

EDUC 4313: Teaching Mathematics in the Middle and High School, Fall 2024
Face to Face
Monday 4:30-5:50pm BEP 218

Instructor Information

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 Office: BEP 241
 Office Hours: Mondays 9:00am-12:00pm or by appointment
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 Indication of best way to contact the instructor: Email

Last Day to Withdraw from Courses: November 4, 2024

Course Catalog Description

Study of mathematics curriculum, materials, and selected instructional techniques in the middle and high school.
 Prerequisite: Successful completion of all Phase II courses.

Student Learning Outcomes & Assessments

Course Topics and/or Student Learning Outcomes	Assessment (including performance-based)	Standards Alignment
The student is expected to... Demonstrate an understanding of teaching mathematics in the middle and high school classrooms	Homework/Quizzes In-class group work Exams Professional Mathematics Teaching Portfolio	TEKS (b) (1): Mathematical process standards Middle School TEKS (c) (1): Mathematical process standards High School Texas Educator Standards: 1bi, 1bii, 1biii, 1ci, 1ciii; 2bi, 2bii, 2biii, 2ci, 2ciii; 3aii, 3aiii, 3bi, 3bii, 3biii, 3ci, 3cii. INTASC Standards: 1, 2, 4, 5 and 8
Demonstrate an understanding of mathematical processes and reasoning	Homework/Quizzes In-class group work Exams Professional Mathematics Teaching Portfolio	TEKS (b) (1): Mathematical process standards Middle School TEKS (c) (1): Mathematical process standards High School Texas Educator Standards: 3A, 3C INTASC Standards: 4, 5
Solve mathematical problems and make connections within and outside of mathematics	Homework/Quizzes In-class group work Exams Professional Mathematics Teaching Portfolio	TEKS (b) (1): Mathematical process standards Middle School TEKS (c) (1): Mathematical process standards High School Texas Educator Standards: 3A, 3C INTASC Standards: 4, 5
Garner information about and assess middle and high school grades students' mathematical thinking	Homework/Quizzes In-class group work Exams Professional Mathematics Teaching Portfolio	TEKS (b) (1): Mathematical process standards Middle School TEKS (c) (1): Mathematical process standards High School Texas Educator Standards: 5ai, 5aii INTASC Standards: 6

Evaluation and Grading

Homework/Quizzes	20%
In-class Group Work	10%
Midterm Exam	15%
Final Exam	20%
Professional Mathematics Teaching Portfolio	35%
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TOTAL	100%
A = 90-100% B = 80-89% C = 70-79% D = 60-69% F = 0-59%	

NOTE: I expect that for every hour spent in class, two hours should be spent outside of class reading and working on assignments.

Teaching Strategies

1. *Homework/Quizzes*: Students will be assigned homework at the end of each class session. Homework may consist of assigned questions related to readings in our course texts, supplementary technology labs, mathematics problems, reflective essays, or curriculum analyses. I encourage you to form study groups outside class where you can work with peers to check and discuss homework problems. If you have trouble with assignments, please come to see me during office hours (as scheduled, or by appointment) as soon as possible. On some days, homework will be collected for a grade. On other days, you will be given a brief 5-minute quiz at the beginning of our class sessions (4:30-4:35 pm), and this quiz will count for your homework grade for the day. Quiz questions will be based on the assigned homework from the previous class session. There are no make-up quizzes, so if you are absent or arrive late, you will not be able to take the quiz. You are free to use your calculator, manipulatives, textbook, and notebook during the quizzes. Your lowest two homework grades will be dropped at the end of the semester.

2. *In-class Group Work*: You will be assigned to a group on the second day of class. Each group will have a folder that I will distribute at the beginning of each class session. The folder will contain the attendance sign-in sheet and documents necessary for in-class group work. Daily class participation in your groups (and as a whole class) is a key component to this course. Each group will turn in one copy of the in-class assignment and each member of the group will receive the same grade on that assignment. If you miss class, you will receive no credit for the in-class work. If you are late to class, you will receive partial credit for the in-class work. Part of your in-class group work grade will be determined by your participation throughout the semester. Your lowest two in-class group work grades will be dropped at the end of the semester.

3. *Exams*: You should bring your calculator for use on all exams. **No make-up exams will be permitted.** Please notify me in advance if you expect to be absent during an exam. Otherwise, a missed exam will result in a grade of 0.

