



EDEL 4550 Elementary Mathematics Instruction & Assessment II

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Course Meeting Times: See Class Schedule below
Meeting Place: ME 124 on Wednesdays (8:00 am-10:50 am)

Office Hours: Wednesdays (12:00-1:00) and By Appointment

Course Materials*

SanGiovanni, J.J., Katt, S., Knighten, L.D., & Rivera, G. (2022). *Answers to your biggest questions about teaching elementary math*. Thousand Oaks, CA: Corwin.
McCoy, A., Barnett, J., & Combs, E. (2013). *High-yield routines: Grades K-8*. Reston, VA: NCTM.

All other assigned readings will be found in Canvas.
Make sure to bring a computer or tablet to each class session.

****These are the same course materials from EDEL 4510 Math 1***

MISSION STATEMENT: The School of Education prepares educators and leaders to enhance the quality of life for individuals and communities. Through engaged pedagogy, transformative collaborations, and meaningful innovations, we cultivate equity and inspire lifelong learning.

Course Policies

Contacting Me:

Emailing or messaging me through Teams are the best ways to get in touch with me. If you need to meet in person or virtually outside of my office hours, just reach out to set up a date/time. You can email me through Canvas or directly at andria.disney@uvu.edu.

Attendance and Participation:

You are expected to attend class, arrive on time and stay for the entire time, and actively participate in the learning activities. Any behaviors contrary to these expectations will result in a loss of points for the class session.

This is a face-to-face class. It was specifically designed for collaboration, hands-on learning, and practice/application activities that require you to be physically present in the classroom. Therefore, attending class on Teams is not an option. If you are unable to attend class in person, you must contact me before class and request make-up work.

If you miss more than 2 class sessions, regardless of your current grade, you will not pass the class.

If you must miss a class due to representing UVU in any official extracurricular activity, you will have the opportunity to make up missed work without penalty, however, you must let me know in advance.

According to [UVU policy for course work load](#), a three credit course requires 3 contact hours a week and up to 6 hours of work outside of class.

Inclement Weather/Snow Days:

Given the capabilities of remote learning, classes will still meet via Teams at our scheduled date/time if the UVU Campus must be closed due to inclement weather. I will post an announcement in Canvas and on Teams by 12:00 pm on the day of class if we will be meeting remotely for the day due to weather.

Late Assignments:

All assignments must be turned in according to the due date as noted in Canvas. Late work will not be accepted for full credit. **You may turn in your assignment late up to 1 week beyond the due date for reduced credit (loss of 3% per day); after that you will receive a zero.**

If you have extenuating circumstances and need an extension on an assignment, you need to complete an [Extension or Revise/Resubmit Request form](#) **prior to the due date**. You may **not** request an extension for the Final Exam.

Grading

Because this is a standards-based course, you have the opportunity to grow from your assignments. If you are unhappy with a grade you receive, you may request to Revise and Resubmit. To do so, please complete an [Extension or Revise/Resubmit Request form](#).

Keep in mind, there are a lot of you and one of me. Please do not abuse this opportunity. It is for serious issues, not to get 100% on every assignment. This option is **not** available for declarations, module assessments, or the Final Exam. You cannot turn in parts you did not do at a later date, so pay attention to all parts of the assignment and don't forget about those reflections. You may only

revise and resubmit an assignment one time. When you make revisions, please highlight all changes within the original document to ensure it is easy for me to see what you revised.

Academic Integrity

Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. Students are expected to complete course assignments in a manner that is consistent with the ethical standards of the Utah Valley University and the School of Education. You are expected to do your own work on assignments and examinations unless they are designed as collaborative efforts. All course assignments and assessments, whether completed individually or collaboratively, should be generated from your own learning. Your work should not be copied from other students, Internet sites, or published materials. If you draw heavily from a particular source of information, that source should be credited and cited in your assignment (using APA style).

IF IT IS DISCOVERED THAT YOU HAVE BEEN INVOLVED IN ANY FORM OF ACADEMIC MISCONDUCT IN THE COMPLETION OF AN ASSIGNMENT OR ASSESSMENT FOR THIS COURSE, YOU WILL RECEIVE A GRADE OF "0" FOR THAT WORK, AND YOUR FINAL GRADE FOR THE COURSE WILL BE SIGNIFICANTLY AFFECTED. IF IT IS DISCOVERED THAT YOU HAVE BEEN INVOLVED IN AN ACT OF ACADEMIC MISCONDUCT ON MORE THAN ONE OCCASION, YOU WILL BE DROPPED FROM THE SCHOOL OF EDUCATION'S PROFESSIONAL PROGRAM.

