



MAE 4945
Practicum in Mathematics Education
84128 001
Fall 2026

Instructor Name

Rita Ortiz, Ph.D.

University Course Description

This course is designed to provide individuals in mathematics education with opportunities to become familiar with the work of teaching in a middle or high school mathematics classroom. Individuals will have the opportunity to engage in various activities in a middle or secondary mathematics classroom and think critically about these experiences as they become a reflective learner and teacher.

Course Requisites

Prerequisite(s):

(MAE 4330 Minimum Grade: C-)
and (MAE 4652 Minimum Grade: C-)

Corequisite(s):

Course Format

This course consists of in-person field experiences, synchronous online class meetings and consultations, and asynchronous online work using the modules on

Canvas. We will have a total of 5 synchronous online class meetings via Microsoft Teams on Wednesdays, at 5:00-7:45pm, on the following dates: 8/26, 9/16, 10/07, 10/21, and 11/18 as well as asynchronous online work and 1-1 online consultation meetings in October/November (dates TBD). Practicum field experiences will begin in mid-September and end in mid-November. You will be placed with a middle/high school math teacher (Mentor Teacher [MT]) and will be expected to spend a minimum of 60 hours in your school placement, spread across a period of 8-10 weeks. You will be expected to be at your field placement for one full day per week or two half days per week. You will coordinate your field experience schedule with your MT.

Student Learning Outcomes

Upon completion of this course, students will have demonstrated:

- The ability to examine critical aspects of teaching (e.g., the nature of the content in tasks presented to students, the use of class time).
- The ability to examine, develop, implement, and reflect on lessons created and taught in a mathematics classroom.
- The ability to create and implement a formative assessment and then use the data it provides to shape subsequent instruction.
- The ability to enact technological pedagogical content knowledge needed for teaching mathematics.

Course Objectives

The course is designed to help students apply mathematical knowledge for teaching addressed in university-based coursework. Specifically, students will strengthen their foundational knowledge to:

1. Design mathematically accurate explanations that are comprehensive and useful to students;
2. Use mathematically appropriate and comprehensible definitions;
3. Represent ideas carefully, mapping between a physical or graphical model, and symbolic notation, and the operation or process;
4. Interpret and make mathematical and pedagogical judgments about students' questions, solutions, problems and insights (both predictable and unusual);
5. Be able to respond productively to students' mathematical questions and curiosities;
6. Make judgments about the mathematical quality of instructional materials and modify as necessary;

7. Be able to pose good mathematical questions and problems that are productive for student's learning;
8. Assess students' mathematics learning and take next steps.

Required Texts and/or Readings and Course Materials

Artzt, A. F., Armour-Thomas, E., & Curcio, F.R. (2026) *Becoming a Reflective Mathematics Teacher: A Guide for Observations and Self-Assessment*. (Fourth Edition). New York: Routledge. You do not have to purchase this book. You can access it via the USF library as an ebook or download the PDF version.

**** NOTE: All students must have an active university assessment system (FolioData) account. FolioData assignments are to be completed satisfactory in order to pass the class. ****

How to Succeed in this Course

Submission of Work

Submit all work via CANVAS. Please keep everything until the semester is over. When you submit assignments to me, please indicate which reflection (e.g., content, questioning) or which type of lesson (e.g., technology, small group) that the assignment is attempting to meet. Please pay attention to the due dates. Although they are somewhat flexible, it is not acceptable to submit everything at the end of the semester, or to avoid teaching lessons. If there are problems making arrangements to teach, you need to discuss the situation well before the end of the semester so we can find an acceptable solution.

Please follow the netiquette guidelines below when engaging in online discussions or emails:

- Act professionally in the way you communicate. Treat your instructors and peers with respect, the same way you would do on a face-to-face environment. Respect other people's ideas and be constructive when explaining your views about points you may not agree with.
- 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.
- 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.

- 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.
- 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.
- Use the subject line effectively by using a meaningful line of what your email or discussion is about.
- 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.
- 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

Grading Scale

This course is graded as Pass / Fail.

- S (Satisfactory performance): The student shows sufficient development regarding reflection on teaching and learning of mathematics, in addition to evaluation of aspects of their profession and/or professionalism. Assignments are of good quality. Journal entries are timely and descriptive in nature. The student contributes to class discussions. The student adheres to guidelines of professionalism when interacting with colleagues and the course instructor. The student has received at least 3 out of 5 on each criterion of the FolioData Portfolio task.
- U (Unsatisfactory performance): The student shows lack of development regarding reflection on teaching and learning of mathematics and/or evaluation of aspects of their profession and/or professionalism. Either some assignments are not completed, are often late, and/or are of poor quality. Journal entries are sporadic and/or terse. Participation attempts in class discussions are minimal. The student demonstrates lack of professionalism when interacting with colleagues and/or the course instructor. The student has received a score of 1 or 2 on at least one criterion of the FolioData Portfolio task.

