

## **EDUC 3340.110, CRN 80471, Math Instruction for Teachers**

Fall 2017 rev. 08.16.2017

Texas A&M University-Central Texas

### **INSTRUCTOR AND CONTACT INFORMATION**

**Instructor: Christina Hamilton, Ph.D**

**Office:** Warrior Hall 322P

**Phone:** 254-519-5768

**Email: [hamilton.c@tamuct.edu](mailto:hamilton.c@tamuct.edu)**

The preferred email is through Canvas "Inbox" for course-related information. If correspondence is not related to the course, contact via [hamilton.c@tamuct.edu](mailto:hamilton.c@tamuct.edu).

#### **Office Hours:**

Mondays 9:00 a.m. to 10:45 a.m., Tuesday 9:00 a.m. to 11:30 a.m., Wednesday 9:00 a.m., to 10:15 a.m. and Thursday 1-5:30. Due to university obligations that may interfere with my office hours, it is RECOMMENDED that you schedule an appointment by contacting me at [hamilton.c@tamuct.edu](mailto:hamilton.c@tamuct.edu) prior to arrival.

#### **Mode of instruction and course access:**

This course requires, face to face, hands-on learning, and has online components. You will be required to attend class and travel to an elementary school site. All online modules must be completed using the A&M-Central Texas Canvas Learning Management System [<https://tamuct.instructure.com>].

#### **Student-instructor interaction:**

I check emails and text messages daily and will respond within two business days between the hours of 8 a.m. and 5 p.m. CST, excluding weekends and holidays.

#### **911 Cellular:**

Emergency Warning System for Texas A&M University – Central Texas

911Cellular is an emergency notification service that gives Texas A&M University-Central Texas the ability to communicate health and safety emergency information quickly via email, text message, and social media. All students are automatically enrolled in 911 Cellular through their myCT email account.

Connect at [911Cellular](https://portal.publicsafetycloud.net/Texas-AM-Central/alert-management) [<https://portal.publicsafetycloud.net/Texas-AM-Central/alert-management>] to change where you receive your alerts or to opt out. By staying enrolled in 911Cellular, university officials can quickly pass on safety-related information, regardless of your location.

### **COURSE INFORMATION**

#### **Course Overview and description:**

This methods course is concerned with providing experience for pre-service educators to plan, organize, deliver, and evaluate developmentally appropriate educational strategies and instructional techniques in teaching mathematics to diverse learners. The students

design responsive instruction appropriate for all learners which reflects an understanding of relevant mathematics content, promotes active engagement, and is based on continuous and appropriate assessment.

### **Course Objective:**

Upon successful completion of this course, the pre-service teacher will be able to plan, organize, deliver, and evaluate developmentally appropriate educational strategies and instructional techniques in teaching mathematics to diverse learners using student data and instructional technologies. The preservice teacher will demonstrate knowledge and application of State Educator Standards in Mathematics.

### **Student Learning Outcomes and Competency Goals Statements (certification or standards):**

- **Mathematics Standard VII** Mathematical Learning and Instruction: The mathematics teacher understands how children learn and develop mathematical skills, procedures and concepts; knows typical errors students make; and uses this knowledge to plan, organize and implement instruction to meet curriculum goals and to teach all students to understand and use mathematics.
- **Mathematics Standard VIII** Mathematical Assessment: The mathematics teacher understands assessment, and uses a variety of formal and informal assessment techniques appropriate to the learner on an ongoing basis to monitor and guide instruction and to evaluate and report student progress.
- **Mathematics Standard IX** Professional Development: The mathematics teacher understands mathematics teaching as a profession, knows the value and rewards of being a reflective practitioner, and realizes the importance of making a lifelong commitment to professional growth and development.

InTASC Standards

### **The Learner and Learning**

- Standard 1: Learner Development—The teacher understands how learners grow and develop, recognizing that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas, and designs and implements developmentally appropriate and challenging learning experiences.
- Standard 2: Learning Differences—The teacher uses understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards.
- Standard 3: Learning Environments—The teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self motivation.

### **Content**

- Standard 4: Content Knowledge—The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make the discipline accessible and meaningful for learners to assure mastery of the

content.

- Standard 5: Application of Content—The teacher understands how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues.

### **Instructional Practice**

- Standard 6: Assessment—The teacher understands and uses multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher's and learner's decision making.
- Standard 7: Planning for Instruction—The teacher plans instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy, as well as knowledge of learners and the community context.
- Standard 8: Instructional Strategies—The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.