4. *Professional Mathematics Teaching Portfolio*: You will compose a professional mathematics teaching portfolio in this course. It is important to note that for this assignment there are multiple components, including:

1. Mission statement
2. Interviews with middle/high school grades students
3. Video analysis
4. Research analysis
5. Example of an exemplary lesson

Please read carefully the guidelines for this professional mathematics teaching portfolio assignment (posted on Canvas).

Required Texts, Materials/Supplies, and Related Readings

- National Council of Teachers of Mathematics (2014). *Principles to actions: Ensuring mathematical success for all*. Reston, VA: Author. (You can purchase either e-version or paperback version through www.nctm.org.)
- Smith, M. S., & Stein, M. K. (2018). *5 practices for orchestrating productive mathematics discussions* (2nd ed.). Reston, VA: National Council of Teachers of Mathematics (NCTM).

"A student of this institution is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer."

Internet Resources

TEA <http://www.tea.state.tx.us/>

National Technology Standards

<https://www.iste.org/iste-standards>

National Council of Teachers of Mathematics

<http://www.nctm.org>

National Library of Virtual Manipulatives

<http://nlvm.usu.edu/en/nav/vlibrary.html>

Shodor Interactivate

<http://www.shodor.org/interactivate>

WisWeb: <http://www.fi.uu.nl/wisweb/en/>

Database search for educational journals

<http://library.uttyler.edu/>

Creative Publications

https://www.isbns.net/author/Creative_Publications

EAI Education www.eaieducation.com

Texas instruments <http://education.ti.com/>

AIMS www.AIMSedu.org

Eye on Education

<https://www.routledge.com/go/routledge-eye-on-education>

Casio <https://www.casio.com/us/calculators/education/>

NASCO www.eNASCO.com

Course Policies

Participation is imperative to the success in this course. Students are expected to regularly review the course management system, check email, and contribute to course assignments.

All assignments are due on or before the dates provided in Canvas. Each written assignment must be typewritten and submitted in Canvas. General guidelines for written assignments are:

1. On Time
2. Word-Processed, Double-Spaced, Times New Roman 12 Font
3. Free of typographical errors

No email attachments of assignments will be accepted. Submission deadlines are final, and links will be removed after deadline has expired. NO LATE assignments will be accepted unless a valid pre-approved or medical reason has been discussed with the professor. If an assignment is not completed on time due to a documented illness, funeral, or other university related activity, then a make-up date can be scheduled with the professor. All late assignments or non-submitted assignments will receive a score of zero points.

If an assignment is plagiarized, then the student will receive a zero for the assignment. Academic dishonesty is not tolerated. The professor reserves the right to assign a failing grade for the course and report student behavior to university officials if offenses are egregious or occur more than once.

Attendance: This course is designed and organized to be highly collaborative and experiential. Our class sessions, in particular, will involve small and whole group activities and discussions. Therefore, your attendance and participation are essential to the learning of everyone in our course. It is very difficult to be enriched by discussions and collaborations if you are not present or prepared for class. However, given the current global pandemic and all of the personal challenges that can be associated with it, if you are unable to attend a class session, please be sure to notify me as soon as possible. Whether an excused or unexcused absence, important components to the course are still being missed. All teacher candidates are responsible for material covered during absences.

Poor or late attendance, not attending for the full class time, or lack of preparation (i.e., not completing graded or other non-graded assignments) will adversely affect your grades in this course. Specifically, you are allowed to miss ONE (1) class session without penalty, no explanation necessary. Every subsequent unexcused absence will result in 5 points being deducted from the student's final grade. Excused absences will automatically be granted for religious observances, military duty, and any UT Tyler sponsored event.

If more than 15 minutes of a class session is missed, you will be counted as absent. Three (3) tardies will count as 1 unexcused absence.

Children in Class: For those of you with children at home, please rest assured that our class sessions are friendly to children. As a parent, I completely empathize with the challenges associated with balancing your professional and personal lives. Please feel free to bring your children to class if you are having a childcare issue. In those instances, be sure to sit closer to the door so that you can slip in and out the classroom if needed without disrupting the rest of the class.

