



SCHOOL OF EDUCATION AND
COUNSELING PSYCHOLOGY

Department of Education
MATTC
EDUC 259B (3 units)
Elementary Mathematics Methods II
Winter 2019

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Course Meeting: **Wed 1:00- 4:00 pm**
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Mission and Goals of the Department of Education

Informed in the Jesuit tradition at Santa Clara University, the mission of the Department of Education is to prepare professionals of competence, conscience, and compassion who will promote the common good as they transform lives, schools, and communities. Core values of reflective practice, scholarship, diversity, ethical conduct, social justice, and collaboration guide both theory and practice.

Faculty, staff, and students in the Department of Education:

1. Make student learning our central focus
2. Engage continuously in reflective and scholarly practice
3. Value diversity
4. Become leaders who model ethical conduct and a commitment to social justice
5. Seek collaboration with others in reaching these goals

MS/SS Teaching Credential Program Learning Goals (PLGs)

PLGs represent our commitment to individuals who earn their MS/SS credential at Santa Clara University. The MS/SS faculty focus on ensuring each student will begin their teaching career ready to:

1. Maximize learning for every student.

2. Teach for student understanding.
3. Make evidence-based instructional decisions informed by student assessment data.
4. Improve your practice through critical reflection and collaboration.
5. Create productive, supportive learning environments.
6. Apply ethical principles to your professional decision-making

PLGs guide our program. Therefore, all MS/SS teaching credential program course objectives are cross-referenced with the PLGs. (A fully elaborated version of the MS/SS PLGs can be found in the Teacher Candidate Handbook, Pre-Service Pathway.)

Course Description

UC260 (Elementary Math Methods) course is Part 2 of a two-course sequence in elementary mathematics teaching methods. The sequence is designed to provide teacher candidates with a coherent set of experiences for mathematics teaching and learning in elementary schools. Through assigned readings, classroom discussions, content rich mathematics activities, and assignments that require data collection in your field placement, you will be supported as you make sense of how to approach the profession of teaching. Through examining classroom culture and structure, and evaluating, designing and implementing math lessons, we will support your growth as elementary mathematics teachers.

Course note: We will adhere to the syllabus as much as possible. However, we are sensitive to the needs of the class, therefore, the syllabus is subject to change.

Course Objectives

This course will develop students' knowledge of or skills with...	<i>Standard/Goals Addressed</i>		
	<i>DG #</i>	<i>PLG #</i>	<i>TPE #</i>
Examining knowledge, beliefs, and assumptions about mathematics, teaching, and students	2,4	4,6	6.2
Increasing knowledge of mathematics and mathematics pedagogy	2	1	3.1
Increasing theoretical knowledge and practical	1	1,2,3	

experience in planning, teaching, and assessing mathematics			1.5,1.8,2.2, 2.5,4.3,4.4,
Understanding the mathematical needs of a diverse range of students including language and funds of knowledge	1,3	1,2,5	1.1,1.6,3.2,
Understanding the complexities of diverse, multiply-ability classrooms while broadening your repertoire of teaching techniques	1,3	1,5	1.1,1.6,2.2 3.2,4.4
Learning how to modify existing curriculum to create mathematical learning experiences for students that have multiple entry points, multiply strategies, address language needs, and are relevant and relatable	1	1,2,5	1.6,1.8,2.5, 3.2
Learning from experiences in schools through informed reflection	2	4	6.1

G=Department Goals; PLG=Program Learning Goal; TPE=Teaching Performance Expectation Standard; TPA=Teaching Performance Assessment

This course is not designed to turn you into an expert mathematics teacher. Instead, it aims to help you become a “well-started novice”: a prospective teacher who has thought hard about some of the central questions in mathematics teaching; who has ideas about these questions that she or he can defend articulately; who knows a bit about the practical side of mathematics teaching and about resources available to teachers; and who has the skills, the confidence, and the curiosity to learn from teaching and from the other opportunities for learning that lie ahead.