### **Professional Responsibility**

- Standard 9: Professional Learning and Ethical Practice—The teacher engages in ongoing professional learning and uses evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on others (learners, families, other professionals, and the community), and adapts practice to meet the needs of each learner.

### **Required Reading and Textbook(s):**

- Jones, J.C. (2011). Visualizing Elementary and Middle School Mathematics Methods 1st Edition. ISBN-13: 978-0470450314, ISBN-10: 0470450312
- Boaler, J. (2016). Mathematical Mindsets: Unleashing Students' Potential through Creative Math, Inspiring Messages and Innovative Teaching 1st Edition. Jossey-Bass. ISBN-13: 978-0470894521 ISBN-10: 0470894520

### **COURSE REQUIREMENTS**

Assignments may not be submitted for credit after the due date (**no late work / no make-up work accepted for credit**). A grade of **ZERO** will be given to missed assignments.

### **Math Buddies Experience**

The objective of this assignment is to support the preservice teacher in understanding how to develop and deliver mathematics instruction using student data and the TEKS. You will travel to an elementary campus to experience teaching K-5 grade students. This experience could be in the form of individual or group teaching small instruction. The description and rubric for this assignment is provided in Canvas. **Mathematics Standard VII** Mathematical Learning and Instruction, **Mathematics Standard VIII** Mathematical Assessment, **Mathematics Standard IX** Professional Development, InTASC Standard 1-9

### **Book Study**

The objective for this learning activity is for the preservice teacher to read the book Mathematical Mindsets: Unleashing Students' Potential through Creative Math, Inspiring

Messages and Innovative Teaching by Jo Boaler and provide a written summary and reflection for each chapter. You will use your reflection to engage in the class discussion of the book. The description and rubric for this assignment is provided in Canvas.

**Mathematics Standard IX** Professional Development, InTASC Standard 1-9

### **Journal Article Paper**

The objective of this assignment is to introduce the preservice teacher in how to locate and analyze research about mathematics teaching. The preservice teacher will select two articles from NCTM journals pertaining to the same topic of interest, provide a summary of the two articles, then compare and contrast the two articles as they relate to the selected topic of interest.. The description and rubric for this assignment is provided in Canvas.

**Mathematics Standard IX** Professional Development, InTASC Standard 1-9

### **Chapter Quizzes**

The objective of this assignment is to assess the preservice teachers' understanding of the textbook content. The description and rubric for this assignment is provided in Canvas.

**Mathematics Standard VII** Mathematical Learning and Instruction, InTASC Standard 1-9

### **Final**

This will be an online multiple choice assessment of the concepts learning in the class. The final exam will be taken in class and the date is listed in the course calendar.

**Mathematics Standard VII** Mathematical Learning and Instruction, InTASC Standard 1-9

### **Presentation**

The objective of this assignment is for the student to express their summative experience with Math Buddies, the Journal Articles, the Textbook and Book Study. You will create an audio/visual PowerPoint to present to the class. The description and rubric for this assignment is provided in Canvas. **Mathematics Standard IX** Professional Development, InTASC Standard 1-9

### **Math EC-6 Endorsement Modules**

The modules are designed to help EC-6 teachers to have a strong foundation in elementary mathematics. It has a strong focus in mathematical content as well as mathematical pedagogy. Once you complete the modules and a Final exam you will be awarded a Certification of Endorsement by the Texas A&M University System. **Mathematics Standard VII** Mathematical Learning and Instruction, InTASC Standard 1-9

### **Grading Criteria Rubric and Conversion**

1. Math Buddies Experience.....	400 points
2. Book Study .....	100 points
3. Journal Article Paper .....	100 points
4. Chapter Quizzes (8).....	200 points
5. Final.....	100 points
6. Math EC-6 Endorsement Modules .....	100 points
Total Points.....	1000 points

Points	Grading Scale
900-1000	90-100% = A
800-899	80-89% = B
700-799	70-79% = C
600-699	60-69% = D
Below 599	59-0% = F

### Posting of Grades

All students' grades will be posted in the Canvas grade book after the assignment due date has passed. On the writing assignments, the professor will begin reading, grading and recording grades on the date they are due and will have all grades posted by the following class period. Students should regularly monitor their grades in the Canvas grade book, and students should not hesitate to ask the professor about any grade or concern.

