



MTE 557.01W Problem Based Learning in Mathematics and Science

COURSE SYLLABUS: Summer 2025

Instructor: Rebecca Dibbs, PhD

Office Location: 318 Binnion/110 Education North

Office Hours: 3-4 pm CST MTWR on ZOOM

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COURSE INFORMATION

Materials

Textbook(s) Required: Project Based Teaching, by Susie Boss & John Larmer

MTE 557 - Prob Based Lrng Math Sci

Hours: 3

Problem Based Learning in Mathematics and Science - This course is specifically designed for teachers 7-12. The National Council of Teachers of Mathematics (NCTM) explains in its Principles and Standards (2000) that all mathematical learning should be grounded in problem solving and mathematical reasoning. This course focuses on project-based and problem-based learning (PBL); conducting PBL and its applications in the classroom.

COURSE REQUIREMENTS

Course Activities

Lecture/Reading: Each week, there will be two assigned chapters from the book, and there is a video lecture accompanying each chapter in the reading. You are expected to watch the lectures and complete the reading before working on the weekly assignments

Assignments: Each chapter has an accompanying assignment. These assignments are described in more detail in the course Dropbox. These assignments are designed to help scaffold you through creating problem- or project-based elements that you can use in your current or future classrooms

Final Presentation: After completing the assignments, you will create a 10-13 minute presentation where you will teach your classmates about the PBL resources you have developed and plan to use. A link to these presentation videos must be posted to the appropriate discussion board in class by 11:59 pm on Tuesday of Week 5. You will be expected to watch and give your classmates constructive feedback on their final presentations by 11:59 on Thursday of Week 5, so the sooner you are able to make your final presentation, the better. I recommend using a Zoom recording of a PowerPoint or a screen capture program like ScreenPal.com ScreenPal is free for videos under 15 minutes and doesn't require an account.

Exams: There will be no exams in this class

Comps: If you are on the math education track of the master's program, this is a comps eligible course. This is a new course, so I haven't written a comp yet, but the comprehensive exam would be an essay exam over the principles of PBL we learn about throughout this semester.

Workload and Assistance: You should expect to spend a **minimum of TWO to THREE HOURS every day**, outside of class, on the course material. This includes watching the videos, labs, and studying for quizzes and exams. Some weeks may require more of your time, other weeks may require less, but *on average*, budget 8 to 12 hours each week. **I can't stress enough that in order to be successful in this class you should spend much of this time working with other students in the class!** Please ask questions and seek assistance as needed. You may email me at any time, and I encourage you to make use of my office hours

GRADING

This class will be graded on a weighted percentage system. Percentages are assigned as follows:

Assignment	Weight
Chapter 1-8 Assignments	10% each, 80% total
Final Presentation	10%
Comments on Final Presentations	10%

All grades will be rounded up to the nearest whole percent before grades are assigned. This means an 89.1 rounds to an 90 and is an A, while a 78.9 rounds to a 79 and is a C:

A: 87-100%

D: 57-66%

B: 77-86%

F: 0-56%

C: 67-76%

TECHNOLOGY REQUIREMENTS

There is no specific technology required for this class, though as part of your PBL project you are free to incorporate any technology that you might find beneficial to your planning.

COMMUNICATION AND SUPPORT

Interaction with Instructor Statement

My primary form of communication with the class will be through Email and Announcements. Any changes to the syllabus or other important information critical to the class will be disseminated to students in this way via your official University Email address available to me through MyLeo and in Announcements. It will be your responsibility to check your University Email and Announcements regularly.

Students who Email me outside of regular office hours can expect a reply within 24 hours M-F.

Students who Email me during holidays or over the weekend should expect a reply by the end of the next regularly scheduled business day.

myLeo Support

Your myLeo email address is required to send and receive all student correspondence. Please email helpdesk@tamuc.edu or call us at 903-468-6000 with any questions about setting up your myLeo email account. You may also access information at <https://leo.tamuc.edu>.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures

Academic Honesty

Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including (but not limited to) receiving a failing grade on the assignment, the possibility of failure in the course and dismissal from the University. Since dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. In **ALL** instances, incidents of academic dishonesty will be reported to the Department Head. Please be aware that academic dishonesty includes (but is not limited to) cheating, plagiarism, and collusion.

Cheating is defined as:

- Copying another's test or assignment
- Communication with another during an exam or assignment (i.e. written, oral or otherwise)
- Giving or seeking aid from another when not permitted by the instructor
- Possessing or using unauthorized materials during the test
- Buying, using, stealing, transporting, or soliciting a test, draft of a test, or answer key

Plagiarism is defined as:

- Using someone else's work in your assignment without appropriate acknowledgement
- Making slight variations in the language and then failing to give credit to the source

Collusion is defined as:

- Collaborating with another, without authorization, when preparing an assignment

If you have any questions regarding academic dishonesty, ask. Otherwise, I will assume that you have full knowledge of the academic dishonesty policy and agree to the conditions as set forth in this syllabus.

Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

University Specific Procedures

ADA Statement

Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce

Gee Library- Room 132

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

StudentDisabilityServices@tamuc.edu

COURSE OUTLINE / CALENDAR

Note: Each chapter's assignment is due on the Sunday after it is assigned by 11:59 pm. On Week 5, you must complete all assignments by Thursday at 11:59 pm. The university closes the D2L shells at that time, and I do not have the capability to re-open them.

Monday	Tuesday	Wednesday	Thursday
Chapter 1 lecture	Chapter 1 assignment	Chapter 2 lecture	Chapter 2 assignment
Chapter 3 lecture	Chapter 3 assignment	Chapter 4 lecture	Chapter 4 assignment
Chapter 5 lecture	Chapter 5 assignment	Chapter 6 lecture	Chapter 6 assignment
Chapter 7 lecture	Chapter 7 assignment	Chapter 8 lecture	Chapter 8 assignment
Finish creating final presentation	Post final presentation to D2L by 11:59 pm today	Watch and comment final presentations in D2L	Watch and comment final presentations in D2L