UNIVERSITY POLICIES

Withdrawing from Class

Students may [withdraw](#) (drop) from this course using the [Withdrawal Portal](#). Withdrawing (dropping) this course can impact your Financial Aid, Scholarships, Veteran Benefits, Exemptions, Waivers, International Student Status, housing, and degree progress. Please speak with your instructors, consider your options, speak with your advisor, and visit the One-Stop Service Center (STE 230) or email enroll@uttyler.edu to get a complete review of your student account and the possible impacts to withdrawing. We want you to make an informed decision. UT Tyler faculty and staff are here for you and often can provide additional support options or assistance. Make sure to carefully [read the implications for withdrawing from a course and the instructions](#) on using the [Withdrawal portal](#).

Texas law prohibits students from dropping more than six courses during their entire undergraduate career*. The six courses dropped includes those from other 2-year or 4-year Texas public colleges and universities. Consider the impact withdrawing from this class has on your academic progress and other areas, such as financial implications. We encourage you to consult your advisor(s) and Enrollment Services for additional guidance. **CAUTION #1:** Withdrawing before census day does not mean you get a full refund. Please see the [Tuition and Fee Refund Schedule](#). **CAUTION #2:** All international students must check with the [Office of International Programs](#) before withdrawing. All international students are required to enroll full-time for fall and spring terms. **CAUTION #3:** All UT Tyler Athletes must check with the Athletic Academic Coordinator before withdrawing from a course. **CAUTION #4:** All veterans or military-affiliated students should consult with the [Military and Veterans Success Center](#).

* Students who began college for the first time before 2007 are exempt from this law.

Artificial Intelligence Statement

UT Tyler is committed to exploring and using artificial intelligence (AI) tools as appropriate for the discipline and task undertaken. We encourage discussing AI tools' ethical, societal, philosophical, and disciplinary implications. All uses of AI should be acknowledged as this aligns with our commitment to honor and integrity, as noted in UT Tyler's Honor Code. Faculty and students must not use protected information, data, or copyrighted materials when using any AI tool. Additionally, users should be aware that AI tools rely on predictive models to generate content that may appear correct but is sometimes shown to be incomplete, inaccurate, taken without attribution from other sources, and/or biased. Consequently, an AI tool should not be considered a substitute for traditional approaches to research. You are ultimately responsible for the quality and content of the information you submit. Misusing AI tools that violate the guidelines specified for this course is considered a breach of academic integrity. The student will be subject to disciplinary actions as outlined in UT Tyler's Academic Integrity Policy.

For this course, **AI is not permitted in this course at all.** I expect all work students submit for this course to be their own. I have carefully designed all assignments and class activities to support your learning. Doing your own work, without human or artificial intelligence assistance, is best for your efforts in mastering course learning objectives. For this course, I expressly forbid using ChatGPT or any other artificial intelligence (AI) tools for any stages of the work process, including brainstorming. Deviations from these guidelines will be considered a violation of UT Tyler's Honor Code and academic honesty values.

Final Exam Policy

Final examinations are administered as scheduled. If unusual circumstances require that special arrangements be made for an individual student or class, the Dean of the appropriate college, after consultation with the faculty member involved, may authorize an exception to the schedule. Faculty members must maintain student final examination papers for a minimum of three months following the examination date.

Incomplete Grade Policy

If a student, because of extenuating circumstances, is unable to complete all of the requirements for a course by the end of the semester, then the instructor may recommend an Incomplete (I) for the course. The "I" may be assigned in place of

a grade *only when **all** of the following conditions are met*: (a) the student has been making satisfactory progress in the course; (b) the student is unable to complete all coursework or final exam due to unusual circumstances that are beyond personal control and are acceptable to the instructor, and (c) the student presents these reasons before the time that the final grade roster is due. The semester credit hours for an Incomplete will not be used to calculate the grade point average.

The student and the instructor must submit an Incomplete Form detailing the work required and the time by which the work must be completed to their respective department chair or college dean for approval. The time limit established must not exceed one year. Should the student fail to meet all of the work for the course within the time limit, then the instructor may assign zeros to the unfinished work, compute the course average for the student, and assign the appropriate grade. If a grade has yet to be assigned within one year, then the Incomplete will be changed to an F, or NC. If the course was initially taken under the CR/NC grading basis, this may adversely affect the student's academic standing.