Required Texts

Required readings will be posted on Camino. **All readings should be completed prior to each class meeting.**

Course Requirements/Assignments

	Course/Requirements/Assignments	Points	TPE Assessed
1	Well Remembered Event	20	6.2
2	Literature Based Math Lesson	80	1.5,1.8,3.1, 3.4, 4.3,6.2
3	Community Based Math Lesson	80	1.1, 1.3, 1.5,2.2, 3.1,4.4,6.1, 6.2
4	Discussion Posts related to Community Based Field Work	10	4.4,6.1
5	Task Analysis, Modification, and Anticipation	20	1.6,1.8,2.5, 3.2, 5.1, 5.2

Assignment 1: Well Remembered Event. This is a three-part paper that includes a description of a specific mathematics event; an account of why the mathematics event was memorable; and a section discussing what impact this mathematics event might have on your understanding of what it means to be a teacher.

Assignment 2: Literature Based Math Lesson. The purpose of this assignment is for students to learn how to use literature in mathematics lessons to teach mathematics concepts and to make connections in these two important content areas. Students learn h

Use high-quality literature to develop an integrated curriculum in mathematics to offer another strategy for helping students to develop their mathematical understanding.

Assignment 3: Signature Assignment: Community Based Math Lesson. The purpose of this assignment is to deepen your knowledge about mathematics teaching, your students, and the local community (or communities) that your school serves by closely examining and documenting mathematical resources that can be used for mathematics lesson planning purposes. The primary goals are to:

- to increase your knowledge of students' communities, including the knowledge and expertise of family and community members
- to reflect on what you learned about the community as a mathematical resource and how it might support your mathematics instruction.

Consider various ways to organize, represent and display authentic, real-world data that is gathered from your community investigations.

Assignment 4: Discussion Posts Related to Community Based Math Lesson. Discussions between students will focus on learning that occurred during the community visits.

Assignment 5: Task Analysis, Modification, and Anticipation. The purpose of this assignment is to learn how to adapt tasks in mathematics curriculum to have multiple entry points, multiple strategies, offer students to opportunity to share their thinking and support connections to students' family, cultural, or community knowledge and language.

Regular attendance at all class meetings is a requirement in this program. Ten points will be deducted from your final grade for the course for each class session you missed. Each of you will be granted one Emergency Release (ER) per course. Your ER excuses you from one class session with half the grade penalty (loss of 5 points instead of 10). To use your ER you must notify me by email or phone BEFORE class. Save your ER for medical issues, family demands, car trouble, etc.

Students will not be penalized for absences due to the observance of religious holidays that fall on our scheduled class day; please give advance notice of these absences so I can make the necessary accommodations. All other absences are unexcused and will affect your grade.

Punctuality. Coming to class (and returning from breaks) on time is another course requirement. Your first lateness will be excused. Your second lateness will cause 1 point to be deducted from your final course grade; your third lateness will cause an additional 4 points to be deducted. More than three late arrivals indicate a serious problem; this situation will be dealt with at the instructor's

cretion. Attendance and punctuality are the only policies with the immediate potential to impact your course grades. Your instructor through ongoing observation and documentation gathers data documenting your adherence to the remaining policies listed here.

If an instructor has reason to feel you are not meeting all the expectations spelled out below, s/he will contact you privately to discuss the issue, to clarify the expectations as needed, and to offer his/her support in helping you reach those expectations. If your instructor does not contact you with a concern, you can assume you are satisfying these requirements. However, if you would like specific feedback on your professional conduct during the quarter, you are welcome to contact your instructor at any time and s/he will be glad to share his/her assessment with you.

As we will read about and study in this course, everyone's learning is enhanced by the quantity and quality of the interactions in the learning environment. Hence, your participation in whole class discussions, group work and pair group is essential for the success of this course.