## COURSE OUTLINE AND CALENDAR

### Complete Course Calendar

Date	Topic	Assignment Due <i>All assignments are Due by 11:59 P.M.</i>
8/30	Introductions, Chapter 1 What is Math, Chapter 2 Learning Mathematics with Understanding Chapter 3 Teaching Mathematics Effectively	Quiz 1 Due 9/1
August 28, Add/Drop/Late Registration begins August 30, Add/Drop/Late Registration ends, 16-week and 1st 8-week classes September 1, Priority Deadline to Submit Graduation Application		
9/6	Chapter 4 Planning for and Assessing Mathematics Learning, Chapter 5 Providing Equitable Instruction for All Students, Chapter 6 Problem Solving in the Mathematics Classroom	Book Study Part 1 Due 9/5 Quiz 2 Due 9/8
September 5, Last day to drop 1st 8-week classes with no record		
9/13	Chapter 7 Counting and Number Sense Chapter 8 Place Value	Quiz 3 Due 9/15
September 13, Last day to drop 16-week classes with no record		
9/20	Chapter 9 Operations with Whole Numbers Chapter 10 Whole Number Computation, Mental Computation, and Estimation	Book Study Part 2 Due 9/19 Quiz 4 Due 9/26
September 22, Last day to drop a 1st 8-week class with a Q or withdraw with a W		
9/27	Chapter 11 Understanding Fractions and Fraction Computation Chapter 12 Decimals and Chapter 13 Ratio, Proportion, and Percent	Quiz 5 Due 9/29
10/4	Chapter 14 Algebraic Reasoning and Math Buddies, <i>campus location will be announced</i>	Book Study Part 3 Due 10/4 Quiz 6 Due 10/6
October 6, Deadline to submit graduation		
10/11	Math Buddies, <i>campus location will be announced</i> . In the event that we cannot have Math Buddies, an alternate experience will be assigned by the instructor.	
10/18	Math Buddies, <i>campus location will be announced</i> . In	

	the event that we cannot have Math Buddies, an alternate experience will be assigned by the instructor.	
October 20, Last day to withdraw from the University (1st 8-week classes WF)		
10/25	Teaching Observations- <b>online class</b>	
October 23, Add/Drop/Late Registration begins, 2nd 8-week classes October 26, Add/Drop/Late Registration ends, 2nd 8-week classes		
11/1	Math Buddies, <i>campus location will be announced</i> . In the event that we cannot have Math Buddies, an alternate experience will be assigned by the instructor.	
October 30, Last day to drop 2nd 8-week classes with no record		
11/8	Math Buddies, <i>campus location will be announced</i> . In the event that we cannot have Math Buddies, an alternate experience will be assigned by the instructor.	
November 10, Veteran's Day November 10, Last day to drop with a Q or withdraw with a W (16-week classes)		
11/15	Math Buddies, <i>campus location will be announced</i> . In the event that we cannot have Math Buddies, an alternate experience will be assigned by the instructor.	Journal Article Paper Due 11/17
November 17, Last day to drop a 2nd 8-week class with a Q or withdraw with a W		
11/22	Teaching Observations- <b>online class</b>	Quiz 7 Due 11/22 Math EC-6 Endorsement Modules 11/22
November 23-24, Thanksgiving, CAMPUS CLOSED		
11/29	Presentations	
12/6	Presentations	
12/13	Final Exam	
December 15, Last day to withdraw from the University (16-week and 2nd 8-week classes) December 15, Last day to file for Degree Conferral (Registrar's Office) December 15, Commencement (End of Fall Term) December 25-January 1, WINTER BREAK		

*The professor reserves the right to amend this syllabus at any time. If revisions are necessary, the professor will make every effort to provide as much advanced notice as possible.*

## **TECHNOLOGY REQUIREMENTS AND SUPPORT**

### **Technology Requirements.**

This course will use the A&M-Central Texas Instructure Canvas learning management system.

Logon to A&M-Central Texas Canvas [<https://tamuct.instructure.com>].

Username: Your MyCT username (xx123 or everything before the "@" in your MyCT e-mail address)

Password: Your MyCT password

### **Technology Support.**

For log-in problems, students should contact Help Desk Central.

24 hours a day, 7 days a week:

Email: [helpdesk@tamu.edu](mailto:helpdesk@tamu.edu)

Phone: (254) 519-5466

[Web Chat](http://hdc.tamu.edu): [<http://hdc.tamu.edu>]

*Please let the support technician know you are an A&M-Central Texas student.*

For issues with **Canvas**, select “chat with Canvas support,” submit a support request to Canvas Tier 1, or call the Canvas support line: 1-844-757-0953, links to all are found inside of Canvas using the “Help” link.

