

MTHED 305, Section 1, Fall 2025

TMCB 173, MW 11:00 am - 12:20 pm

Instructor: Lacey Campbell

Office Location: A180Q ESC

Office Hours: Wed 9:30 - 10:30 am; Thu 3:00 - 4:00 pm

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Required Texts

Children's Mathematics (2nd ed.) by Thomas Carpenter, et. al. (ISBN: 978-0-325-05287-8)

Course Description

MTHED 305 is designed to help you develop a deeper understanding of important elementary mathematics concepts, as well as to help you improve your ability to reason mathematically, communicate mathematical ideas, and solve mathematics problems. You will engage in mathematical exploration and problem solving related to topics you are likely to teach in elementary school, and you will communicate your thinking both orally and in writing. Because the mathematical knowledge you need as a teacher is deeply connected to the practice of teaching children, we will also examine how children think and learn about these topics. We will also consider how teaching practices can promote learning with understanding

Grading Scale

Your final grades for the course will be given as follows:

A	94.0% to 100%	B	84.0% to 87.9%	C	74.0% to 77.9%	D	64.0% to 67.9%
A-	91.0% to 93.9%	B-	81.0% to 83.9%	C-	71.0% to 73.9%	D-	61.0% to 63.9%
B+	88.0% to 90.9%	C+	78.0% to 80.9%	D+	68.0% to 70.9%	E	below 61%

Graded Components

Exams (60%)

Midterms - Two take-home midterm exams will be administered over the course of the semester. A test revision option is available to students who earn an A- or lower on either midterm exam; more details will be provided to you after the first exam.

Final Exam - A cumulative take-home final exam will be available for pick up at 8:00 am on Friday December 12 (the first day of finals) and due at 8:00 am Monday December 15; more details will be provided towards the end of the semester. Revisions are not available for the final exam.

Homework and Readings (20%)

Homework is assigned every class period, to be completed before the beginning of the following class, and is scored for completion only. Throughout the semester we will be reading the book *Children's Mathematics*, and there will occasionally be additional readings posted to Learning suite. The purpose of the readings is to help you think about the work of teaching mathematics to children in the context of the mathematics we are learning in class. Work related to readings will include class discussions and periodic assignments, which will be included in your homework grade.

Analyses of Children's Thinking (15%)

You will have the opportunity to observe elementary age children reasoning about the mathematics we learn about in class at three points during the semester, including two in-person interviews and a classroom observation. Each opportunity will involve advance preparation, and written analysis according to principles learned in class.

Professional Activities (5%)

Students enrolled in any mathematics education course are required to complete two professional activities related to teaching mathematics. The Mathematics Education Association (MEA) is BYU's student association for all students who expect to teach elementary or secondary mathematics, and is a student-led affiliate of the National Council of Teachers of Mathematics (NCTM). Most math education classes require attendance at these activities to fulfill the professional requirement. Other options for fulfilling the requirement can be found on Learning Suite, and I encourage you to fulfill the professional component in a way that is meaningful to you as a future teacher of elementary mathematics.

To receive credit, you will submit a description of what you did and what you learned for each of the two activities (1-2 paragraphs) on Learning Suite before the end of the semester. This description is required for all professional activities, including MEA activities.

Class Policies

Cell Phone, Laptop, and Tablet Use: Phones, laptops, tablets, etc. may be used in support of classroom activities (e.g., as a calculator or reference, or for taking notes). However, other uses are distracting and disruptive to your learning, and to the students around you. Unless they are being used for class purposes, phones, laptops, tablets, etc. should remain in your backpack during class time as a courtesy to the instructor and other students, and any necessary cell phone communication should take place outside the classroom.

Attendance: Attendance is crucial to success in this course, and excessive absences will affect your grade as follows:

- If you miss **4 or more** class sessions, you will not be able to earn higher than an A-.
- If you miss **5 or more** class sessions, you will not be able to earn higher than a B.
- If you miss **6 or more** class sessions, you will not be able to earn higher than a B-.
- If you miss **7 or more** class sessions, you will not be able to earn higher than a C.
- If you miss **8 or more** class sessions, you will not be able to earn higher than a C-.
- If you miss **9 or more** class sessions, you will be required to withdraw from the course or take an E.

Arriving more than 15 minutes late to class or leaving more than 15 minutes early will count as half an absence; missing more than half of class will count as a full absence. Nevertheless, if you are only able to come for a partial class, it will still be to your benefit to come to class for as much time as you are able.

Missed Class Sessions: If it is necessary for you to miss a class, please refer to the content section of our course on Learning Suite. A summary of the class, as well as any handouts, notes, and homework will be posted by the end of the day. You should first refer to this, and then make arrangements to speak to group members or to me about content you missed. ***If you are absent (no matter the reason), you are still expected to complete homework and assignments by the due date.***

Late Assignments: Without exception, late assignments will be accepted for half credit **up to one week** after the due date. Late assignments will not be accepted more than one week after the due date. Exams must be turned in on time to receive credit; exceptions will be made only on a case-by-case basis.

