
Teaching Elementary School (K-6) Mathematics 2
3 credit hours

COURSE SYLLABUS

Semester: Spring 2026
Delivery method: Online, Off-campus
Location: Online / Off-campus
Instructor: Katie Nash
Instructor email: nash18@usf.edu

Virtual Office Hours: Microsoft Teams

Minimum Technical Skills & Requirements:

In order to take courses online at USF, you will need to be able to demonstrate proficiency at basic computer skills, maintain reliable internet access, and meet the [computer system requirements](#) listed at:

<https://www.usf.edu/it/remote/requirements-for-students>

Synchronous Sessions: Virtual Class will be held the following days:

January 13

February 3

February 24

March 24

April 14

April 21

In this class, software will be used to record live class lectures and discussions. As a student in this class, your participation in live class discussions will be recorded. These recordings will be made available only to students enrolled in the class, to assist those who cannot attend the live session, or to serve as a resource for those who would like to review the content presented.

I. **Welcome!**

Welcome to MAE 4326 Teaching Elementary School (K-6) Mathematics 2. The design of the course uses a variety of teaching and active learning techniques. It involves each student participating in an activity-oriented setting. The activities include class discussions, cooperative learning activities, and student presentations, demonstrations/ explanations. This course is required in the undergraduate programs in Elementary Education.

II. **University Course Description**

Students will learn methods for teaching number ideas, computation skills, and mathematical reasoning in elementary (K – 6) classrooms. Students will learn mathematical content knowledge and mathematical pedagogical knowledge for teaching algebraic thinking, fraction concepts, fraction operations, the relationship between decimal-percent, and an introduction to proportional thinking.

III. **Course Prerequisites**

Two college-level mathematics courses and MAE 4310

IV. **Course Purpose**

This course aims to provide opportunities for pre-service teachers to examine their understanding of various mathematics topics. Also, pre-service teachers will expand their vision for elementary mathematics teaching that considers the current reform movements' goals and assumptions in mathematics education. Students will examine the content, methods, and materials for teaching elementary school mathematics based on problem-solving, direct modeling, invented strategies, and the standard algorithm.

V. **Instructor Contact Information and Communication**

This course is an intense, concentrated learning experience and transparent communication is NECESSARY for success. Please contact me IMMEDIATELY should you have difficulties in the course so that we can problem-solve together.

You are free to address me as Dr. Sarah (a little easier to say than Dr. van Ingen Lauer). Email is our first (and probably most common) option for communication. I will also provide my phone number on the first day of class should an urgent issue come up for which you are looking for a quick response. I will communicate to the class through the Canvas announcement feature as well as through email. Make sure you check Canvas and Email daily during our course.

VI. **First Day Attendance Policy-**

On the first week of class, we will have an "Introductions & Goals" discussion thread that will count as our "First Day Attendance". This activity will open one week before the course officially begins, and students who don't complete it by 11:59pm on 1/13 run the risk of being dropped from the course.

VII. **How to Succeed in this Course-**

This is an intense course, with each chapter having its own module. Because the course is so compact, it is not possible to procrastinate and still succeed. Pay careful attention to what is due on each day. **Read our text carefully.** The text is rather simple to read **but** it is so compact. There are so many key ideas on each page. Read slowly and give yourself time to absorb and process the key ideas. Keep your eye on the prize of improving your ability to teach mathematics effectively for ALL students. When you keep your future students at the forefront of your mind, the learning will be more meaningful. Finally, reach out to your instructor RIGHT AWAY if you have questions or have a struggle meeting a deadline. Your instructor is deeply committed to your success, but needs to hear from you should you need more support.

VIII. **Course Structure-**

Each chapter of the text is a separate module. At the top of each module is an overview of the topic and explanations of the text. Underneath that, the assignments within that chapter are listed by the date they are due. Each chapter is split into two weeks, with a synchronous session in the third week to review activities you may use in your future classrooms. In March, you will begin working towards completing the Critical Task Lesson Plan, a major assignment. The course exam is open from 4/22 to 4/25.

IX. **Course Objectives**

Students will acquire knowledge and application, in the context for the teaching of elementary school mathematics, in terms of the following objectives.

