



SCHOOL OF EDUCATION AND  
COUNSELING PSYCHOLOGY

**Department of Education**  
**MATTC**  
**EDUC 287A (3 units)**  
**Secondary Mathematics Methods I (3 units)**  
**Fall 2023**

**Instructor:** Dr. Kathy Sun

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**Contact Information:** Guadalupe Hall #255; (408) 551-3499

**Office Hours:** Tuesdays, 4:00-5:00PM or by appointment

**Course Meeting Dates:** Tuesdays, 5-8pm, ESJ 111 & on Zoom

**Mission and Goals of the Department of Education**

Rooted 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. Our 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)*

The 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

The 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**

EDUC 287A (Secondary Math Methods I) course is Part 1 of a two-course sequence in secondary mathematics teaching methods. This sequence is designed to provide teacher candidates with a coherent set of experiences for

mathematics teaching and learning in secondary schools. This course focuses on supporting teachers to implement equity-based mathematics teaching strategies, to teach for mathematical sense making and a growth mindset, and to support diverse learners. 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. Additionally, through thinking about ourselves as teachers, examining classroom culture and structures, facilitating mathematical discussions, and assessing student work, we will set the stage for our development as secondary mathematics teachers.

### 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>	<i>MSSN TPE #</i>
1	Examining knowledge, beliefs, and assumptions about mathematics, teaching, and students, with particular attention to the impact language, culture, socio-economic status, and identified disabilities have had on mathematical learning opportunities.	2	4,6	(6.2)	
2	Increasing knowledge of mathematics content	1	1	(3.1)*	
3	Increasing theoretical knowledge and practical experience in planning, teaching, and assessing mathematics learning, with particular attention for how modify teaching to meet the needs of diverse learners while maintaining the cognitive demand of tasks.	1,3	1,2,3	1.3,1.5,1.8,2.5,3.2,3.3,4.4,4.7,5.2,5.3	2.4, 3.1, 4.2, 4.3, 4.5, 5.6
4	Understanding the mathematical needs of a diverse range of students and adopting an asset-based view of students and families, particularly from populations that have traditionally been positioned as low status in mathematics classrooms.	1,3	1,2,5	1.1,3.2	2.4, 3.1, 4.2, 4.3, 4.5
5	Understanding the complexities of diverse, multiple-ability classrooms while broadening your repertoire of teaching techniques to engage all students, including students with identified disabilities, in rich, complex, and multi-dimensional mathematics.	2,5	1,5	1.1,1.3,3.2	2.4, 3.1, 4.2, 4.3
6	Learning from experiences in schools through informed reflection	2,4	4	6.1	

* <b>DG</b> =Department Goals; <b>PLG</b> =Program Learning Goal; <b>TPE</b> =Teaching Performance Expectation Standard; <b>TPA</b> =Teaching Performance Assessment	
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\*TPEs in ( )s denotes precursor to previous course.

**Required Texts**

N/A

**Course Requirements/Assignments**

Distribution of points across assignments is as follows:

Major Assignments (80% of overall grade)		Points	TPE Assessed	MMSN TPE
1	Math Autobiography	10	6.1,6.2	4.3
2	Number Talk	60	1.3,1.5,1.8,2.5,3.2,3.3,4.4,4.7,5.2,5.3,6.1	3.1
3	Analysis of Teaching	30	1.1,1.3,1.6,2.2,3.4,3.5,4.1,6.1	2.4, 4.5
4	End of Course Reflection	10	6.1	

1. **Math Autobiography:** This assignment is to write a ‘math life story’ to reflect on your own experiences with mathematics as a student, and in life, and to think about how those experiences impacted your attitude towards mathematics as well as your understanding of mathematics. You will also reflect on how your own experiences may impact you work as a teacher with particular attention to how various aspects of your background (e.g., linguistic, cultural, racial, socio-economic, parental involvement, and/or identified disabilities) may have impacted your mathematical learning opportunities.