The University requires all members of the university community to familiarize themselves and to follow copyright and fair use requirements. YOU ARE INDIVIDUALLY AND SOLELY RESPONSIBLE FOR VIOLATIONS OF COPYRIGHT AND FAIR USE LAWS. THE UNIVERSITY WILL NEITHER PROTECT OR DEFEND YOU, NOR ASSUME ANY RESPONSIBILITY FOR STUDENT VIOLATIONS OF FAIR USE LAWS. Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action.

This course upholds the Students' Rights and Responsibilities Code, Section VII-D, "ACADEMIC RESPONSIBILITIES."

Use of Generative AI

Another aspect of academic integrity is the appropriate and transparent use of generative AI (ex. ChatGPT, Bing Chat/Copilot, Google Bard, etc.). For this course, you may use generative AI as a starting point for lesson plans and lesson materials, but the expectation is that you will revise/customize them AND provide a written acknowledgement on the assignment that your ideas were adapted from AI-generated content. You may also use AI to help you with formatting APA citations and for editing (e.g., grammar, spelling, punctuation, etc.). You may not use generative AI to write entire sentences, paragraphs, or assignments, nor may you use it to compose reflections, discussion responses, or responses to any assessment prompts.

Students with Disabilities

If you have any disability that may impair your ability to successfully complete this course, please let me know as soon as possible. You will also need to contact the Accessibility Services Department (LC 312) at 801-863-8747 or accessibilityservices@uvu.edu; they work with us to coordinate services to

provide you access to course requirements. Academic accommodations are granted for all students who have qualified, documented disabilities.

The Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973, as amended, prohibit Utah Valley University from engaging in discrimination on the basis of disability in any program or activity. Students who believe they have been denied program access or otherwise discriminated against because of a disability are encouraged to initiate a grievance by contacting the Accessibility Services Director, Pola Morrison at 801-863-8747. Employees can contact the ADA Coordinator, Irene Whittier at 801-863-8389. Upon request, this information is available in alternative formats, such as mp3, Braille, or large print. To request this format, email asd@uvu.edu

Title IX

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 experienced or experiences harassment or sexual assault including, dating and domestic violence, stalking or sexual exploitation, you are encouraged to report it to the Title IX Coordinator in the Office for Equal Opportunity and Affirmative Action, BA-203, (801) 863-7999.

Please be aware that all faculty members and university employees are considered "Responsible Employees" and are required to report incidents of sexual misconduct and relationship violence and thus cannot guarantee confidentiality. Please know that you can seek confidential resources at UVU Student Health Services, SC-221, (801) 863-8876. Please visit <https://www.uvu.edu/equalopportunity/> for more information.

Religious Accommodation

UVU values and acknowledges a wide range of faiths and religions as part of our student body, and as such provides accommodations for students. Religious belief includes the student's faith or conscience as well as the student's participation in an organized activity conducted under the auspices of the student's religious tradition or religious organization. The accommodations include reasonable student absences from scheduled examinations or academic requirements if they create an undue hardship for sincerely held religious beliefs. For this to occur, the student must provide a written notice to the instructor of the course for which the student seeks said accommodation prior to the event.

The UVU campus has a place for meditation, prayer, reflection, or other forms of individual religious expression as is described at <https://www.uvu.edu/ethics/reflectioncenter/>

Guidelines for religious accommodation can be found at <https://www.uvu.edu/facultyrelations/docs/guidelines-for-the-accommodation-of-sincerely-held-religious-beliefs-and-practices.pdf>.

A religious accommodation request form can be found at <https://www.uvu.edu/facultyrelations/docs/student-religious-accommodation-request-form.pdf>

See also Utah State Legislature Senate Bill 244 Student Religious Accommodations Amendments passed in the 2021 General Session at <https://le.utah.gov/~2021/bills/static/SB0244.html>

Course Overview

In Elementary Mathematics Instruction & Assessment I (EDEL 4510), you were introduced to *the Common Core State Standards—Mathematics, the Mathematical Practices, and the Mathematics Teaching Practices*. Topics related to teaching mathematics such as choosing worthwhile mathematical tasks, discourse, the role of tools such as manipulatives and technology, structuring lessons, writing lesson plans, teaching diverse learners, and assessment were also discussed. In this course, these topics will all be reviewed but in the context of specific mathematical content that is taught in elementary schools. You will have the opportunity of writing problems, writing lesson plans and teaching them, planning a mathematics unit and writing its scope and sequence, analyzing student learning, and engaging in other activities that will help prepare you for the important work of teaching mathematics to elementary-age students. Much of the course will also include examining the progression of each domain in grades K-6 in the *Common Core State Standards—Mathematics*.