- Describe and give examples for fraction constructs and fraction representations.
- Describe three types of fraction representations, and what situations and manipulatives fit within each.
- Explain foundational concepts of fractional parts, including equal sharing, iterating, and partitioning.
- Illustrate the concept of equivalence across fraction models.
- Describe strategies for comparing fractions and ways to teach this topic conceptually.
- *Describe a process for teaching fraction operations with understanding.*
- Use representations and strategies to teach adding and subtracting fractions effectively.
- Design a developmental progression for teaching fraction multiplication conceptually.
- Explain division of fractions, using both measurement and partitive examples.
- *Describe how the place-value system is central to understanding decimals.*
- Identify concrete and semi-concrete models that connect fractions to decimals.
- Demonstrate how to compare and order decimals.

- Explain multiple strategies for computing with decimals.
- Explain how percents are related to fractions and decimals.
- Describe the types of ratios and the relationship among ratios, rates, unit rates, and fractions.
- Contrast proportional and non-proportional situations and describe ways that students reason proportionally as they compare ratios.
- Illustrate different ways to represent and reason about proportional problems across a developmental learning progression.
- Connect proportional reasoning to concepts in geometry and algebra.
- Select educational research to address a problem of teaching/learning mathematics
- Create an effective elementary mathematics lesson plan that has engaging instructional strategies, a well-developed assessment plan
- Identify opportunities to implement the Standards of Mathematics Practice (SMPs) to enhance active learning

X. Student Learning Outcomes

The development and design of this course encompass the current Florida Mathematics Standards (MAFS), the future Florida Benchmarks for Excellent Student Thinking (BEST) for Mathematics, Florida Teacher Certification Exam (FCTE) Elementary Education K-6 Mathematics K-6 subtest competencies, the Association of Mathematics Teacher Educators (AMTE) Standards for Preparing Teacher of Mathematics, & core practices created by University of Michigan's Teaching & Learning Exploratory.

The student will be able to show mathematical content and pedagogy from the following FCTE Elementary Education K–6 Mathematics subtest competencies from [the following link](#).

Four Essential High-Leverage Teaching Practices within the field of Elementary Math Education

- Anticipating Students Errors and Misconceptions During Planning
 - Develop an understanding of student errors and misconceptions by backward planning and unpacking the standards in the objective.
- Making Connections between Multiple Representations
 - Create multiple representations from a standard algorithm problem.
 - Create concrete, semi-concrete, and abstract representations as a way for scaffolding.
- Leading a Classroom Discussion
 - Develop through planning, including identifying a clear instructional goal (occur before the instruction)
 - Create a Launch to the discussion (it is the work that a teacher does to get a discussion started)

- Orchestrate interaction around the mathematics (eliciting and probing student thinking)
- Closing the discussion. (it is the work that teachers and students do to bring the discussion to a close)
- Select and Implement Cognitively Demanding Tasks that Promote Students' Reasoning and Problem-Solving

XI. Required Texts and/or Readings and Course Materials

1. Van de Walle, J., Karp, K., & Bay-Williams, J. *Pearson ETEXT Elementary and Middle School Mathematics: Teaching Developmentally*. (11th Ed). Boston, MA: Allyn & Bacon ISBN 9780136941118. [View link](#)
2. Ready to Teach Math Manipulative Kit (IN79628)(CUSTOM) by ETA
3. Additional Readings will be posted on Canvas throughout the semester

XII. Supplementary (Optional) Texts and Materials

Unless otherwise indicated, all materials in Canvas are required.

XIII. Grading Scale

Insert grading scale (with plus/minus scaling, if applicable) here. We have provided templates for your grading scale, including one for plus/minus grading, and the general grading scale. Feel free to use either one of these, and adjust for your own grading scale, if different:

Grading Scale (%)

93 – 100	A	73 – 75	C
90 – 92	A-	70 – 72	C-
86 – 89	B+	66 – 69	D+
83 – 85	B	63 – 65	D
80 – 82	B-	60 – 62	D-
76 – 79	C+	0 – 59	F

XIV. Activities and Points

Category	Points
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Introduction & Goals (5 + 5)	10
Reading Comprehension Questions (8 x 10)	80
Perusall Annotations (8 x 5)	40
Activity Logs (8 x 10)	80
Tech Treasure Hunt (4 x 5)	20
Critical Task Lesson Plan Workspaces (2 x 10)	20
Critical Task- Lesson Plan & Peer Review (15 + 5)	20

