

Course & Section Nos.	EDSS 543B
Course Title	SECONDARY MATHEMATICS EDUCATION
Class Roster No.	#20912
Course Day(s)	Selected Thursdays
Time	5:00-8:00
Course Location	University Hall 439
Semester / Year	Spring 2018
Instructor	Anthony Matranga, Ph.D.
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Office Hours	By appointment

SCHOOL OF EDUCATION MISSION & VISION STATEMENT

(Adopted by SOE Governance Community, January 2013)

Vision

To serve the educational needs of local, regional, and global communities, the School of Education advances innovative practice and leadership by generating, embracing, and promoting equitable and creative solutions.

Mission

The mission of the School of Education community is to collaboratively transform education. We:

- Create community through partnerships
- Promote and foster social justice and educational equity
- Advance innovative, student-centered practices
- Inspire reflective teaching and learning
- Conduct purposeful research
- Serve the School, College, University, and Community

BASIC TENETS OF OUR CONCEPTUAL FRAMEWORK

- Student centered education
- Research and theory specific to the program field inform practice
- Connections and links between coursework and application
- Strong engagement between faculty and candidates
- Co-teaching clinical practice
- Culturally responsive pedagogy and socially just outcomes

COURSE DESCRIPTION

Focuses on developing an understanding of theory, methodology, and assessment of Mathematics in integrated and inclusive secondary classrooms: Part B.

Course Prerequisites

Admission to the Single Subject Credential Program and EDSS 543A.

Course Objectives

Learning to teach mathematics is a career-long inquiry. Thus, you must expect that this course, in concurrence with your clinical practice, will only begin your education in learning how to teach mathematics. In concordance with this challenge, this course is intentionally focused on developing professionals in the field of secondary mathematics education. The course is but one stage in what I hope will be a continuing evolution for you as a mathematics teacher; learning to teach mathematics well will be the work of your career.

Specifically, the foci of this course are to: (1) developing an understanding of current practices in teaching mathematics, best practices in teaching mathematics, and the ways in which these practices intersect and conflict; (2) learning to teach problem-solving; and (3) experiencing and practicing how to teach for mathematical understanding through engaging students in practices of a mathematician (CCSS-M SMPs).

Enfolded into this course will be learning about children's mathematical ways of thinking and operating, creating a classroom environment that promotes the investigation and growth of mathematical ideas, developing strategies to ensure the success of all students in multi-cultural, heterogeneous settings, consideration of curriculum development, and the ongoing formation of a personal theory of mathematics teaching and learning.

Unique Course Requirements

Observation and participation in the public schools, including collaborative planning with teachers.

Credit Hour Policy Statement

Per the University Credit Hour Policy, students are expected to spend a minimum of two hours outside of the classroom each week for each unit of credit engaged in learning.

REQUIRED TEXTS, MATERIALS AND ACCOUNTS

Ray, M. (2013). *Powerful Problem Solving: Activities for sense making with the Mathematical Practices*. Heinemann.

COURSE LEARNING OUTCOMES

Teacher Candidates will be required to complete the edTPA exam and complete critical assessment tasks- specific assignments for this course. It is the teacher candidates' responsibility to understand expectations and complete assignments by stated due dates.

Authorization to Teach English Learners

This credential program has been specifically designed to prepare teachers for the diversity of languages often encountered in California public school classrooms. The authorization to teach English learners is met through the infusion of content and experiences within the credential program, as well as additional coursework. Candidates successfully completing this program receive a credential with authorization to teach English learners. (*Approved by CCTC in SB 2042 Program Standards, August 02*)

Teacher Performance Expectation (TPE) Competencies

The course objectives, assignments, and assessments have been aligned with the CTC standards for Single Subject Credential. This course is designed to help teachers seeking a California teaching credential to develop the skills, knowledge, and attitudes necessary to assist schools and district in

implementing effective programs for all students. The successful candidate will be able to merge theory and practice in order to realize a comprehensive and extensive educational program for all students. You will be required to formally address the following TPEs in this course:

TPE	How assessed
<p>TPE 1B - Subject-Specific Pedagogical Skills for Single Subject Teaching Assignments <i>Understands and uses the state-adopted academic content standards</i> <i>Develops planning instruction that addresses the standards</i> <i>Consistently demonstrates the ability to teach to the standards</i></p>	Lesson Study Cycle
<p>TPE 2: Monitoring Student Learning During Instruction <i>Uses progress monitoring during instruction to inform instruction</i> <i>Pace and re-teach content based on assessment evidence</i> <i>Anticipate, check for and address common misunderstandings</i></p>	Lesson Study Cycle
<p>TPE 4: Making Content Accessible <i>States in every lesson plan the State standards</i> <i>Uses activities and materials that support stated objectives</i> <i>Uses multiple ways to reinforce the content of the standard</i> <i>Follows a logical, sequence of instruction in the lesson plan</i></p>	Lesson Study Cycle
<p>TPE 5 - Student Engagement <i>Ensures students understand the objective of the lesson</i> <i>Actively involves students with the lesson</i> <i>Uses a variety of strategies to involve the students and increase their understanding of the lessons objectives</i></p>	Lesson Study Cycle
<p>TPE 6c - Developmentally Appropriate Practices in Grades 9 -12 <i>Understanding important characteristics of the learners</i> <i>Designing instructional activities</i> <i>Providing developmentally appropriate educational experiences</i></p>	Lesson Study Cycle
<p>TPE 7 – Teaching English Learners <i>Applies pedagogy for comprehensive instruction of English learners</i> <i>Knows and can apply instruction for English Language development</i> <i>Draws upon information about students’ backgrounds to build new knowledge</i></p>	Lesson Study Cycle
<p>TEP 8 Learning about Students <i>Using formal and informal methods, they assess students’ prior mastery of academic language abilities, content knowledge, and skills.</i></p> <p><i>Through interpersonal interactions, they learn about students’ abilities, ideas, interests and aspirations.</i></p> <p><i>They understand how multiple factors, including gender and health, can influence students’ behavior.</i></p>	Lesson Study Cycle
<p>TPE 9 - Instructional Planning <i>Establishing academic learning goals</i> <i>Connecting academic content to the students backgrounds, needs, and abilities</i> <i>Selecting strategies/activities/materials/resources</i></p>	Lesson Study Cycle
<p>TPE 10 - Instructional Time <i>Appropriately allocates instructional time to maximize student achievement</i> <i>Effectively and efficiently maximizes instructional time through management based on reflection and consultation</i> <i>Adjusts the use of instruction time to optimize learning opportunities</i></p>	Lesson Study Cycle

Teacher Performance Assessment

Beginning July 1, 2008 all California credential candidates must successfully complete a state-approved Teacher Performance Assessment (TPA), as part of the credential program of preparation. During the 2015-16 academic year the CSUSM Single Subject credential program will use the edTPA (Educative Teacher Performance Assessment).

edTPA

Beginning in fall 2015, for newly entering initial candidates, the CSUSM assessment system is the edTPA. To assist with your successful completion of the edTPA, a capstone class is part of your curriculum. In this class edTPA related questions and logistical concerns are addressed.

Additional support materials are available on the edTPA website:

http://www.edtpa.com/PageView.aspx?f=GEN_Candidates.html

Additionally, to support your success in your credential program and with TPA, SOE classes use common pedagogical language, lesson plans (lesson designs), and unit plans (unit designs).

Expected Dispositions for the Education Profession

Education is a profession that has, at its core, certain dispositional attributes that must be acquired and developed. Teaching and working with learners of all ages requires not only specific content knowledge and pedagogical skills, but positive attitudes about multiple dimensions of the profession. The School of Education has identified six dispositions that must be evident in teacher candidates: social justice and equity, collaboration, critical thinking, professional ethics, reflective teaching and learning, and life-long learning. These dispositions have observable actions that will be assessed throughout the preparation program. For each dispositional element, there are three levels of performance - *unacceptable*, *initial target*, and *advanced target*. The description and rubric for the three levels of performance offer measurable behaviors and examples.

The assessment is designed to provide candidates with ongoing feedback for their growth in professional dispositions and includes a self-assessment by the candidate. The dispositions and rubric are presented, explained and assessed in one or more designated courses in each program as well as in clinical practice. Based upon assessment feedback candidates will compose a reflection that becomes part of the candidate's Teaching Performance Expectation portfolio. Candidates are expected to meet the level of *initial target* during the program