2. **Number Talk Assignment (Signature Assignment):** This assignment focuses on facilitate a series of Number Talks in your class. The purpose of the Number Talk is for you to learn how to orchestrate mathematical discussion in your classrooms. This will entail identifying appropriate problems, anticipating student responses, listening to students’ thinking, asking probing questions, and analyzing student strategies. In your reflection you will examine issues of status that were present (or not) while facilitating the Number Talk, with particular attention to student’s with identified disabilities.

3. **Analysis of Teaching Assignment:** The purpose of this assignment is to conduct an in-depth analysis of your instruction, with particular attention to student engagement and the types of questions and responses you are posing to your students. In this assignment you will reflect on issues of status that were present in the classroom, with particular attention to student’s who have traditionally been positioned as low status, such as English learners, students with identified disabilities. You will also examine instruction through the lens of Universal Design for Learning (UDL) and identify what resources are available to students with identified disabilities. You will then identify how you might modify instruction to address these status issues.

4. **End of Course Reflection:** This assignment requires you to reflect on key learnings from the course.

**Note: 20% of your overall grade consists of smaller weekly assignments.** These weekly assignments vary by week and can include assignments such as reading reflections, discussion posts, watching and commenting on videos, annotating documents, and evaluating/designing math tasks.

## **Assessments & Grading Criteria**

**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 me 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 discretion. 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 this occurs, 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.

**Note:** Points lost due to poor attendance and/or lack of punctuality will be deducted from your final grade. A student with excellent grades on assignments and other aspects of professional conduct can earn a poor course grade as a result of excessive absence or chronic lateness.

1. 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.
2. 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.
3. Letter grades are assigned on the standard scale based upon a possible total of 100 points.

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

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

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

6. All assignments are expected on their due dates in the room where our class meets. I cannot be responsible for papers submitted at 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.

### **Academic Integrity**

The Academic Integrity pledge is an expression of the University's commitment to fostering an understanding of—and commitment to—a culture of integrity at Santa Clara University. The Academic Integrity pledge, which applies to all students, states:

I am committed to being a person of integrity. I pledge, as a member of the Santa Clara University community, to abide by and uphold the standards of academic integrity contained in the Student Conduct Code.

Academic integrity is part of your intellectual, ethical, and professional development. I expect you to uphold the principles of this pledge for all work in this class. I will clarify expectations on academic integrity as needed for assignments and exams. If you have questions about what is appropriate on any assignment, please let me know before you hand in work. For more resources about ensuring academic integrity in your work, including the appropriate use of course sharing sites such as Chegg, see this site created by the SCU Library at <https://libguides.scu.edu/academic-integrity> or visit [www.scu.edu/academic-integrity](http://www.scu.edu/academic-integrity).

### **Discrimination, Harassment and Sexual Misconduct (Title IX)**

Santa Clara University is committed to providing all students with a safe learning environment free of all forms of discrimination, sexual harassment, and sexual violence.

Please know that as a faculty member, California law SB 493 requires me to report any information brought to my attention about incidents of sexual harassment or misconduct to the SCU [Equal Opportunity and Title IX Office](#) (408)

551-3043. This includes, but is not limited to, disclosures in writing assignments, class discussions, and one-on-one conversations.

Should you need support, SCU has dedicated staff trained to assist you in navigating campus resources, accessing health and counseling services, providing academic and housing accommodations, helping with legal protective orders, and filing a formal complaint with the University or with law enforcement. Please see the [Student Resources](#) page for more information about reporting options and resources.

If you or someone you know has experienced sexual harassment or sexual violence and wishes to speak to a **confidential** resource who is not required to report, please contact one of the following SCU resources for support:

- Bree Van Ness, [Assistant Director for Student Survivor Advocacy and Campus Support](#), SCU Wellness Center, 852 Market St, (408) 551-3307, [bvanness@scu.edu](mailto:bvanness@scu.edu)
- [SCU Wellness Center](#)
- [CAPS](#)
- Any individual (clergy, counselors) acting in a professional capacity for which confidentiality is mandated by law

I am happy to help connect you with any of these resources.

