

EDU 5460: Secondary Math Methods Syllabus – Spring 2024

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Student hours: Always available by appointment
Class Meetings: Wednesdays, 10:45 – 1:45 pm in SAEC 1213

Important Events	Dates
Classes begin	Monday, Jan. 8
Last day to add without a permission code	Friday, Jan. 12
Last day to add, drop, elect CR/NC, or audit classes	Friday, Jan. 19
Last day to withdraw from classes	Friday, Mar. 1
Last day to reverse CR/NC option	Friday, Apr. 19
Classes end	Tuesday, Apr. 23
Final exam period	Thurs. – Wed.; Apr. 25 – May 1

Textbooks: Each of the following required texts are publications of the National Council of Teachers of Mathematics (NCTM). They can be purchased from nctm.org, and you are welcome to use the eBook rather than paper backs, as they are cheaper.

1. Principles to Actions (eBook), National Council of Teachers of Mathematics, ISBN 978-0-87353-904-3
2. 5 Practices for Orchestrating Productive Mathematics Discussions, 2nd Ed., by Smith & Stein, NCTM, ISBN 978-0-87353-801-5
3. Motivated by Ilana Horn, (publisher: Heinemann), ISBN 978-0-325-09883-8

Research articles, book chapters etc. will be shared via Canvas for any additional readings to be discussed during class meetings.

About this course: EDU 5460 is an invitation to the academic culture of the mathematics teaching in secondary classroom (grades 6 through 12). You will learn research-based techniques and instructional strategies that encourage students in grades 6-12 to discover, create, appreciate, and engage in mathematics. You will learn (a) how to create and implement lessons and units; (b) support engagement with an asset-based approach consistent with the Utah Core State Standards mathematics curriculum. Through readings, classroom discussions and conversations, you will understand that math teaching is a complex endeavor, and while there is no panacea for effective teaching, this course will help you navigate your strengths and experiment with best teaching and reflection practices. This course incorporates 18-20 hours of field hours where you will visit diverse secondary classrooms for observations understanding school and class dynamics, student diversity, effective instructional techniques conducive to math teaching etc.

Objectives Accomplished

- Gain a deeper and broader understanding of secondary mathematics as well as "secondary mathematics for teaching" (and to recognize the difference)
- (Re)Familiarize yourself with secondary mathematics classrooms
- Experience preparing, teaching and reflecting on secondary mathematics lessons
- Prepare to student teach mathematics in middle and high school classrooms
- Presentation of mathematical material at the appropriate level, remedial-instruction methods, curriculum development.

Course Layout

This course will have two parts. One part relates to weekly class meetings in which we will discuss readings, create lesson plans and unit plans and create mini-lessons to peers. The other part of this course is related to secondary classroom observations and reflections. In this part, you will have the opportunity to visit diverse secondary classrooms (grades 6 through 12) in our partner districts – Granite and Canyons. As you visit these classrooms, you will observe school culture, student dynamics and diversity and instructional approaches used by the teacher in creating a conducive learning environment.

Assignments

- The assignments are broken in three categories – assignments related to class conversations (category 1); assignments related to field hours (category 2) and class and field etiquette (category 3). The assignments that you complete in category 1 will guide your observations, thought processes and reflections in category 2. Successful completion of assignments in both of these categories will provide you with all the necessary tools for mathematics teaching in secondary classrooms.
- Assignments on hard deadline are **bolded** while assignments on soft deadline are not bolded.

Category 1: Assignments related to Readings and Classroom Conversations: **53% of Total Grade**

Assignment Name & Percentage Allocation	Assignment Description	Number of Submissions + Points Per Reading	Due Date
Readings and Written Reflections (15%)	For every class, you will be assigned readings from the textbooks mentioned above. You will read and reflect on these readings based on the writing prompts provided on Canvas.	1 submission for every reading; 10 points per reading	Saturday before the class meeting on the following Wednesday.
Video Discussions (5%)	Two times during the semester, you will be required to watch and reflect on the teaching videos related to math teaching. This assignment will be delivered via Discussions tab on Canvas and will require you to reflect on the given teaching video from different perspectives in math teaching.	2 submissions; 20 points per submission	Mar. 2; Apr. 20
Lesson Writing (8%)	During the course of the semester, as you complete readings and are part of classroom discussions, you will simultaneously complete your lesson plan using the UITE-PPAT lesson plan template.	1 submission; 30 points	Mar. 2