SCHEDULE/COURSE OUTLINE

Date	Topics/Activities*	Assignment to be completed by the specified date
Session 1 1/25 4:15-7:00	Course Introduction Lesson Study part A (Doing Math) <ul style="list-style-type: none"> • Understanding the problem 	<i>Weekly Journal (Due Sunday after session 1)</i>
Session 2 Group Meetings	Lesson Study part B (Lesson Planning) <ul style="list-style-type: none"> • Guess and Check • Solve a simpler problem 	Personalized project topics <i>Weekly Journal (Due Sunday after session 2)</i>
Session 3 2/8 5:00-8:30	Lesson Study part C (Teaching Demos) <ul style="list-style-type: none"> • Make a table • Look at cases 	<i>Solution to PoW #1 posted to google docs</i> <i>Weekly Journal (Due Sunday after session 3)</i>
Session 4 2/22 5:00-8:00	Lesson Study part D (Analyze Results) <ul style="list-style-type: none"> • Use logical reasoning • Change the representation 	<i>Provide feedback to your peers' work on PoW #1</i> <i>Weekly Journal (Due Sunday after session 4)</i>
Session 5 3/1 5:00-8:00	Lesson Study part A (Doing Math) <ul style="list-style-type: none"> • Make a mathematical model • Work backwards 	<i>Weekly Journal (Due Sunday after session 5)</i>
Session 6 Group Meetings	Lesson Study part B (Lesson Planning) <ul style="list-style-type: none"> • Plan and reflect • Get unstuck 	<i>Solution to PoW #2 posted to google docs</i> <i>Weekly Journal (Due Sunday after session 6)</i>
Session 7 3/15 5:00-8:00	Lesson Study part C (Teaching Demos) <ul style="list-style-type: none"> • Play • Wonder 	<i>Provide feedback to your peers' work on PoW #2</i> <i>Weekly Journal (Due Sunday after session 7)</i>
Session 8 4/5 5:00-8:00	Lesson Study part D (Analyze Results) <ul style="list-style-type: none"> • Putting it all together 	Personalized Project <i>Weekly Journal (Due Sunday after session 8)</i>
Session 9 4/19 5:00-8:00	Lesson Study part C (Group Presentations) <ul style="list-style-type: none"> • 	<i>Solution to PoW #3 posted to google docs</i> <i>Weekly Journal (Due Sunday after session 9)</i>
Session 10 5/10 5:00-8:00	Course reflection/Plans for moving forward	<i>Provide feedback to your peers' work on PoW #3</i>

**The above is a tentative schedule of assignments. Based on the issues that arise during the course, additional readings and resources will be provided.*

COURSE ASSIGNMENT DESCRIPTIONS

1. *Lesson Study Cycles (50%)* – You will participate in two lesson study cycles where you (a) do math with your peers and present your solution/learning to our class, (b) develop with your peers a lesson plan that uses the problem from part a, (c) teach the lesson to our class, (d) teach the lesson in your clinical practice, and then (e) debrief about the lesson and analyze student work with your peers during class. Deliverables for the lesson study will be:

- a. Evidence of solving the PoW multiple ways
- b. A research question
- c. Observation notes
- d. Planning/Instructional/Assessment Commentary (Each group will submit one of each)
- e. Analysis of student work and description of emerging categories in student thinking
- f. 1-2 page reflection that responds to your groups research question

2. *Personalized Project (20%)* – This assignment is designed to empower you as a teacher. Each site has its individual strengths and challenges. Others may impose what they believe you need but ultimately you are the one guiding 180 or more students throughout the year. In this assignment, you will find one area that is a challenge and come up with a plan to work towards making things better.

3. *Weekly Journal Entries (20%)*– Following each class session, you will write at least a 1 page (single spaced) reflection about your learning during the week. You will document at least 1 thing you learned, 1 thing that surprised you, and 1 thing you are still curious about.

4. *Online problem solving (10%)* – This term you will solve three challenging PoWs (Due wee 3, 6, and 9) post your solutions to google doc, and then provide feedback in google docs to two of your peers' work for each PoW.

Personalized Project

Task: Identify an aspect of your practice that you would like to improve upon. Research possible solutions and create a measurable action plan. Implement your plan, collect data and reflect.

Purpose: Each site poses its own challenges. There is an abundance of research that addresses how students learn and what you should do as an educator in various situations. Teaching is complex in that there are a variety of variables that define success. You will be exposed to many professional developments throughout your career however, knowing is different than doing. This is your opportunity to focus on one aspect of your practice and making a difference in something you believe is a crucial aspect of your teaching. We cannot be simply lifelong learners but rather lifelong doers.

Details: Identify an aspect of your practice that you would like to improve or change. Investigate the existing research (3-4 research articles) and come up with a plan.

Report: The report should be 2-3 pages with evidence supporting the progress toward your goal. This might include student work, pictures or data.