### **Accommodations for Pregnant and Parenting Students**

Santa Clara University does not discriminate against any student on the basis of pregnancy or related medical conditions. Absences due to medical conditions relating to pregnancy and childbirth will be excused for as long as deemed medically necessary by a student's doctor, and students will be given the opportunity to make up missed work. Students needing accommodations can often arrange accommodations by working directly with their instructors, supervisors, or departments. Students needing accommodations can also seek assistance with accommodations from the Office of Office of Accessible Education (OAE) or from the Office of Equal Opportunity and Title IX Office. The following link provides information for students and faculty regarding pregnancy rights. <https://www.scu.edu/title-ix/resources/pregnancy/pregnancy>.

### **Office of Accessible Education**

If you have a documented disability for which accommodations may be required in this class, please contact the Office of Accessible Education ([oae@scu.edu](mailto:oae@scu.edu), <http://www.scu.edu/oae>) as soon as possible to discuss your needs and register for accommodations with the University. If you have already arranged accommodations through OAE, please be sure to request your accommodations through your myOAE portal and discuss them with me during my office hours within the first two weeks of class.

To ensure fairness and consistency, individual faculty members are required to receive verification from the Office of Accessible Education before providing accommodations. OAE will work with students and faculty to arrange proctored exams for students whose accommodations include double time for exams and/or assistive technology. Students with approved accommodations of time-and-a-half should talk with me as soon as possible. The Office of Accessible Education must be contacted in advance (at least two weeks notice recommended) to schedule proctored examinations or to arrange other accommodations.

In light of shifting health advisories related to COVID-19, exams may be administered online. Students with approved testing accommodations should contact me (at least two weeks notice recommended) prior to an exam date to notify me of their intent to use their testing accommodations on the upcoming exam to ensure their accommodations are effectively implemented.

### **Safety Measures**

In order to meet our learning objectives, we will adhere to the highest standards for safety and mutual respect. I expect everyone to adhere to current university mask mandates at all times; to make their best attempt to make themselves heard when asking questions or contributing to discussions; and refrain from eating or drinking in class. It is expected that everyone will follow university guidelines about health and public safety measures outlined on the [Prepared SCU website](#).

### **Use of Classroom Recordings**

All online class meetings will be recorded and made available on Camino. As is stated in the Student Conduct Code: “...Dissemination or sharing of any classroom recording without the permission of the instructor would be considered “misuse” and, therefore, prohibited. Violations of these policies may result in disciplinary action by the University. At the instructor’s discretion, violations may also have an adverse effect on the student’s grade.”

### **Copyright Statement**

Materials in this course are protected by United States copyright laws. I am the copyright holder of the materials I create, including notes, handouts, slides, and videos. You may make copies of course materials for your own use and you may share the materials with other students enrolled in this course. You may not publicly distribute the course materials without my written permission.

### **Technology Support**

SCU can provide you with technology assistance, and you can also reach out to our providers directly for questions. For Camino (SCU’s branded instance of Canvas) support, contact [caminosupport@scu.edu](mailto:caminosupport@scu.edu) or call 408-551-3572. You can also use the help button within the Camino platform (on the left hand navigation) for 24/7 support via chat or phone with our vendor.

For Zoom assistance, contact Media Services at [mediaservices@scu.edu](mailto:mediaservices@scu.edu) or 408-554-4520. You can also get support from the [Zoom Help Center](#) website.

For SCU network and computing support, contact the SCU Technology Help Desk at [techdesk@scu.edu](mailto:techdesk@scu.edu) or 408-554-5700. They can provide support for MySCU Portal, Duo, eCampus, hardware and software issues, and more.

### **Respect for Diversity**

It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students’ learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, religion, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups. In addition, if any of our class meetings conflict with your religious events, please let me know so that we can make arrangements for you.