In-Class Lesson Demonstration (10%)	Based on the lesson you wrote, you will teach that lesson to your peers, receive feedback from them and then reflect on that feedback.	1 submission – 3 aspects (demonstration, feedback and reflection); 30 points	Apr. 13
Unit Plan and Reflection (Final Exam; 15%)	As your final exam, you will be required to write a unit plan based on the lesson plan topic you have created before.	2 submissions – unit plan and reflection	May 1

Category 2: Assignments related to Field Hours (20 hours): 32% of Total Grade

Assignment Name & Percentage Allocation	Assignment Description	Number of Submissions + Points Per Visit/process	*Due Date
Weekly Field Observations and Reflections (15%)	For the five weeks (4 hours/week) during the semester, you will be visiting secondary classrooms. There will be a theme for each week. Based on the themes, you will complete your observations and reflections.	4 submissions; 20 points per submission	Mar. 18; Mar. 25, Apr. 10; Apr. 17
Weekly Instructor Meeting (10%)	Each week when you complete your weekly field observations and reflections, you will meet with the instructor to discuss your observation and reflection related to the theme for that week. This meeting will aim at connecting math practices attained via readings to the practice of teaching.	4 meetings; 20 points per meeting	Mar. 18; Mar. 25, Apr. 10; Apr. 17
Field Demo Lesson + Lesson Plan (7%)	Out of all the math teachers you visit and during your field hours, you will choose one teacher with whom you will collaborate to teach a mini-lesson (20 minutes). Based on your mini-lesson, you will independently complete a lesson plan.	2 submissions – demo lesson (teaching) & lesson plan; 25 points for mini-lesson and 20 points for lesson plan.	Anytime during the duration of field hours

**Due dates are subject to change or will be adjusted according to Spring Break in partnering school districts (Salt Lake, Granite and Canyons).*

Category 3: Class and Field Etiquette (Attendance, Class Participation, Professionalism): 15% of Total Grade

ATTENDANCE (75 points): Attendance at class meetings and field work is required and adjustments cannot be granted to allow non-attendance. However, if you need to seek an ADA accommodation to request an exception to this attendance policy due to a disability, please contact the [Center for Disability and Access](#) (CDA). CDA will work with us to determine what, if any, ADA accommodations are reasonable and appropriate.

Missing Class: According to university policies, you are allowed for two excused absences. For any of these absences (even excused), you are required to let your instructor know. NO ABSENCE (EVEN THE TWO ABSENCES ALLOWED) WILL BE CONSIDERED EXCUSED IF THE INSTRUCTOR IS NOT NOTIFIED PRIOR TO THE ABSENCE. FOR EXCUSED ABSENCES WITH NOTIFICATION TO INSTRUCTOR,

YOU WILL MISS POINTS FOR PARTICIPATION (5 POINTS/CLASS) ONLY. If any of these absences is related to you being present at a school for your field hours, math teacher must be notified ahead of time as they are preparing to show you instructional techniques related to your growth in math teaching. In case you have scheduled your field demo lesson for the day you are going to be absent, please notify the instructor asap.

Missing more than two classes: If circumstances make you miss more than two classes and/or you are unable to communicate with the instructor regarding your absences, you will **not** be eligible for any points (participation, professionalism) for the class(es) missed. **Additionally, you will receive a formal notification regarding the status of your continuation in the course.** Hence, even though you are within your 2 absences, communicate with the instructor about your absence. Depending on the reason provided, your instructor may schedule time to meet with you to discuss what you missed. It will be instructor's decision to award missed points by allowing you to submit responses based on the decision of absence provided by you.

PARTICIPATION (75 points): Active participation is required for every class meeting. Because of the nature of the course, class meetings will be heavily discussion based. Your reflections from your readings – summary of chapters, application to your teaching will be key components of these class meetings. Your active participation in this course will be the best way to engage yourselves in learning and brainstorming ideas for your own teaching (and it makes class meetings more fun!).