Grading: Worth 25 points, awarded for completion of the specifics of the task, and the quality of the response. A grade of **B** will be awarded for completing the task; an **A** for doing so exceptionally well, and a **C** for partial completion.

Grading Standards

According to the *CSUSM Course Catalog*, each grade means that student performance has been:

- A** at the highest level, showing sustained excellence in meeting all course objectives and exhibiting an unusual degree of intellectual initiative.
- B** at a high level, showing consistent and effective achievement in meeting course objectives.
- C** at an adequate level, meeting the basic objectives of the course.
- D** less than adequate, meeting only the minimum course requirements.
- F** such that minimum course requirements have not been met.

Final Exam Statement

There will be no final exam.

School of Education/Course Attendance Policy

Due to the dynamic and interactive nature of courses in the School of Education, all candidates (course participants) are expected to attend all classes and participate actively. At a minimum, candidates (course participants) must attend more than 80% of class time, or s/he may not receive a passing grade for the course at the discretion of the instructor. Individual instructors may adopt more stringent attendance requirements. Should the candidate (course participants) have extenuating circumstances, s/he should contact the instructor as soon as possible. (*Adopted by the COE Governance Community, December, 1997*).

You are expected to inform the instructor *prior* to an absence.

Policy on Late/Missed Work

Make *prior arrangements* with the instructor for work to be submitted late.

GENERAL CONSIDERATIONS

CSUSM Academic Honesty Policy

Students will be expected to adhere to standards of academic honesty and integrity, as outlined in the Student Academic Honesty Policy. All assignments must be original work, clear and error-free. All ideas/material that are borrowed from other sources must have appropriate references to the original sources. Any quoted material should give credit to the source and be punctuated accordingly.

Academic Honesty and Integrity: Students are responsible for honest completion and representation of their work. Your course catalog details the ethical standards and penalties for infractions. There will be zero tolerance for infractions. If you believe there has been an infraction by someone in the class, please bring it to the instructor's attention. The instructor reserves the right to discipline any student for academic dishonesty, in accordance with the general rules and regulations of the university. Disciplinary action may include the lowering of grades and/or the assignment of a failing grade for an exam, assignment, or the class as a whole.

Incidents of Academic Dishonesty will be reported to the Dean of Students. Sanctions at the University level may include suspension or expulsion from the University.

Refer to the full Academic Honesty Policy at:

http://www.csusm.edu/policies/active/documents/Academic_Honesty_Policy.html

Plagiarism

As an educator, it is expected that each candidate (course participant) will do his/her own work, and contribute equally to group projects and processes. Plagiarism or cheating is unacceptable under any circumstances. If you are in doubt about whether your work is paraphrased or plagiarized see the Plagiarism Prevention for Students website <http://library.csusm.edu/plagiarism/index.html>. If there are questions about academic honesty, please consult the University catalog.

Students with Disabilities Requiring Reasonable Accommodations

Students with disabilities who require reasonable accommodations must seek approval for services by providing appropriate and recent documentation to the Office of Disability Support Services (DSS). This office is in Craven Hall 4300, contact by phone at (760) 750-4905, or TTY (760) 750-4909. Students authorized by DSS to receive reasonable accommodations should meet with their instructor during office hours. Alternatively, in order to ensure confidentiality, in a more private setting.

All University Writing Requirement

All CSU students must demonstrate competency in writing skills as a requirement for graduation. At California State University San Marcos, students complete the graduation writing assessment through the All-University Writing Requirement. This requirement mandates that every course at the University must

have a writing component of at least 2,500 words (approximately 10 pages). The assignments for this course meet this requirement.

Electronic Communication Protocol

Electronic correspondence is a part of your professional interactions. If you need to contact the instructor, e-mail is often the easiest way to do so. It is my intention to respond to all received e-mails in a timely manner. Please be reminded that e-mail and on-line discussions are a very specific form of communication, with their own nuances and etiquette. For instance, electronic messages sent in all upper case (or lower case) letters, major typos, or slang, often communicate more than the sender originally intended. With that said, please be mindful of all e-mail and on-line discussion messages you send to your colleagues, to faculty members in the School of Education, or to persons within the greater educational community. All electronic messages should be crafted with professionalism and care.

Things to consider:

- Would I say in person what this electronic message specifically says?
- How could this message be misconstrued?
- Does this message represent my highest self?
- Am I sending this electronic message to avoid a face-to-face conversation?

In addition, if there is ever a concern with an electronic message sent to you, please talk with the author in person in order to correct any confusion.