While a class is in session, you should not engage in any activity not directly related to what is taking place in the classroom. Instructors reserve the right to ask you to close your laptop or put away some other form of technology at their discretion; when/if they do, please respond quickly and without protest to avoid further disruption of the class's learning. Instructors also reserve the right to ignore your inappropriate use of technology in class and simply deduct points from your final grade. If you would like more detailed clarification about the expectations regarding appropriate and inappropriate in-class technology use, please feel free to contact your instructor for further information.

Assessments & Grading Criteria

All written and oral assignments must reflect graduate-level standards. As a future teacher, you must be able to model communication skills for your students.

Attendance and participation in all class meetings is required. If you are going to be absent from class, you must email or call me to inform me of your absence. You will still be responsible for all missed content and in-class work.

Letter grades are assigned on the standard scale based upon a possible total of 100 points.

	94-100	C+	77-79
	90-93	C	74-76
	87-89	C-	70-73
	84-86	D+	67-69
	80-83	D	63-66

Assignments done in partners/pairs, both partners will receive the same grade, unless otherwise stated.

Final grades will reflect students' contributions (e.g., attendance, class discussions, quality of presentation, ability to lead discussions, group work, completion and quality of course assignments), critical thinking and ability/degree to which student integrates theory, research, and practice.

All assignments are expected on their due dates in the room where our class meets. I cannot be responsible for papers submitted late, in other times or in other formats. Unless we have made special arrangements beforehand, late assignments will be docked 3 points for each day past the due date that they are submitted.

Canvas/Camino Course Management System

To access course materials and participate in On-line activities, please be sure to review Canvas (also known as Camino). Reminders, announcements, readings and assignment descriptions will be made available through this on-line course management system. Your SCU email address and password gets you access to Canvas.

Disability Accommodations Procedure

If you have a disability for which accommodations may be required in this class, please contact Disabilities Resources, Benson 216, at <http://www.scu.edu/disabilities> as soon as possible to discuss your needs and register for accommodations with the University. If you have already arranged accommodations through Disabilities Resources, please discuss them with me during my office hours. Students who have medical needs related to pregnancy may also be eligible for accommodations.

While I am happy to assist you, I am unable to provide accommodations until I have received verification from Disabilities Resources. The Disabilities Resources office will work with students and faculty to arrange proctored exams for students whose accommodations include double time for exams and/or assisted technology. (Students with approved accommodations of time-and-a-half should talk to me as soon as possible). Disabilities Resources must be contacted in advance to schedule proctored examinations or to arrange other accommodations. The Disabilities Resources office would be grateful for advance notice of at least two weeks. For more information, you may contact Disabilities Resources at 408-554-4109.

Accommodations for Pregnancy and Parenting

In alignment with Title IX of the Education Amendments of 1972, and with the California Education Code, Section 66281.7, Santa Clara University provides reasonable accommodations to students who are pregnant, have recently experienced childbirth, and/or have medically related needs. Pregnant and parenting students can often arrange accommodations by working directly with their instructors, supervisors, or departments. Alternatively, a pregnant or parenting student experiencing related medical conditions may request accommodations through Disability Resources.

Discrimination and Sexual Misconduct (Title IX)

Santa Clara University upholds a zero-tolerance policy for discrimination, harassment and sexual misconduct. If you (or someone you know) have experienced discrimination or harassment, including sexual assault, domestic/dating violence, or stalking, I encourage you to tell someone promptly. For more information, please consult the University's Gender-Based Discrimination and Sexual Misconduct Policy at <http://bit.ly/2ce1hBb> or contact the University's EEO and Title IX Coordinator, Belinda Guthrie, at 408-554-3043, guthrie@scu.edu. Reports may be submitted online through <https://www.scu.edu/osl/report/> or anonymously through Ethicspoint at <https://www.scu.edu/hr/quick-links/ethicspoint/>

Academic Integrity

Santa Clara University is committed to academic excellence and integrity. Students are expected to do their own work and to cite any sources they use. A student who is guilty of dishonest acts in an examination, paper, or other required work for a course, or who assists others in such acts, will receive a grade of F for the course. In addition, a student guilty of dishonest acts will be immediately dismissed from the University. Students that violate copyright laws, including those covering the copying of software programs, or who knowingly alter official academic records from this or any other institution, are subject to disciplinary action (ECP Graduate Bulletin, 2013-2014).