Grade Categories and Weights

With the exception a few small class assignments, e.g., few readings and exit tickets on Canvas, all other assignments are directly linked with your field experiences. Specifically:

- You will spend at least 60 hours in your school placement completing a number of tasks: observing the classroom and focusing on specific issues, working with a small group of students, teaching a set of lessons to the

extent permissible by the classroom teacher. Document the hours on the **Observation Log**, with teacher signature. At the end of the semester, scan and submit the log. These 60 hours are to be distributed as follows:

- (6 hours) Complete a set of **6 Focused Reflections** of 1-2 pages (double-spaced) based on a series of questions to be answered from Appendix B of your book. No student names need to be provided, but some broad demographics should generally be included (e.g., number of students, gender, possible ethnicity, seating arrangements). *Attention should be given to the Mathematics Processes attended to, technological tool used, and strategies used to address students' misconceptions.*
- (10 hours) Spend at least 10 of the 60 hours working with an individual student or a small group of students, documenting your actions and interactions. Again, no student names are needed. Write up your experiences in the form of a **journal** in which you reflect on the actions and interactions with students, with an entry each time you work with the students. Part of your journal entry will likely involve some diagnostic work in which you attempt to identify the difficulties students have and then how you are attempting to help students overcome those difficulties.
- (6 hours) In cooperation with the teacher, develop and administer a formative assessment, analyze the results, plan a lesson based on the results, and then develop and administer a summative assessment. **Share your lesson plan, summarize the formative and summative results, and reflect on what happened during the lesson, what you would keep if doing the lesson again, and what you would expect to change.** This first lesson plan is the **Assessment Lesson Plan with Reflection**.
- (16 hours) In addition to the Assessment Lesson, you should spend at least 16 additional hours teaching the entire class. Teach short instructional segments to the whole class (e.g. bellwork, going over homework, facilitating an activity) and when your mentor teacher thinks you are ready, teach entire lessons (bell to bell). Everyone must teach at least **3 lessons**, bell to bell, **with one lesson taught at least twice**. If possible, try to teach lessons addressing some type of technology (other than PowerPoint), interdisciplinary connections, and small group cooperative learning. In addition to consultations with the teacher, share your lesson plans with the instructor, in advance, for feedback. *(However, if you have consulted with the teacher and have an opportunity to teach, take it. Do not let the fact that you have not had your lesson plan reviewed by the instructor keep you from taking an opportunity to teach.)* After teaching the lesson, revise the lesson plan based on feedback, reflect on what worked, what didn't work, and what changes you would want to make the next time. **You will submit a**

total of 3 Lesson Plans (with reflections), this includes the lesson you will teach at least twice.

- The first lesson plan you will submit (*Lesson Plan with Reflection #1*) is linked with the **Self-Evaluation (First Video, Short)** assignment described below.
- The second lesson plan you will submit (*Lesson Plan with Reflection #2*) is the one you will teach twice.
- The third lesson plan you will submit (*Lesson Plan with Reflection #3*) is linked with the **Formal Observation Assignment** that includes a supervision cycle (pre-observation conference, observation, post-observation conference) and with the **Self-Evaluation (Second Video, Long)** assignment described below.
- (2 hours) Complete a Professional Responsibilities Event and write a brief paragraph about the experience. You have 3 options of attending: 1) a **faculty meeting** at either the school or department level; 2) a **student function**, e.g., sports game, play, music event; or 3) a **conference night**, i.e. parent teacher conference.
- (20 hours) The other hours can be engaged in additional teaching, working with individuals or groups of students, grading a set of papers, or observing.
 - Part of these 20 hours must be completed during your first week in your practicum placement in order to complete the **First Week Field Experiences Assignment**,
- You will also videotape yourself teaching two lessons (two of the three lessons for which you will be submitting lesson plans) and will complete a self-evaluation for each of these lessons, as follows:
 - **Self-Evaluation (First Video, Short):**
 - Record a video of you teaching a lesson segment, approximately 15 minutes. This could include teaching a whole-group or small-group lesson, or working with one or a few students, and should reflect a segment from *Lesson Plan with Reflection #1*. Avoid recording student faces. This video will only be used for your personal growth and self-evaluation.
 - Complete the Self-Evaluation Form. After viewing the video of you teaching, for each element in the table highlight where you think you are currently (Requires Action, Progressing, or Accomplished). Then, in the comments section, provide some specific examples from the video that demonstrate your level of accomplishment in each element.
 - Submit both the completed form and the video to the *Self-Evaluation (First Video)* Canvas assignment.
 - **Self-Evaluation (Second Video, Long):**