Class Meeting Participation: Active class participation includes, but is not limited to, coming prepared to class by reading assigned readings, attending to presentation content, and communicating constructively with your peers and your instructor (e.g., offering suggestions, feedback, and analysis during discussions).

Participation During Field Hours: Along with, collaborating with the math teachers whom you will be visiting, communicating effectively, offering suggestions, contributing feedback, and examining ways of developing as an educator are some of the other ways to participate when you are at any secondary school. Along with, offering times to work with students, attending math teacher's rationale of doing things, asking questions politely are some of the other ways in which you can participate and contribute.

PROFESSIONALISM (75 points): A specific, though not inclusive, list of behaviors that address professionalism include maintaining communication with the instructor in case of absences, completing assignments in a timely fashion, displaying evolving attitudes towards teaching and learning, developing assignments that are of high quality, being open to suggestions, seeking advice when needed, sharing ideas with others, and recognizing diversity in others' perspectives. Specifically, with regard to field work, you are expected to be in attendance at the secondary school as planned and coordinated with the respective math teacher. If you plan to not be present at the site for any reason, you must notify the math teacher and your instructor prior to the start of school, unless it is due to an emergency en route. In this case, notification must be given as soon as is reasonable given the circumstances.

Bottom line: (1) Neither the instructor nor the math teacher should wonder where you are. (2) Feedback given by instructor and math teacher should be taken respectfully and must be enacted upon.

Computers/Tablets: Similar to cell phones, computers or tablets are **not** acceptable unless permitted by the instructor. They can only be used for class presentations or other work as assigned by the instructor during class time.

Arriving to Class on Time: You are required to arrive to class meetings on time and stay for the entire class duration (10:45 – 1:45 pm). Being late to class or leaving class early will lead to deduction of professionalism and participation points allocated for each class.

SUBMISSION DETAILS

Assignments are due on CANVAS and/or on the dates and times indicated, unless otherwise specified. All assignments are either on **hard or soft deadlines**. Assignments with hard deadlines are bolded while assignments on soft deadlines are not. Assignments with hard deadlines must be submitted on the due dates indicated with the assignment. On the other hand, for assignments on soft deadlines, you can take an extension

of one week from the date the assignment is due. Because your assignments build upon each other, it is important that work be turned in ON TIME so that the feedback is returned to you in timely manner. Late work will be accepted with a **10% deduction per day**. Late assignments may receive little or no written feedback and will receive a lower grade due to 10% deduction. If you think you are going to be late for an assignment, please communicate with the instructor honestly about your situation.

GRADING CRITERIA

- Reflection is the skill that is most important in teaching. The assignments you will complete aim at honing this skill and your work will be evaluated on how well you are able to convey your reflection. Do not assume that the reader of the work will have an understanding of your thoughts and intentions; thus, provide clear, well-written descriptions and analyses of the material covered.
- All work submitted for this class should be typed according to descriptions provided on Canvas.
- Each entry will be read and evaluated based upon timeliness of work, clarity, quality of thought, and depth of analysis.

Grade Breakdown by Percent

A (100-93); A- (92-90); B+ (89-87); B (86-83); B- (82-80); C+ (79-77); C (76-73); C- (72-70); D+ (69-67); D (66-63); D- (62-60); E (59-0).

(Grade breakdown is subject to change, should there be natural breaks due to prevailing COVID situation)

Policies and Procedures

COVID Response

Given the nature of this course, attendance is required, and adjustments cannot be granted to allow non-attendance, except in cases of quarantining due to COVID-19 exposure, or for those who have an ADA accommodation. If you need to seek an ADA accommodation to request an exception to this attendance policy due to a disability, please contact the Center for Disability and Access (CDA). CDA will work with us to determine what, if any, ADA accommodations are reasonable and appropriate.

Work Adjustment Policy: Adjustment (extension) in field practicum may be considered if TC is unable to go to his/her placement site.

Confidentiality & Privacy: In this course, video recordings of each class will be captured and posted on Canvas for students who missed the class. You will also be asked to share video recordings via Canvas. These videos will only be viewed by students and instructors in the course and will not be shared beyond Canvas. Note that when you share excerpts of student work, you should remove student names from all artifacts.