Category	Points
Module Exit Survey (4 x 5)	20
Exam 1	50
TOTAL	340

XV. Course Assignment Descriptions:

- A. Introduction & Goals.** This discussion post will allow you to introduce yourself to your colleague and to identify your own learning goals for the course.
- B. Reading Comprehension Questions.** There is a significant amount of reading each week. To support information processing, students will complete reading comprehension questions designed to facilitate the processing of the information in the chapter.
- C. Perusall Annotations.** In small groups, you will use Perusall to make annotations to chapter PowerPoints. You will both highlight key ideas and ask questions that you have about the content.
- D. Activity Logs.** As you are reading the course text, you will have the opportunity to complete the “Activities” that are provided in each chapter. In the activity log, you will document the name of the activity, the math content addressed, the challenges and student misconceptions that might arise, and a photograph/screenshot of your completion of the activity.
- E. Tech Treasure Hunt.** For each module, you will find a specific online resource that an elementary teacher could use when teaching the content of the module to elementary students. In a discussion post, you will provide the URL for the resource, and you will explain how you think this site would enhance student learning. You will then have the chance to review the posts of your colleagues.
- F. Critical Task Lesson Plan.** You will develop a mathematics lesson plan that demonstrates your knowledge of instruction and assessment for equitable teaching. Specifically, you will demonstrate the skills listed under Elementary Education Competency #32. A detailed rubric of the grading criteria for this assignment will be posted on Canvas. This is a critical task. You must receive a

passing grade on this assignment in order to pass the course.

- G. Module Exit Survey.** This survey will provide you with an opportunity to reflect on your learning for each module and to provide feedback to your instructor.
- H. Exam.** The exam will provide you with an opportunity to demonstrate your mastery of the specialized content knowledge and pedagogical content knowledge that we cover in our coursework. The exam questions are developed based on the exam objectives.

XVI. Instructor Feedback Policy & Grade Dissemination

Instructor will respond to email communication relevant to the subject matter within 48 hours of the date received. Instructor will provide feedback on assignments within one week of the posted deadline, and feedback on final papers within two weeks of the posted deadline. [You can access your scores at any time using "Grades" in Canvas.](#)

XVII. Course Schedule-

Da y	Topic	Assignment Due
1/ 13	Introduction to the Course Review Teaching Through Problem Solving	• Discussion Post: Introductions & Goals • Review Course Content and Assignments ***Synchronous Session
1/ 20	FRACTION CONCEPTS	• Response to Intros & Goals • CH 14a Reading Questions • CH 14a Group Perusall
1/ 27	FRACTION CONCEPTS	• CH 14b Reading Questions • CH 14b Group Perusall • Discussion Post: Chapter 14 Tech Treasure Hunt
2/ 3	FRACTION CONCEPTS	• CH 14a Activity Log • CH 14b Activity Log • M1: Module Exit Survey – Chapter 14 ***Synchronous Session
2/ 10	FRACTION OPERATIONS	• CH 15a Reading Questions • CH 15a Group Perusall
2/ 17	FRACTION OPERATIONS	• CH 15b Group Perusall • CH 15b Reading Questions • Discussion Post: Chapter 15 Tech Treasure Hunt
2/ 24	FRACTION OPERATIONS	• CH 15a Activity Log • CH 15b Activity Log • HCPS STEM Fair Reflection • M2: Module Exit Survey – Chapter 15 ***Synchronous Session
3/ 3	FRACTIONS, DECIMALS, & PERCENTS	• CH 16a Reading Questions • CH 16a Group Perusall • Critical task workspace: standard, objective, assessments
3/ 10	FRACTIONS, DECIMALS, & PERCENTS	• CH 16b Reading Questions • CH 16b Group Perusall • Discussion Post: Chapter 16 Tech Treasure Hunt • Critical Task Workspace: Differentiation
3/ 17	SPRING BREAK	No Work Due

3/ 24	FRACTIONS, DECIMALS, & PERCENTS	- CH 16a Activity Log - CH 16b Activity Log - M3: Module Exit Survey – Chapter 16 ***Synchronous Session
3/ 31	RATIOS & PROPORTIONAL REASONING	- CH 17a Reading Questions - CH 17a Group Perusal
4/ 7	RATIOS & PROPORTIONAL REASONING	- CH 17b Reading Questions - CH 17b Group Perusal - Discussion Post: Chapter 17 Tech Treasure Hunt - Draft of Full Lesson Plan due for Peer Review
4/ 14	RATIOS & PROPORTIONAL REASONING	- Peer feedback for Critical task lesson plan - CH 17a Activity Log - CH 17b Activity Log - M4: Module Exit Survey – Chapter 17 ***Synchronous Session
4/ 21	REVIEW AND COURSE EXAM	- Peer Review Feedback Due ***Synchronous Session – Review for Test ***Course Exam - Due 4/25 @11:59pm
4/ 28		Final Critical Task Lesson Plan

* Note: The Schedule is subject to revision

XVIII. **USF Core Syllabus Policies**

USF has a set of central policies related to student recording class sessions, academic integrity and grievances, student accessibility services, academic disruption, religious observances, academic continuity, food insecurity, and sexual harassment that **apply to all courses at USF**. These may be accessed on the [USF Core Syllabus Policy Statements page](https://www.usf.edu/provost/faculty/core-syllabus-policy-statements.aspx) at <https://www.usf.edu/provost/faculty/core-syllabus-policy-statements.aspx>.