University Policies

Honor Code

In keeping with the principles of the BYU Honor Code, students are expected to be honest in all of their academic work. Academic honesty means, most fundamentally, that any work you present as your own must in fact be your own work and not that of another. Violations of this principle may result in a failing grade in the course and additional disciplinary action by the university. Students are also expected to adhere to the Dress and Grooming Standards. Adherence demonstrates respect for yourself and others and ensures an effective learning and working environment. It is the university's expectation, and every instructor's expectation in class, that each student will abide by all Honor Code standards. Please call the Honor Code Office at (801) 422-2847 if you have questions about those standards.

Preventing & Responding to Sexual Misconduct

Brigham Young University prohibits all forms of sexual harassment—including sexual assault, dating violence, domestic violence, and stalking on the basis of sex—by its personnel and students and in all its education programs or activities. University policy requires all faculty members to promptly report incidents of sexual harassment that come to their attention in any way and encourages reports by students who experience or become aware of sexual harassment. Incidents should be reported to the Title IX Coordinator at title9@byu.edu or (801) 422-8692 or 1320 WSC. Reports may also be submitted online at <https://titleix.byu.edu/report> (24-hours a day). BYU offers a number of resources and services for those affected by sexual harassment, including the university's confidential Sexual Assault Survivor Advocate. Additional information about sexual harassment, the university's Sexual Harassment Policy, reporting requirements, and resources can be found in the University Catalog, by visiting <http://titleix.byu.edu>, or by contacting the university's Title IX Coordinator.

Student Disability

Brigham Young University is committed to providing a working and learning atmosphere that reasonably accommodates qualified persons with disabilities. A disability is a physical or mental impairment that substantially limits one or more major life activities. Whether an impairment is substantially limiting depends on its nature and severity, its duration or expected duration, and its permanent or expected permanent or long-term impact. Examples include vision or hearing impairments, physical disabilities, chronic illnesses, emotional disorders (e.g., depression, anxiety), learning disorders, and attention disorders (e.g., ADHD). If you have a disability which impairs your ability to complete this course successfully, please contact the University Accessibility Center (UAC), 2170 WSC or 801-422-2767 to request a reasonable accommodation. The UAC can also assess students for learning, attention, and emotional concerns. If you feel you have been unlawfully discriminated against on the basis of disability, please contact the Equal Opportunity Office at 801-422-2845, eo_manager@byu.edu, or visit <https://hrs.byu.edu/equal-opportunity> for help.

Anticipated Schedule

Date	Topic	Due
UNIT 1: Early Number and Operations		
Wed 9/3	1.1 Setting the Stage	
Mon 9/8	1.2 Early Numerical Abilities	Syllabus Assignment, HW 1.1
Wed 9/10	1.3 How to Count	HW 1.2
Mon 9/15	1.4 Part-Part-Whole	HW 1.3
Wed 9/17	1.5 Addition and Subtraction Problem Types	HW 1.4
Mon 9/22	1.6 Addition and Subtraction Strategies	HW 1.5
Wed 9/24	1.7 Interview Prep 1	HW 1.6
Mon 9/29	School Visit for Interview 1	HW 1.7
Wed 10/1	Exam 1 Review	Interview 1 Brief and Full Reports
UNIT 2: Multiplication, Division, and Fractions		
Mon 10/6	2.1 Multiplication and Division Strategies	Exam 1
Wed 10/8	2.2 Multiplication and Division	HW 2.1
Mon 10/13	2.3 Other Multiplication and Division Contexts	HW 2.2
Wed 10/15	2.4 Algebraic Structure	HW 2.3
Mon 10/20	2.5 Equal Sharing Problems	HW 2.4
Wed 10/22	2.6 Unit Fractions	HW 2.5
Mon 10/27	2.7 Interview Prep 2	HW 2.6
Wed 10/29	School Visit for Interview 2	HW 2.7
Mon 11/3	Exam 2 Review	Interview 2 Brief and Full Reports
UNIT 3: Multidigit Arithmetic		
Wed 11/5	3.1 Multidigit Strategies	Exam 2
Mon 11/10	3.2 Children's Multidigit Addition/Subtraction Strategies	HW 3.1
Wed 11/12	3.3 Algorithms for Addition and Subtraction	HW 3.2
Mon 11/17	3.4 Standard Algorithms for Addition/Subtraction	HW 3.3
Wed 11/19	3.5 Multidigit Multiplication and Division Strategies	HW 3.4
Mon 11/24	TBA	
Wed 11/26	<i>No Class</i>	<i>N/A</i>
Mon 12/1	3.6 Multiplication Algorithms	HW 3.5
Wed 12/3	3.7 Division Strategies	HW 3.6
Mon 12/8	3.8 Division Algorithms	HW 3.7
Wed 12/10	Final Exam Review	HW 3.8
Friday 12/12	Final Exam Pick Up 8:00 AM (Due 12/15 at 8:00 am)	