginner group.
- Carter, T. A., (2016, December). *CLUE in the Math Department*. Presentation at Texas A&M University Math Circle for the intermediate group.
- Carter, T. A., Case, H., Johnsen, D. (2011, September) *Oklahoma City Community College – Achieving the Dream*. Presentation at the Oklahoma State Regents for Higher Education conference on Achieving the Dream.
- Carter, T. A., (2011, April). *Developmental Mathematics at OCCC – Transition to College Prep Math (CPM)*. Presentation to the Oklahoma City Community College Board of Regents.
- Knox, L., Carter, T. A., Mitchell, J. (2011, February). *Multiple Methods of Learning in Every Course*. Presentation at the Pearson Redesign Workshop at Oklahoma City Community College.
- Carter, T. A., (2009, June). *Developmental Mathematics*. Presentation at the meeting of Oklahoma Community College Presidents.
- Carter, T. A., (2008, September). *Community College Teaching as a Career Option*. Presentation at a meeting of the University of Oklahoma’s mathematics graduate students.