For issues related to course content and requirements, contact your instructor.

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## **UNIVERSITY RESOURCES, PROCEDURES, AND GUIDELINES**

### **Drop Policy.**

If you discover that you need to drop this class, you must complete a [Drop Request Form](https://www.tamuct.edu/registrar/docs/Drop_Request_Form.pdf) [https://www.tamuct.edu/registrar/docs/Drop\_Request\_Form.pdf].

Professors cannot drop students; this is always the responsibility of the student. The Registrar’s Office will provide a deadline on the University Calendar for which the form must be completed, signed and returned. Once you return the signed form to the Registrar’s Office, you must go into Warrior Web and confirm that you are no longer enrolled. If you still show as enrolled, FOLLOW-UP with the Registrar’s Office immediately. You are to attend class until the procedure is complete to avoid penalty for absence. Should you miss the drop deadline or fail to follow the procedure, you will receive an F in the course, which may affect your financial aid and/or VA educational benefits.

### **Academic Integrity.**

Texas A&M University -Central Texas values the integrity of the academic enterprise and strives for the highest standards of academic conduct. A&M-Central Texas expects its students, faculty, and staff to support the adherence to high standards of personal and scholarly conduct to preserve the honor and integrity of the creative community. Academic integrity is defined as a commitment to honesty, trust, fairness, respect, and responsibility. Any deviation by students from this expectation may result in a failing grade for the assignment and potentially a failing grade for the course. Academic misconduct is any act that improperly affects a true and honest evaluation of a student’s academic performance and includes, but is not limited to, cheating on an examination or other academic work, plagiarism and improper citation of sources, using another student’s work, collusion, and the abuse of resource materials. All academic misconduct concerns will be reported to the university’s Office of Student Conduct. Ignorance of the university’s standards and expectations is never an excuse to act with a lack of integrity. When in doubt on collaboration, citation, or any issue, please contact your instructor before taking a course of action.

### **Academic Accommodations.**

At Texas A&M University-Central Texas, we value an inclusive learning environment where every student has an equal chance to succeed and has the right to a barrier free education. The Department of Access and Inclusion is responsible for ensuring that students with a disability receive equal access to the University’s programs, services and activities. If you believe you have a disability requiring reasonable accommodations please contact the Department of Access and Inclusion at (254) 501-5831. Any information you provide is

private and confidential and will be treated as such.

For more information please visit our [Access & Inclusion](https://www.tamuct.edu/student-affairs/access-inclusion.html) webpage  
<https://www.tamuct.edu/student-affairs/access-inclusion.html>

Texas A&M University-Central Texas supports students who are pregnant and/or parenting. In accordance with requirements of Title IX and guidance from US Department of Education's Office of Civil Rights, the Dean of Student Affairs' Office can assist students who are pregnant and/or parenting in seeking accommodations related to pregnancy and/or parenting. For more information, please visit <https://www.tamuct.departments/index.php>. Students may also contact the institution's Title IX Coordinator. If you would like to read more about these [requirements and guidelines online](#), please visit the website [<http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf>].

### **Tutoring.**

Tutoring is available to all A&M-Central Texas students, both on-campus and online. On-campus subjects tutored include Accounting, Advanced Math, Biology, Finance, Statistics, Mathematics, and Study Skills. Tutors are available at the Tutoring Center in Warrior Hall, Suite 111.

If you have a question regarding tutor schedules, need to schedule a tutoring session, are interested in becoming a tutor, or any other question, contact Academic Support Programs at 254-519-5796, or by emailing Larry Davis at [lmDavis@tamuct.edu](mailto:lmDavis@tamuct.edu).

Chat live with a tutor 24/7 for almost any subject on your computer! Tutor.com is an online tutoring platform that enables A&M-Central Texas students to log-in and receive FREE online tutoring and writing support. This tool provides tutoring in over forty subject areas. Access Tutor.com through Canvas.

### **The University Writing Center.**

Located in 416 Warrior Hall, the University Writing Center (UWC) at Texas A&M University-Central Texas is a free workspace open to all TAMUCT students from 10am-5pm Monday-Thursday with satellite hours in the University Library on Mondays from 6:00-9:00pm. Students may arrange a one-on-one session with a trained and experienced writing tutor by visiting the UWC during normal operating hours (both half-hour and hour sessions are available) or by making an appointment via [WOnline](https://tamuct.mywconline.com/) [<https://tamuct.mywconline.com/>]. In addition, you can email Dr. Bruce Bowles Jr. at [bruce.bowles@tamuct.edu](mailto:bruce.bowles@tamuct.edu) to schedule an online tutoring session. Tutors are prepared to help writers of all levels and abilities at any stage of the writing process.