Grade Appeal Policy

Disputes regarding grades must be initiated within sixty (60) days from the date of receiving the final course grade by filing a Grade Appeal Form with the instructor who assigned the grade. A grade appeal should be used when the student thinks the final course grade awarded does not reflect the grades earned on assessments or follow the grading scale as documented in the syllabus. The student should provide the rationale for the grade appeal and attach supporting document about the grades earned. The form should be sent via email to the faculty member who assigned the grade. The faculty member reviews the rationale and supporting documentation and completes the instruction section of the form. The instructor should return the form to the student, even if a grade change is made at this level. If the student is not satisfied with the decision, the student may appeal in writing to the Chairperson of the department from which the grade was issued. In situations where there is an allegation of capricious grading, discrimination, or unlawful actions, appeals may go beyond the Chairperson to the Dean or the Dean's designee of the college from which the grade was issued, with that decision being final. The Grade Appeal form is found in the [Registrar's Form Library](#).

NOTE: The Grade Appeal Form is different from the Application for Appeal form submitted to the Student Appeals Committee, which does not rule on grade disputes as described in this policy.

Disability/Accessibility Services

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA), the University of Texas at Tyler offers accommodations to students with learning, physical, and/or psychological disabilities. If you have a disability, including a non-visible diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or a history of modifications or accommodations in a previous educational environment, you are encouraged to visit <https://hood.accessiblelearning.com/UTTyler/> and fill out the New Student application. The Student Accessibility and Resources (SAR) office will contact you when your application has been submitted and an appointment with the Assistant Director Student Accessibility and Resources/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at <https://www.uttyler.edu/disability-services>, the SAR office located in the Robert Muntz Library, LIB 460, email saroffice@uttyler.edu, or call 903.566.7079."

Military Affiliated Students

UT Tyler honors the service and sacrifices of our military-affiliated students. If you are a student who is a veteran, on active duty, in the reserves or National Guard, or a military spouse or dependent, please stay in contact with your faculty member if any aspect of your present or prior service or family situation makes it difficult for you to fulfill the requirements of a course or creates disruption in your academic progress. It is important to make your faculty member aware of any complications as far in advance as possible. Your faculty member is willing to work with you and, if needed, put you in contact with university staff who are trained to assist you. The [Military and Veterans Success Center \(MVSC\)](#) has campus resources for military-affiliated students. The MVSC can be reached at MVSC@uttyler.edu or via phone at 903.565.5972.

Students on an F-1 Visa

To remain in compliance with Federal Regulations requirements you must do the following:

- Traditional face-to-face classes: Attend classes on the regular meeting days/times.
- Hybrid Classes: Attend all face-to-face classes convened by the instructor according to the schedule set for your specific course.
- Online course: Only one online course can count toward your full-time enrollment. Students are expected to be fully engaged and meet all requirements for the online course.

Academic Honesty and Academic Misconduct

The UT Tyler community comes together to pledge that "Honor and integrity will not allow me to lie, cheat, or steal, nor to accept the actions of those who do." Therefore, we enforce the [Student Conduct and Discipline policy](#) in the Student Manual Of Operating Procedures (Section 8).

FERPA

UT Tyler follows the Family Educational Rights and Privacy Act (FERPA) as noted in [University Policy 5.2.3](#). The course instructor will follow all requirements to protect your confidential information.

Absence for Official University Events or Activities

This course follows the practices related to [Excused Absences for University Events or Activities](#) as noted in the Catalog.

Absence for Religious Holidays

This course follows the practices related to [Excused Absences for Religious Holy Days as noted in the Catalog](#).

Absence for Pregnant Students

This course follows the requirements of Texas Laws SB 412, SB 459, SB 597/HB 1361 to meet the needs of pregnant and parenting students. Part of the supports afforded pregnant students includes excused absences. Faculty who are informed by a student of needing this support should make a referral to the Parenting Student Liaison. NOTE: Students must work with the Parenting Student Liaison in order to receive these supports. Students should reach out to the Parenting Student Liaison at parents@uttyler.edu and also complete the [Pregnant and Parenting Self-Reporting Form](#).

Campus Carry

We respect the right and privacy of students who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at <http://www.uttyler.edu/about/campus-carry/index.php>.