Fitness to Teach: Students in this course are expected to meet the Fitness to Teach criteria located at:

<https://d182hggomw8pjd.cloudfront.net/wp-content/uploads/sites/11/2020/08/04150601/Fitness-to-Teach-2020-2021.pdf>

Dispositions Document: Process for documenting other behaviors in need direct attention by students can be located at:

<https://d182hggomw8pjd.cloudfront.net/wp-content/uploads/sites/11/2020/08/04150558/Educational-Dispositions-2020-2021.pdf>

Diversity Statement: It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally and for other students or student groups. In addition, if any of our class meetings conflict with your religious events, please let me know so that we can make appropriate arrangements for you.

COVID-19 Campus Guidelines. Students are required to self-report if they test positive for COVID-19. To report, please contact: COVID-19 Central @ The U; 801-213-2874; coronavirus.utah.edu

To reduce the spread of COVID-19 on campus, **face coverings are required in all in-person classes for both students and faculty.**

Based on CDC guidelines, the University requires everyone to wear face coverings in shared public spaces on campus. **If you repeatedly fail to wear a face covering in class, you may be referred to the Dean of Students for a possible violation of the Student Code.** Some students may qualify for accommodations & exemptions from these guidelines through the Americans with Disabilities Act (ADA). Accommodations should be obtained prior to the first day of class. If you believe you meet these criteria, contact: Center for Disability & Access (801-581-5020); disability.utah.edu; 162 Union Building; 200 S. Central Campus Dr.; Salt Lake City, UT 84112

Student Conduct: Usage of cell phones is not allowed in class and will affect your grade. The use of other electronic devices (a laptop computer, PDA, etc.) will also not be allowed in class without express permission. If this is a problem, please speak to your instructors privately.

Civility Statement: This class needs to be a participatory community if students are to fulfill their potential for learning. Thus, people who disrupt the community by their words or actions (e.g., rude, sarcastic, or disrespectful speech or disruptive behaviors) will not be

allowed in class. In order to achieve the stated educational goals and to encourage the expression, testing, understanding, and creation of a variety of ideas and opinions, respect must be shown to everyone.

Plagiarism software policy: I have elected to use a plagiarism detection service in this course, in which case you will be required to submit your paper to such a service as part of your assignment.

The Americans with Disabilities Act. The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.

University Policy and Codes: Following the Student Code, the instructors adopt a zero-tolerance policy for academic misconduct in this course. “Academic misconduct,” according to the University of Utah Student Code, “includes, but is not limited to, cheating, misrepresenting one’s work, inappropriately collaborating, plagiarism, and fabrication or falsification of information...It also includes facilitating academic misconduct by intentionally helping or attempting to help another to commit an act of academic misconduct.” Again, utilizing the ideas, expressions, or words of others without citing the source constitutes plagiarism. Therefore, students must cite sources in ALL work, including work completed with peers if and when appropriate. Please also note that no assignment may be submitted for this class that has been previously submitted for another course. Students will be held accountable to high standards for academic integrity and should read and understand the policy on academic integrity as printed in the University of Utah’s Student Handbook. Please read the Student Code of Academic Conduct available at:

<http://www.admin.utah.edu/ppmanual/8/8-10.html>.

Student Names & Personal Pronouns statement: Class rosters are provided to the instructor with the student’s legal name as well as “Preferred first name” (if previously entered by you in the Student Profile section of your CIS account). While CIS refers to this as merely a preference, I will honor you by referring to you with the name and pronoun that feels best for you in class, on papers, exams, group projects, etc. Please advise me of any name or pronoun changes (and update CIS) so I can help create a learning environment in which you, your name, and your pronoun will be respected. If you need assistance getting your preferred name on your UID card, please visit the LGBT Resource Center Room 409 in the Olpin Union Building, or email bpeacock@sa.utah.edu to schedule a time to drop by. The LGBT Resource Center hours are M-F 8am-5pm, and 8am-6pm on Tuesdays.

Wellness statement: Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student’s ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at www.wellness.utah.edu or 801-581-7776.