While tutors will not write, edit, or grade papers, they will assist students in developing more effective composing practices. By providing a practice audience for students' ideas and writing, our tutors highlight the ways in which they read and interpret students' texts, offering guidance and support throughout the various stages of the writing process. In addition, students may work independently in the UWC by checking out a laptop that runs the Microsoft Office suite and connects to WIFI, or by consulting our resources on writing,



including all of the relevant style guides. Whether you need help brainstorming ideas, organizing an essay, proofreading, understanding proper citation practices, or just want a quiet place to work, the University Writing Center is here to help!

If you have any questions about the University Writing Center, please do not hesitate to contact Dr. Bruce Bowles Jr. at [bruce.bowles@tamuct.edu](mailto:bruce.bowles@tamuct.edu).

### **University Library.**

The University Library provides many services in support of research across campus and at a distance. We offer over 200 electronic databases containing approximately 250,000 eBooks and 82,000 journals, in addition to the 72,000 items in our print collection, which can be mailed to students who live more than 50 miles from campus. Research guides for each subject taught at A&M-Central Texas are available through our website to help students navigate these resources. On-campus, the library offers technology including cameras, laptops, microphones, webcams, and digital sound recorders.

Research assistance from a librarian is also available twenty-four hours a day through our online chat service, and at the reference desk when the library is open. Research sessions can be scheduled for more comprehensive assistance, and may take place on Skype or in-person at the library. Assistance may cover many topics, including how to find articles in peer-reviewed journals, how to cite resources, and how to piece together research for written assignments.

Our 27,000-square-foot facility on the A&M-Central Texas main campus includes student lounges, private study rooms, group work spaces, computer labs, family areas suitable for all ages, and many other features. Services such as interlibrary loan, TexShare, binding, and laminating are available. The library frequently offers workshops, tours, readings, and other events. For more information, please visit our [Library website](https://tamuct.libguides.com/) [<https://tamuct.libguides.com/>].

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### **OPTIONAL POLICY STATEMENTS:**

#### **A Note about Sexual Violence at A&M-Central Texas**

Sexual violence is a serious safety, social justice, and public health issue. The university offers support for anyone struggling with these issues. University faculty are mandated reporters, so if someone discloses that they were sexually assaulted (or a victim of Domestic/Dating Violence or Stalking) while a student at A&M-Central Texas, faculty members are required to inform the Title IX Office. If you want to discuss any of these issues confidentially, you can do so through Counseling Services (254-501-5956) located on the second floor of Warrior Hall.

Sexual violence can occur on our campus because predators often feel emboldened, and victims often feel silenced or shamed. It is incumbent on ALL of us to find ways to actively create environments that tell predators we don't agree with their behaviors and tell survivors we will support them. Your actions matter. Don't be a bystander; be an agent of change. For additional information on campus policy and resources visit the [Title IX](#)

[webpage](https://www.tamuct.edu/departments/compliance/titleix.php) [https://www.tamuct.edu/departments/compliance/titleix.php].

### **INSTRUCTOR POLICIES.**

It is expected that you conduct yourself in such a way that resembles a student with a professional behavior and commitment to the teaching field expectations. Attendance is mandatory. **You are to be in class at least 90% of the time, if your attendance is below this threshold your final grade will be lowered by one (1) full letter.** An excused absence will be granted with a doctor's note or legal documentation provided no later than two days following the absence. Late work will not be accepted unless given prior approval by the professor. In most situations, a doctor's note or legal documentation will be required. In the event of an excused absence (via doctor's note), you are responsible for asking a classmate to take notes and gather handouts or class information for you. It is your responsibility to find out what you missed. *Your professional behavior, including your professional attire, arriving to class late and leaving class early will be monitored and recorded on your professional teaching disposition.*

### **Copyright Notice.**

Students should assume that all course material is copyrighted by the respective author(s). Reproduction of course material is prohibited without consent by the author and/or course instructor. Violation of copyright is against the law and Texas A&M University-Central Texas' Code of Academic Honesty. All alleged violations will be reported to the Office of Student Conduct.

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