- Record a video of you teaching an entire lesson (full class period). Ideally, this should be the lesson you teach for your formal observation. Again, avoid recording student faces. This video will only be used for your personal growth and self-evaluation.
 - Complete the Self-Evaluation Form. After viewing the video of you teaching, for each element in the table highlight where you think you are currently (Requires Action, Progressing, or Accomplished). Then, in the comments section, provide some specific examples from the video that demonstrate your level of accomplishment in each element.
 - Submit both the completed form and the video to the *Self-Evaluation (Second Video)* Canvas assignment.
 - Finally, there is a **FolioData Portfolio task**, that relies on the work from your classroom assignments and demonstrate that you have met the Florida Educator Accomplished Practices. This is essentially a collection of all (or at least the majority) of the assignments you have completed as part of the practicum course. Make sure you read the description of this task carefully to know what the expectations are and keep these in mind as you complete the various assignments in this course. **Note: You need to obtain a score of at least 3 out of 5 on each criterion of the task in order to receive S for the course.**
- *Note: You will submit 4 Lesson Plans with Reflections in total:
- **Lesson Plan with Reflections #1** [linked with Self-evaluation (first video) assignment];
 - **Lesson Plan with Reflections #2** [this should be the lesson you taught at least twice];
 - **Lesson Plan #3** [linked with Self-evaluation (second video) assignment and Formal Observation assignment]; **Your Formal Observation narrative will serve as the reflection here.**
 - **Assessment Lesson Plan with Reflections**

Major Topics and Course Schedule

Course Schedule		
Date	Topics	Due
08/26	Course and field placement overview	Week 1 module
Synchronous Online Class		• Introductions – Getting to Know you Survey • Course Syllabus and Assignments • Field Experiences Overview

Date	Topics	Due
09/02 Asynchronous Online Work	Building professional relationships within the mathematics classroom environment	Week 2 module Artzt et al., Chapters 1-4 (pp. 3-36) Reading
09/09 Asynchronous Online Work	First Week Field Experiences Complete First Week Field Experiences Assignment	Week 3 module - Planned Schedule of work in Schools - First Week Field Experiences Assignment (continued) - Letter of Intro to MT - Letter of Intro to Parents - MT Daily Teaching Schedule - Observation Notes - Interview Notes - First Week Narrative
09/16 Synchronous Online Class	Learning in the Field Thinking Through a Mathematics Lesson	Week 4 module - Thinking Through a Mathematics Lesson Reading - Exit Ticket 1 (Thinking Through a Mathematics Lesson) - Reflection 1
09/23 Asynchronous Online Work	Learning in the Field Higher Order Questions	Week 5 module - Higher Order Questions - Exit Ticket 2 (Higher Order Questions) - Reflection 2

Date	Topics	Due
09/30 Asynchronous Online Work	Learning in the Field Connecting Theory to Practice	Week 6 module • Reflection 3
10/07 Synchronous Online Class	Learning in the Field Connecting Theory to Practice	Week 7 module • Lesson Plan with Reflections #1 • Self-Evaluation (First Video, Short)
10/14 Asynchronous Online Work	Learning in the Field Connecting Theory to Practice	Week 8 module • Reflection 4
10/21 Synchronous Online Class	Learning in the Field Connecting Theory to Practice	Week 9 module • Artzt et al., Chapter 6 (pp. 79-112) Reading • Lesson Plan with Reflections #2
10/28 Asynchronous Online Work	Learning in the Field Connecting Theory to Practice	Week 10 module Reflection 5
11/04 Asynchronous Online Work	Learning in the Field Connecting Theory to Practice	Week 11 module • Reflection 6

Date	Topics	Due
Week of 11/09 Asynchronous Online Work	Learning in the Field Connecting Theory to Practice	Week 12 module • Formal Observation • Draft of Lesson Plan #3 • Pre-Observation Form
11/18 Synchronous Online Class	Learning in the Field Last week of field experiences	Week 13 module • Formal Observation • Lesson Plan #3 • Post-Observation Form • Formal Observation Narrative • Self-Evaluation- (Second Video, Long)
Weeks of 11/23 & 11/30 Asynchronous Online Work Last Day of Fall Term 12/04	Learning in the Field - make-up days Practicum Debrief & Course Wrap-up	Weeks 14 & 15 module • Assessment lesson plan with reflections • Journal about work with small group of students • Reflection on Professional Responsibilities Event (student function, faculty meeting, or conference night) • Observation Log • Portfolio submitted to the university assessment system FolioData Course Evaluations Due All make-up work/assignment revisions due 12/10

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, pregnancy and related conditions, and sexual harassment that **apply to all courses at USF**. Be sure to review these online:

<https://www.usf.edu/provost/faculty-success/resources-policies-forms/core-syllabus-policy-statements.aspx>

Student Recordings

Florida Statute 1004.097 Free Expression on Campus

Students may, without prior notice, record video or audio of a class lecture for a class in which the student is enrolled for their own personal, educational use (USF Policy 10-048). A class lecture is defined as a formal or methodical oral presentation as part of a university course intended to present information or teach enrolled students about a particular subject. Recording class activities other than class lectures, including but not limited to lab sessions, student presentations (whether individually or part of a group), class discussion, clinical presentations such as patient history, academic exercises involving student participation, test or examination administrations, field trips, private conversations between students in the class or between a student and the faculty member is prohibited. Recordings may not be used as a substitute for class participation and class attendance and may not be published or shared without the written consent of the faculty member. Failure to adhere to these requirements may constitute a violation of the USF Student Conduct Code.