### **Gender Inclusive Language**

This course affirms people of all gender expressions and gender identities. If you go by a name different from what is on the class roster, please let me know. Using correct gender pronouns is important to me, so I encourage you to share your pronouns with me and correct me if I make a mistake. If you have any questions or concerns, please do not hesitate to contact me. For more on personal pronouns see [www.mypronouns.org](http://www.mypronouns.org)

### **Wellness Statement and Mental Health Resources**

I know you will do the best you can in this class (and all of your classes); however, it should never be at the expense of your own mental health, physical health, and/or well-being. Jesuit education is grounded in cura personalis, concern for the whole person—mind, body, and spirit. What does this mean for you? Be kind to others, and more importantly, be kind to yourself. Attend to your sleep (quantity and quality); drink lots of water; move; get outside; and pay attention to beauty that isn't coming to you on a screen. Eat good food; laugh; enjoy friends and family; look for opportunities to connect with others in new ways; pray, meditate, or otherwise attend to your spirit. And ask for help, even if you don't think you need it. Lots of folks, including me, are here to support you. It's never too late to reach out, and I am committed to helping you.

SCU has many resources and programs to support you. These resources may be especially helpful:

**Wellness Center:** <https://www.scu.edu/wellness/>

The Wellness center provides resources to aid and promote student well-being across the eight dimensions of wellness, including student peer groups for healthful living, violence prevention, and recovery.

**CAPS:** <https://www.scu.edu/cowell/counseling-and-psychological-services-caps/>

Santa Clara students are provided confidential counseling sessions at no cost through Counseling and Psychological Services (CAPS). Students have access to clinically appropriate, short-term therapy; group therapy; and other resources for care. A new 24/7 support line is also available: **408-554-5220**.

**SCU Culture of Care:** <https://www.scu.edu/osl/culture-of-care/>

If you are concerned for the mental or physical welfare of one of your peers, the [Office of Student Life Culture of Care](#) website provides resources for recognizing and helping someone in distress.

### **Academic Resources**

SCU has multiple options for free academic tutoring so students can make appointments to discuss work in a range of courses:

- [Drahmann Tutoring](#) (Numerous courses in the College of Arts & Sciences including Natural Sciences, Modern Languages, Economics, and Computer Science)
- [The HUB Writing Center](#) (Writing and Public Speaking)
- [Mathematics Learning Center](#) (MATH 4, 6, 8, 11-14, 30-31, 35-36, 51, 53)

### **Land Acknowledgment**

Santa Clara University occupies the unceded ancestral homeland of the Ohlone and Muwekma Ohlone people.

### Course Outline & Class Schedule

*\*Course Plan Subject to Change*

Course Meeting	Course Topics	Course Readings	Course Assignments
Session 1 9/19	Introduction: Teaching and Learning Math for Equity and Access	<ul style="list-style-type: none"> <li>• TODOS. (2020). Centering Our Humanity: Addressing Social and Emotional Needs in Schools and Mathematics Classrooms.</li> <li>• TODOS. (2020). The mo(ve)ment to prioritize antiracist mathematics: Planning for this and every school year [Position statement].</li> </ul>	<b>Assignment:</b> Math Autobiography
Session 2 9/26	What is mathematical proficiency?  Norms to support mathematical proficiency	<ul style="list-style-type: none"> <li>• Kilpatrick, J., Swafford, J., &amp; Findell, B. (Eds.). (2001). <i>Adding it up: Helping children learn mathematics</i>. Read Selected pages (115-135).</li> <li>• Common Core Standards for Mathematical Practice (2010). (pp. 6-8)</li> </ul>	<b>DUE Monday 9/25:</b> Math Autobiography