Because teaching mathematics is complex work, you will not learn everything about it in the two courses devoted to elementary mathematics methods in this program. Even after you've been teaching for years, you probably won't feel completely prepared, and you will likewise not leave this course feeling completely prepared. I still feel like I have a lot to learn about teaching mathematics, and I have spent years studying it! There is always more to learn, and that unsettled feeling that teachers have when they prepare to teach is a powerful motivator for continued growth as a teacher. No matter how experienced you become, there will always be more to learn. Knowing such, the main goal of these courses is to help you develop the capacities to begin teaching mathematics to elementary school students and to learn from your own practice over time.

Course Goals

More specifically, the goals of the course with their correlation to the National Council of Teachers of Mathematics (NCTM) Effective Mathematics Teaching Practices (MTPs) and the Utah Effective Teaching Standards (UETS) are as follows:

Course Learning Outcomes	NCTM's Effective Mathematics Teaching Practices	Utah Effective Teaching Standards (2022)
1. Demonstrate strategies for teaching mathematics to all students, which includes children from diverse cultural, economic, and mathematically unsuccessful backgrounds.	1	1.1, 1.3, 2.3, 2.4, 3.3, 4.4
2. Describe current trends in school mathematics locally, and internationally, especially beliefs about the learning and teaching of mathematics from the perspective of NCTM's Principles and Standards for School Mathematics (2000).	1-8	1.1, 1.3, 2.1-4, 3.1-4, 4.1, 4.4
3. Orchestrate discourse within a problem-solving environment.	8	1.2, 1.4, 2.3, 3.1, 3.3, 4.1
4. Create meaningful mathematical tasks consistent with knowledge of content, students' thinking, and available resources including manipulatives and technology.	2-7	1.1, 1.3, 2.1-4, 3.1, 3.3, 3.4
5. Make instructional decisions based on children's thinking.	4, 5, 6, 7, 8	2.2, 2.3, 3.2
6. Use resources for continuing professional development in pedagogy and the discipline of mathematics.	1-8	5.2

Course Requirements and Evaluation

The course requirements along with their distribution of points and correspondence to the Course Learning Outcomes (CLOs) are listed below:

Assignments for EDEL 4550:

Course Assignments	Points	CLOs
Participation: Class Sessions and Preparation	55	1, 2, 4, 5
Math Content & Pedagogy Assessments	75	1, 2, 4, 5
Number Routine Presentation	20	1, 3, 4, 6
Math Pals Mini Lesson Revisions & Reflection	20	1, 2, 3, 4
Analysis of Student Learning Project	50	1, 4, 5
Field Assignment: Learning Segment & Reflection	50	1, 2, 3, 4, 5, 6
Final Exam	30	2, 6

There are 300 points possible in this course. Grades will be based on the following scale:

95-100%	A	83-86%	B	73-76%	C	63-67%	D
90-94%	A-	80-82%	B-	70-72%	C-	60-62%	D-
87-89%	B+	77-79%	C+	68-69%	D+	0-59%	E

Assignment Overview

Participation: Class Sessions and Modules

Your active participation is needed to make this course work, and therefore it is expected. Participation involves completion of the preparing for class tasks, active engagement in all course activities, substantive and sincere contributions to class discussions, PLC collaborations, and presentations, and displaying respect for others and their ideas at all times. You and your classmates will get much more out of this class if you actively engage in the learning experience through quality involvement in discussing the issues. After each class, you will complete a declaration that verifies you completed any activities to prepare for class and participated in the class activities as well as reflect on how you will apply your learning in your own classroom.

Math 2 Learning Journal

You will create a physical or electronic learning journal to keep a record of your learning from the class activities as well as any readings, videos or other activities you complete outside of class time as part of preparing for class. You will need to bring your journal each day, and you will submit weekly screenshots of your journal to verify you completed the class preparation activities.

Math Content & Pedagogy Assessments

There will be an open notes quiz or other performance assessment at the end of each content module; it will be completed independently in Canvas. These assessments will address key ideas about the math content as well as effective methods by which you will teach (pedagogy).

PLC Work: You will collaborate with your PLC members on a variety of practice activities during class. You will submit them for feedback from Dr. Disney.

Number Routine Presentation

For this assignment, you will work in a group to create a quick reference sheet about an assigned number routine as well as plan and facilitate that number routine in class.

Math Pals Mini Lesson Revisions & Reflection

For this assignment, you will write a mini lesson with your professional learning community (PLC), teach it to our Math Pals, and make revisions based on feedback and reflect on the experience. Assignment details and evaluation criteria can be found in Canvas.

Analysis of Student Learning Project

This assignment will give you experience analyzing student learning in mathematics, identifying patterns of learning, thinking about what those patterns tell you about the student's conceptual understanding and procedural fluency, mathematical reasoning or problem-solving abilities. You will plan a re-engagement lesson based on data. This assignment will also prepare you for Task 4 of edTPA, which you will complete during student teaching/internship. Assignment details and evaluation criteria can be found in Canvas.