Course Policies: Grades

Late Work Policy: Assignments should be submitted on time. Late assignments may or may not be accepted, depending on the circumstances and the discretion of the instructor. If there is a problem, it is helpful to talk with me before it becomes a crisis.

Grades of "Incomplete": 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.

Rewrite Policy: All written assignments may be rewritten for a revised grade. All rewrites must be completed by the end of the term.

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

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.

In this course you may be asked to engage with complex ideas and to demonstrate an understanding of the ideas. Understanding and engaging with an idea does not require you to believe it or to agree with it.

Course Policies: Technology and Media

You will need to be able to demonstrate proficiency at basic computer skills, maintain reliable internet access, and meet the computer system requirements listed here:

<http://www.usf.edu/innovative-education/resources/student-services/technical-requirements.aspx>

Course Policies: Student Expectations

Health and Wellness

Your health is a priority at the University of South Florida. We encourage members of our community to look out for each other and to reach out for help if someone is in need. If you or someone you know is in distress, please make a referral at www.usf.edu/sos so that the Student Outreach & Support can contact and provide helpful resources to the student in distress. A 24-hour licensed mental healthcare professional, offered through the counseling center, is available by phone at 813-974-2831, option 3. Please remember that asking for help is a sign of strength. In case of emergency, please dial 9-1-1.

Title IX Policy

USF is committed to fostering a safe and respectful learning environment, free from sex discrimination and sexual harassment, in accordance with Title IX and USF Policy 0-004. If a student shares an experience of sexual harassment, sexual assault, stalking, or relationship violence with a USF employee (including faculty), that employee will notify the Title IX Office. This allows the Title IX Office to send the student an email with information about support resources and options—if it is safe to do so. Students are not required to respond to this email. The Title IX Office is a private resource. Information is shared only on a need-to-know basis to provide students with support measures. To speak to a confidential resource, students may contact USF Center for Victim Advocacy at 813-974-5757. Confidential resources do not notify the Title IX Office unless the

student requests it. For more information about Title IX, available resources, or to make a report, please visit www.usf.edu/title-ix.

Course Hero / Chegg Policy

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 – almost any use of these websites (including uploading proprietary materials) constitutes a violation of the academic integrity policy.

Professionalism Policy

Per university policy and classroom etiquette; mobile phones, iPods, etc. must be silenced during all classroom and lab lectures. Those not heeding this rule will be asked to leave the classroom/lab immediately so as to not disrupt the learning environment. Please arrive on time for all class meetings. Students who habitually disturb the class by talking, arriving late, etc., and have been warned may suffer a reduction in their final class grade.

Turnitin.com

In this course, turnitin.com may be utilized. Turnitin is an automated system which instructors may use to quickly and easily compare each student's assignment with billions of web sites, as well as an enormous database of student papers that grows with each submission. Accordingly, you may be expected to submit all assignments in both hard copy and electronic format. 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>.

Netiquette Guidelines

- 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.

- 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.
- 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.
- 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.
- 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

- Use the subject line effectively by using a meaningful line of what your email or discussion is about.
- Keep your emails and postings related to the course content. You should not post anything personal on a discussion board unless it is requested by the instructor.
- 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.

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.

Food and Drink Policy (for in-campus sessions only).

Please adhere to the firm policy of no beverages (other than bottled/capped water), food, tobacco products, or like items in the classroom. Your understanding of the necessity for this policy and cooperation will be greatly appreciated. This policy will be strictly enforced.

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 campus and Sarasota-Manatee Teachout site.](#)

[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

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.

[USF IT Services](#)

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 and Sarasota-Manatee Teachout site.](#)

[Counseling Center website for the St. Pete 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 and Sarasota-Manatee Teachout site.](#)

[Tutoring website for the St. Pete 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 and Sarasota-Manatee Teachout Site.](#)

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

Student Ombuds Office

Florida Statute 1006.51 and Florida Board of Governors Regulation 6.011 require that all public institutions provide ombuds services to students. The Student Ombuds Office at USF is a confidential, impartial, informal, and independent resource for students experiencing challenges related to the university. Ombuds can help students safely explore options, clarify processes, and consider next steps. [Learn more or make an appointment at usf.edu/student-ombuds.](https://usf.edu/student-ombuds)