		Optional: Boaler, J. (2015). <i>What's Math Got to Do with It?: How Parents and Teachers Can Help Children Learn to Love Their Least Favorite Subject</i> . Penguin. [Chapter 1- What is Math?]	
Session 3 10/3	Listening to Student Thinking	<ul style="list-style-type: none"> <li>• Skinner, Louie, Baldinger. (2019). Learning to see students' mathematical strengths.</li> <li>• Shifter, D. (2001). Learning to see the invisible. What skills and knowledge are needed in order to engage with students' mathematical ideas? In T. Wood &amp; B. Scott Nelson &amp; J. Warfield (Eds.), <i>Beyond classical pedagogy: Teaching elementary mathematics</i>. Mahwah, NJ: Lawrence Erlbaum Associates (pp. 109-134).</li> </ul>	
Session 4 10/10	Exploring Number Sense and Number Talks	<ul style="list-style-type: none"> <li>• Boaler, J. (2015). Fluency without fear.</li> <li>• Reinhart, S. (2000). Never say anything a kid can say! <i>Mathematics teaching in the middle school</i>, 5(8), 478.</li> </ul>	<b>Assignment:</b> Number Talk
Session 5 10/17 Asynchronous	Teaching in Diverse Classrooms Part 1 - ELs & "Creative Insubordination"	<ul style="list-style-type: none"> <li>• Moschkovich, J. (2013). Principles and Guidelines for Equitable Mathematics Teaching Practices and Materials for English Language Learners.</li> <li>• Gutierrez. (2016). Strategies for Creative Insubordination</li> </ul>	

<p>Session 6 10/24</p>	<p>Teaching in Diverse Classrooms Part 2 - Status Competence &amp; Dis/ability</p>	<ul style="list-style-type: none"> <li>● Universal Design Framework: <a href="https://udlguidelines.cast.org/">https://udlguidelines.cast.org/</a></li> <li>● Boaler &amp; LaMar (2019). <a href="https://time.com/5539300/learning-disabilities-special-education-math-teachers-parents-students/">https://time.com/5539300/learning-disabilities-special-education-math-teachers-parents-students/</a></li> <li>● Hunt, J.H., &amp; Andreasen, J.A. (2011). Beyond accommodations: Universal design for learning in mathematics. <i>Mathematics Teaching in the Middle School</i>, 17(3),166- 173.</li> </ul> <p>Optional: Cohen, E. &amp; Lotan, R. (1999). Complex instruction: Equity in cooperative learning classrooms.</p>	
<p>Session 7 10/31 Asynchronous</p>	<p>Teaching in Diverse Classrooms Part 3 – Dis/ability &amp; Culturally relevant math teaching</p>	<ul style="list-style-type: none"> <li>● Jones, S. (2016). <a href="#">Culturally Relevant Pedagogy in Mathematics: A Critical Need</a>. TedX Talk.</li> <li>● Allen, K. &amp; Schnell, K. (2016). Developing mathematical identities. <i>Mathematics Teaching in the Middle Schools</i>. 21(7). 398-405.</li> </ul>	
<p>Session 8 11/7</p>	<p>Big Ideas and Learning Objectives</p> <p>What is formative assessment? Part 1</p>	<ul style="list-style-type: none"> <li>● Black, P., Harrison, C. Lee, C., Marshall, B. &amp; Wiliam, D. (2004). Working inside the black box: Assessment for learning in the classroom.</li> </ul> <p>OPTIONAL: Wiggins, G. P., &amp; McTighe, J. (2005). <i>Understanding by Design</i>. Introduction and Ch 1.</p>	<p><b>DUE Monday 11/6:</b> Number Talk Assignment Final Write Up</p> <p><b>Assignment:</b> Analysis of Teaching</p>

Session 9 11/14 Asynchronous	What is formative assessment? Part 2	<ul style="list-style-type: none"> <li>Herbel-Eisenmann &amp; Breyfoyle – Questioning our pattern of questioning (2005)</li> </ul>	
Session 10 11/28	Selecting and Modifying Tasks	<ul style="list-style-type: none"> <li>Stein, M. K., Smith, M. S., Henningsen, M. A., &amp; Silver, E. (2000). Implementing standards-based mathematics instruction. (Cognitive Demand) Introduction and Ch 1&amp;2.</li> </ul>	<b>DUE Friday 12/8/23</b> – Analysis of Teaching Assignment Final