Field Assignment: Learning Segment and Reflection

For this assignment, you will plan and teach a 3-lesson segment, which will include using contexts familiar to students and student engagement strategies. You will reflect on your effectiveness as a

teacher and the planning and teaching process. Assignment details and evaluation criteria can be found in Canvas.

Final Exam

You will complete an online reflective final exam at the end of the semester.

Selected References

- Carpenter, T. P., Fennema, E., Franke, M. L., Levi, L. Empson, S. B. (1999). *Children's Mathematics: Cognitively Guided Instruction*. Reston, VA: National Council of Teachers of Mathematics.
- Chapin, S. H. & Johnson, A. (2000). *Math Matters: Understanding the Math You Teach*. Sausalito, CA: Math Solutions Publications.
- Chapin, S. H., O'Connor, C., & Anderson, N. C. (2003). *Classroom Discussions: Using Math Talk to Help Students Learn*. Sausalito, CA: Math Solutions Publications.
- NCTM. (2014). *Principles to Actions: Ensuring Mathematical Success for All*. Reston, VA: Author.
- NCTM. (2000). *Principles and Standards for School Mathematics*. Reston, VA: Author.
- Parrish, S. (2010). *Number Talks: Helping Children Build Mental Math and Computation Strategies*. Sausalito, CA: Math Solutions Publications.

**EDEL 4550 • Elem Math Instruction & Assessment II • Spring 2024 • Expected Class
Schedule**

Please note, the instructor reserves the right to make changes to this course calendar and/or the assignments. Any changes will be communicated via Canvas.

See Canvas for assignment details, evaluation criteria, and due dates.

Class	Topics	Assignments Due
1 Jan. 8-12	W 1/10 Course Overview Early Multiplication & Division Number Routine Presentations	
2 Jan. 15-19	W 1/17 Multi-Digit Multiplication Mathematical Thinking Rubrics & Effective Feedback	Multiplication Assessment - due T 1/23 (11:59 pm)
3 Jan. 22-26	W 1/24 Number Routine Presentation: Target Number Division of Larger Numbers	PLC Work: Rubric & Feedback - completing in class, so due W 1/24 (11:59 pm) Division Assessment - due T 1/30 (11:59 pm)
4 Jan. 29- Feb. 2	W 1/31 Planning a Learning Segment Number Routine Presentation: Incomplete Set Fact Fluency	PLC Work: Planning a Multiplication or Division Learning Segment - completing in class, so due W 1/31 (11:59 pm)
5 Feb. 5-9	W 2/7 Number Routine Presentations: How Do You Know AND Guess My Rule Algebraic Thinking PLC Work: Patterns of Learning	PLC Work: Patterns of Learning - completing in class, so due W 2/7 (11:59 pm) Algebraic Thinking Assessment - due T 2/13 (11:59 pm)
Feb. 12-16	Field Experience Week 1	

6 Feb. 19-23	W 2/21 Meeting the Needs of Diverse Learners Number Routine Presentation: Which One Doesn't Belong Rational Number Concepts	Rational Number Concepts Assessment - due T 2/27 (11:59 pm)
7 Feb. 26- Mar. 1	W 2/28 Number Routine Presentation: Number Line/Decimal Between Rational Number Operations: Addition and Subtraction Planning a Learning Segment	PLC Work: Planning a Fractions or Decimals Learning Segment - completing in class, so due W 2/28 (11:59 pm)
8 Mar. 4-8	W 3/6 Field Assignment Q&A Session Number Routine Presentations: Two Truths and a Lie Rational Number Operations: Multiplication	Analysis of Student Learning Project: Math Thinking GO - due Friday 3/8 (11:59 pm)
Mar. 11-15	UVU's Spring Break	
Mar. 18-29	Field Experience Weeks 2 & 3	Learning Segment & Reflection - due T 4/4 (11:59 pm)
9 Apr. 1-5	W 4/3 Field Experience Debrief Rational Number Operations: Division and Rates Analysis of Student Learning Project: Part 1	Rational Number Concepts Assessment - due T 4/9 (11:59 pm)
10 Apr. 8-12	W 4/10 Number Routine Presentation: Would You Rather Plan for Math Pals Culminating Activity	Analysis of Student Learning Project: Commentary - due Wednesday 4/24 (11:59 pm)
	Analysis of Student Learning Project: Part 2	
11 Apr. 15-18	W 4/17 Math Pals Culminating Activity Course Wrap Up	Math Pals Mini Lesson Revisions & Reflection - due T 4/23 (11:59 pm)
Finals Apr. 25- May 1	Final Exam on M 4/29 Online from 12:00 am-11:59 pm	