UT Tyler Resources for Students:

- [UT Tyler Student Accessibility and Resource \(SAR\) Office](#) (provides needed accommodations to students with document needs related to access and learning)
- [UT Tyler Writing Center](#)
- [The Mathematics Learning Center](#)
- [UT Tyler PASS Tutoring Center](#)
- [UT Tyler Supplemental Instruction](#)
- [Upswing \(24/7 online tutoring\)](#) - covers nearly all undergraduate course areas
- [Robert Muntz Library](#) and [Library Liaison](#)

- [Canvas 101](#) (learn to use Canvas, proctoring, Unicheck, and other software)
- LIB 422 -- Computer Lab where students can take a proctored exam
- [The Career Success Center](#)
- [UT Tyler Testing Center](#)
- [Office of Research & Scholarship Design and Data Analysis Lab](#)
- [UT Tyler Counseling Center](#) (available to all students)
- [MySSP App](#) (24/7 access to Student Support Program counseling through phone or chat and online wellness resources available in a variety of languages)
- [Student Assistance and Advocacy Center](#)
- [Military and Veterans Success Center](#) (supports for our military-affiliated students)
- [UT Tyler Patriot Food Pantry](#)
- [UT Tyler Financial Aid and Scholarships](#)
- [UT Tyler Student Business Services](#) (pay or set up payment plans, etc.)
- [UT Tyler Registrar's Office](#)
- [Office of International Programs](#)
- [Title IX Reporting](#)
- [Patriots Engage](#) (available to all students. Get engaged at UT Tyler.)

COLLEGE OF EDUCATION AND PSYCHOLOGY (CEP) VISION AND MISSION

CEP Mission

The mission of the CEP is to prepare competent and passionate professionals in the fields of education, psychology, and counseling; to advance knowledge and expertise; and to impact these fields locally, regionally, nationally, and internationally.

CEP Vision

The CEP will be a global leader in responding to needs in the fields of education, psychology, and counseling, with a focus on the East Texas region, by creating innovative academic and scholarly pathways and partnerships.

UT TYLER'S SCHOOL OF EDUCATION STANDARDS FOR EDUCATOR PREPARATION PROGRAMS

[Texas Education Standards](#): The School of Education are committed to teaching and implementing the Texas Educator Standards at the highest level. The School of Education faculty use the Texas Education Standards, along with the Interstate New Teacher Assessment and Support Consortium (InTASC) standards used by educator preparation programs throughout the United States.

The list of [Texas Education Standards](#) can be accessed [here](#).

Access the [Code of Ethics and Standard Practices for Texas Educators](#).

Tentative Course Outline: (The instructor reserves the right to adapt this outline as needed during the semester.)

Week	Dates	Topic
1	August 26-September 1	Read Course Syllabus and Overview, Orientation Teaching Mathematics in the 21 st Century
	September 2	Labor Day Holiday-No Class
2	September 3-8	Exploring What It Means to Know and Do Mathematics
3	September 9-15	Effective Teaching and Learning Orchestrating Mathematical Discussions, Introducing the 5 Practices
4	September 16-22	Establish Mathematics Goals to Focus Learning Setting Goals for Instruction
5	September 23-29	Implement Tasks that Promote Reasoning and Problem Solving Selecting an Appropriate Task/Identifying Worthwhile Mathematical Tasks
6	September 30-October 6	Use and Connect Mathematical Representations Investigating the 5 Practices in Action
7	October 7-13	Midterm Exam

8	October 14-20	Facilitate Meaningful Mathematical Discourse Determining the Direction of the Discussion: Selecting, Sequencing, and Connecting Students' Responses
9	October 21-27	Pose Purposeful Questions Ensuring Active Thinking and Participation: Asking Good Questions and Holding Students Accountable
10	October 28-November 3	Build Procedural Fluency from Conceptual Understanding Planning in the Problem-Based Classroom
11	November 4-10	Support Productive Struggle in Learning Mathematics Equity
12	November 11-17	Elicit and Use Evidence of Student Thinking Assessment
13	November 18-24	Peer Teaching Lesson
	November 25-29	Thanksgiving Holidays-No Class
14	December 2-8	Peer Teaching Lesson and Portfolio
15	December 9-13	Final Exam
	December 14	End of Fall Term