XIX. **Course Policies: Grades (as applicable)**

Late Work Policy

Offer specifics about your policy on late work.

Grades of “Incomplete”

The current university policy concerning incomplete grades will be followed in this course.

For undergraduate courses: An “I” grade may be awarded to a student only when a

small portion of the student's work is incomplete and only when the student is otherwise earning a passing grade. The time limit for removing the "I" is to be set by

the instructor of the course. For undergraduate students, this time limit may not exceed two academic semesters, whether or not the student is in residence, and/or graduation, whichever comes first. For graduate students, this time limit may not exceed one academic semester. "I" grades not removed by the end of the time limit will be changed to "IF" or "IU," whichever is appropriate.

Campus Free Expression

The following statement was crafted as a suggested statement to include for courses that engage in discussions and instruction which students may find uncomfortable, unwelcome, disagreeable, or even offensive. These discussions are intended to be objective. [Additional guidance related to HB 7 "Individual Freedom Act" can be found online.](#)

Suggested Statement: It is fundamental to the University of South Florida's mission to support an environment where divergent ideas, theories, and philosophies can be openly exchanged and critically evaluated. Consistent with these principles, this course may involve discussion of ideas that you find uncomfortable, disagreeable, or even offensive.

In the instructional setting, ideas are intended to be presented in an objective manner and not as an endorsement of what you should personally believe. Objective means that the idea(s) presented can be tested by critical peer review and rigorous debate, and that the idea(s) is supported by credible research.

Not all ideas can be supported by objective methods or criteria. Regardless, you may decide that certain ideas are worthy of your personal belief. In this course, however, you may be asked to engage with complex ideas and to demonstrate an understanding of the ideas. Understanding an idea does not mean that you are required to believe it or agree with it.

XX. Course Policies: Technology and Media (as applicable)-

Canvas

Describe how you will use Canvas in the course, how often students should expect to login, how team activities will be organized, due dates, policies on late participation, etc.

Example: This course is offered via USF's learning management system (LMS), Canvas. If you need help learning how to perform various tasks related to this course or other courses being offered in Canvas, please consult the [Canvas Student Guides](#). You may also contact USF's IT department at (813) 974-1222 or help@usf.edu.

XXI. Course Policies: Student Expectations

Title IX Policy

It is recommended you include the paragraph below verbatim.

Title IX provides federal protections for discrimination based on sex, which includes discrimination based on pregnancy, sexual harassment, and interpersonal violence. In an effort to provide support and equal access, **USF has designated all faculty (TA, Adjunct, etc.) as Responsible Employees, who are required to report any disclosures of sexual harassment, sexual violence, relationship violence or stalking.** The Title IX Office makes every effort, when safe to do so, to reach out and provide resources and accommodations, and to discuss possible options for resolution. Anyone wishing to make a Title IX report or seeking accommodations may do so online, in person, via phone, or email to the Title IX Office. For information about Title IX or for a full list of resources please visit: <https://www.usf.edu/title-ix/gethelp/resources.aspx>. *If you are unsure what to do, please contact Victim Advocacy – a confidential resource that can review all your options – at 813-974-5756 or va@admin.usf.edu.*

Course Hero / Chegg Policy

Offer specifics about your policy on contract cheating, paper mills, or the use of websites that enable cheating.

Example: The [USF Policy on Academic Integrity](#) specifies that students may not use websites that enable cheating, such as by uploading or downloading material for this purpose. This does apply specifically to Chegg.com and CourseHero.com – any use of these websites (including uploading proprietary materials) constitutes a violation of the academic integrity policy.

Turnitin.com

If you are using this plagiarism-detection service, it is recommended that you clearly state so on the syllabus. In order to comply with privacy laws, students are not required to include personal identifying information, such as name, in the body of the document. Turnitin provides an originality report letting the instructor know how much of the assignment is original.