Addressing Sexual Misconduct. Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran’s status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

University Safety Statement. The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.

TENTATIVE CLASS MEETING SCHEDULE

Date	Agenda and Class Procedures	Readings (due this class)
01/10	Math Stories; Math Mindsets and Beliefs; Public Secondary Math Classrooms; Common Core and UETS	Article 1: Intro to Mathematical Mindsets Article 2: Teachers' Mathematical Beliefs: A Review
01/17	Math Classroom and Learning Environment Common Core Standards, State Standards, Curriculum Guides	Book: Motivated Chapter 1: The Motivational Classroom Book: Principles to Actions Curriculum (pgs. 70-78)
01/24	What does professionalism mean? What is its use in a math classroom?	Book: Motivated Chapter 2: Meet the Teachers Book: Principles to Actions Professionalism (pgs. 99-109)
01/31	Does one size fits all not work? How to create a sense of belonging for each student in a diverse classroom?	Book: Motivated Chapter 3: Belongingness Book: Principles to Actions Access and Equity (pgs. 59-70)
02/07	What are meaningful tasks? How to create them? How to convey to students that the tasks are meaningful?	Book: Motivated Chapter 4: Meaningfulness Book: Principles to Actions Establish Mathematics Goals to Focus Learning (pgs. 12-17)
02/14	How do you, as the teacher, prove your competence? How do the students show their competence? What is productive struggle? How to know that we are going beyond?	Book: Motivated Chapter 5: Competence Book: Principles to Actions Support Productive Struggle in Learning Mathematics (pgs. 48-53)
02/21	How to create accountable tasks? How to ask students to take responsibility of their work, words? What tools and technology are conducive to math classroom?	Book: Motivated Chapter 6: Accountability Book: Principles to Actions Tools and Technology (pgs. 78-89)
02/28	What are assessments? Why should they be used and when is the best time for an assessment? What are different kinds of assessments?	Book: Motivated Chapter 7: Autonomy Book: Principles to Actions Assessment (pgs. 89-99)
03/03 – 03/10	SPRING BREAK: NO CLASS	
03/13	What are these magical five practices? How do they work for an individual and for a group of students?	Book: 5 Practices Chapter 1: Introducing the Five Practices Book: Principles to Actions Build Procedural Fluency from Conceptual Understanding (pgs. 42-48)
03/20*	How to set goals for your lesson and student learning? Can goals be set with students? How do these goals lead to tasks that promote reasoning, problem solving and collaboration?	Book: 5 Practices Chapter 2: Laying the Groundwork... Book: Principles to Actions Implement Tasks That Promote Reasoning and Problem Solving (pgs. 17-24)

03/27*	How many ways can you solve a problem? Number talks in math!	Book: 5 Practices Chapter 3: Investigating 5 Practices in Action Book: Principles to Actions Use and Connect Mathematical Representations (pgs. 24-29)
04/03*	Again, number talks! What will these students say if I ask....? A dialogue approach to anticipating student responses. Lesson Demonstration 1 (2 people)	Book: 5 Practices Chapter 4: Getting Started: Anticipating Students' Responses and Monitoring their Work Book: Principles to Actions Facilitate Meaningful Mathematical Discourse (pgs. 29-35)
04/10	What are these questions? Why questions? What kinds of Questions? Blooms' and Webb's Taxonomy Lesson Demonstration 2 (2 people)	Book: 5 Practices Chapter 5: Determining the Direction of the Discussion.... Book: Principles to Actions Pose Purposeful Questions (pgs. 35-42) Elicit and Use Evidence of Student Thinking (pgs. 53-59)
04/17	Keeping students on their tippy toes – they think, they do, you facilitate! Unit Plan: Many lessons together! Backwards design approach. Lesson Demonstration 3 (2 people)	Book: 5 Practices Chapter 6: Ensuring Active Thinking and Participation... Chapter 7: Putting the Five Practices in a Broader Context of Lesson Planning
04/25-05/01	FINAL EXAM: Creating Unit Plan	NONE

*Math Practicum Week: 4 hours per week; Total: 18-20 hours; Assignments in category 2 are associated with these practicum hours.