Course Outline & Class Schedule

**Course Plan Subject to Change*

Course Meeting	Course Topics	Course Readings	Course Assignments
Session 1 Jan 9th	Big Ideas Learning Objectives Lesson Plan Designs	Wiggins & McTighe. Understanding by Design. Chapter 1. Thinking Through the Lesson Plan (Stein & Smith)	Assignment: Well Remembered Event (WRE) Due Jan 15th by 11pm on Camino Assignment: Pick a picture book
Session 2 Jan 16th	Lesson Plan Designs Literature Based Math Lesson (LBML)	You will be assigned to read one of the following: Ducolon, C. (2000); Silverman et al. (2001); Young, E. and Marroquin, C. (2006); Whitin, 2008; Iliev & D'Angelo 2014; or Reynolds et al., 2006	Bring a hard copy or electronic copy of your WRE to class Bring to Class: Picture Book Assignment: Small group lesson implementation of literature based lesson plan
Session 3 Jan 23rd	Cognitive Demand Task Selection, Modification & Anticipation Lesson Plan Designs	Stein, M. K., Smith, M. S., Henningsen, M. A., & Silver, E. (2000). Implementing standards-based mathematics instruction. Book Reviews. New York: Teachers College	Bring to Class: Math Curriculum To be completed in class: Task modification/adaptation

Course Meeting	Course Topics	Course Readings	Course Assignments
	Literature Based Math Lesson	Press. Introduction and Chps 1 & 2.	<p>Due Jan 27th by 11pm: Small group literature based lesson plan draft</p> <p>Assignment: Have conversation with students about places they go in community</p>
Session 4 Jan 30th	Introduction to Community Based Math Lesson Part 1	Peterson, B. (2005). Teaching math across the curriculum You will be assigned another article (TBD) related to social justice and/or knowing your community.	Due in Class: Notes about places students go in community

Course Meeting	Course Topics	Course Readings	Course Assignments
Session 5 Feb 6th	Teaching for Social Justice - Getting to know your students & Their Communities Part 2	** We will not be meeting will be doing fieldwork – visiting community sites	Due Feb 12th by 11pm: Discussion posting and response to community based fieldwork in Camino. <i>Include two pictures with whole group at your two community sites. Pictures can be emailed.</i>
Session 6 Feb 13th	Teaching for Social Justice - Getting to know Your Students & Their Communities Part 3 Understanding Student Thinking: Fractions	Empson, S. (1995). Fractions. Equal Sharing – Student Strategies from Cognitively Guided Instruction	Due in Class: Literature Based Math Lesson Presentation Due February 17th Final Copy of Literature Based Lesson Plan and Individual Reflection Write Up on Camino

Course Meeting	Course Topics	Course Readings	Course Assignments
Session 7 Feb 20th	Task Launch Work time Community Based Math Lesson	Jackson et al. (2012). Launching Complex Tasks.	
Session 8 Feb 27th	Talk Moves Assessing Student Thinking – Evaluating Student Work and Giving Feedback, Rubrics Special Education in Mathematics	Chapin et al. (2003). The tools of classroom talk (Chapter 2). TD Chapter 5 - Building Assessment into Instruction. pp. 78-92. Black et al. (2004). <i>Working inside the black box.</i>	
Session 9 March 6th	Community Math Based Lesson Presentations		Due in Class: Community Based Math Lesson Presentation Due on Camino March 15th: Community Based Math Lesson Projects

Course Meeting	Course Topics	Course Readings	Course Assignments
			<p>Assignment: Bring math app(s) and or game(s)</p>
<p>Session 10 March 13th</p>	<p>Technology + Apps + Games Reflection</p>	<p>Gee, J. (2007). Good video games and good learning.</p>	<p>Due in class: Bring math app(s) and or game(s)</p>