In this course, turnitin.com will be utilized. Turnitin is an automated system which instructors may use to quickly and easily compare each student's assignment with billions of websites, as well as an enormous database of student papers that grows with each submission. Accordingly, you will be expected to submit all assignments via Canvas. After the assignment is processed, as instructor, I receive a report from turnitin.com that states if and how another author's work was used in the assignment. For a more detailed look at this process visit <http://www.turnitin.com/>.

End of Semester Student Evaluations

All classes at USF make use of an online system for students to provide feedback to the University regarding the course. These surveys will be made available at the end of the semester, and the University will notify you by email when the response window opens. Your participation is highly encouraged and valued.

Netiquette Guidelines

1. Act professionally in the way you communicate. Treat your instructors and peers with respect, the same way you would do in a face-to-face environment. Respect other people's ideas and be constructive when explaining your views about points you may not agree with.
2. Be sensitive. Be respectful and sensitive when sharing your ideas and opinions. There will be people in your class with different linguistic backgrounds, political and religious beliefs or other general differences.
3. Proofread and check spelling. Doing this before sending an email or posting a thread on a discussion board will allow you to make sure your message is clear and thoughtful. Avoid the use of all capital letters, it can be perceived as if you are shouting, and it is more difficult to read.
4. Keep your communications focused and stay on topic. Complete your ideas before changing the subject. By keeping the message on focus you allow the readers to easily get your idea or answers they are looking for.
5. Be clear with your message. Avoid using humor or sarcasm. Since people can't see your expressions or hear your tone of voice, meaning can be misinterpreted.

Email and Discussion Board Guidelines

1. Use the subject line effectively by using a meaningful line of what your email or discussion is about.
2. Keep your emails and postings related to the course content. You should not post anything personal on a discussion board, unless is requested by the instructor.
3. Any personal, course or confidential issues should be directly communicated to the instructor via email. The discussion boards are public spaces; therefore, any issues should not be posted there.

XXII. Learning Support and Campus Offices**Academic Accommodations**

Students with disabilities are responsible for registering with Student Accessibility Services (SAS) in order to receive academic accommodations. For additional information about academic accommodations and resources, you can visit the SAS website.

[SAS website for the Tampa and Sarasota-Manatee campuses.](#)

[SAS website for the St. Pete campus.](#)

Academic Support Services

The USF Office of Student Success coordinates and promotes university-wide efforts to enhance undergraduate and graduate student success. For a comprehensive list of academic support services available to all USF students, please visit the [Office of Student Success website.](#)

Canvas Technical Support

Include information where students can find technical support.

If you have technical difficulties in Canvas, you can find access to the Canvas guides and video resources in the “Canvas Help” page on the homepage of your Canvas course. You can also contact the help desk by calling 813-974-1222 in Tampa or emailing help@usf.edu.

[IT website for the Tampa campus.](#)

[IT website for the St. Pete campus.](#)

[IT website for the Sarasota-Manatee campus.](#)

Center for Victim Advocacy

The [Center for Victim Advocacy](#) empowers survivors of crime, violence, or abuse by promoting the restoration of decision making, by advocating for their rights, and by offering support and resources. Contact information is available online.

Counseling Center

The Counseling Center promotes the wellbeing of the campus community by providing culturally sensitive counseling, consultation, prevention, and training that enhances student academic and personal success. Contact information is available online.

[Counseling Center website for the Tampa campus.](#)

[Counseling Center website for the St. Pete campus.](#)

[Counseling Center website for the Sarasota-Manatee campus.](#)

Tutoring

The Tutoring Hub offers free tutoring in several subjects to USF undergraduates. Appointments are recommended, but not required. For more information, email asctampa@usf.edu.

[Tutoring website for the Tampa campus.](#)

[Tutoring website for the St. Pete campus.](#)

[Tutoring website for the Sarasota-Manatee campus.](#)

Writing Studio

The Writing Studio is a free resource for USF undergraduate and graduate students. At the Writing Studio, a trained writing consultant will work individually with you, at any point in the writing process from brainstorming to editing. Appointments are recommended, but not required. For more information or to make an appointment, email writingstudio@usf.edu.

[Writing studio website for the Tampa campus.](#)

[Writing studio website for the St. Pete campus.](#)

[Writing studio website for the Sarasota-Manatee campus.](#)

XXIII. Important Dates to Remember

Add a short statement that describes that all the dates and assignments are tentative and can be changed at the discretion of the professor. For important USF dates, see the [Academic Calendar](#) at <http://www.usf.edu/registrar/calendars/>