



**Santa Clara
University**

Department of Education
EDUC 242 Intervention & Planning
Fall 2007

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Day and time: Tuesday 5pm – 8pm

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Office hours: after class & by appointment
Classroom: Bannon Hall 309

Course Description

The general goal is for candidates to learn effective instructional methods in the domain of mathematics for students with mild/moderate disabilities. Class includes a 6-week tutorial with one or more students and provides 3 quarter units of academic credit.

Required Readings: (available at SCU bookstore)

Van de Walle, John A. (2006). *Elementary and Middle School Mathematics: Teaching Developmentally* (6th edition). Boston, MA: Pearson Education, Inc. (abbreviated as TD in syllabus)

Bley, Nancy S. & Thornton, Carol A. (2001). *Teaching Mathematics to Students with Learning Disabilities* (4th edition). Austin, TX: PRO-ED, Inc. (abbreviated as BT in syllabus)

Internet resources: (please download)

California Mathematics Framework <http://www.cde.ca.gov/ci/cr/cf/allfwks.asp>

California Content Standards in Mathematics <http://www.cde.ca.gov/be/st/ss/index.asp>

California Commission on Teacher Credentialing Level 1 Standards addressed:

Common: Core: ELL: 13B

Teacher Performance Expectations (TPE) Competencies:

Primary Emphasis:

TPE 1a- Subject Specific Pedagogical Skills for MS Teaching (Mathematics)

TPE 3 – Interpretation and Use of Assessment / TPE 8 – Learning about Students

TPE 9 – Instructional Planning

Secondary Emphasis:

TPE 2 – Monitoring Student Learning During Instruction

TPE 4 – Making Content Accessible

TEP 5 – Student Engagement

Course Objectives:

1. The student will consider one's own experiences, feelings, and beliefs about mathematics to both traditional and reform ideas of what it means to "know," "do," and understand concepts in mathematics.
2. The student will develop an understanding of how children learn mathematics. Assessment tasks will be used to construct an understanding of children's thinking, and to consider issues such as "What is a good mathematical task?" "What strategies do students often use?" and "How do those strategies progress over time?"
3. The student will plan and provide assessment and instruction in mathematics for one or more students based on current level of academic, social, emotional, intellectual and physical functioning, in consideration of grade-appropriate developmental standards and the student's (or students') initial learning profile.
4. The student will demonstrate the ability to teach using a variety of clinical teaching methods and intervention strategies. Essential questions to consider are as follows. What are the roles of the teacher (regular and special education) in a math classroom? How can we promote discussion in the classroom? How can general and special education teachers adjust their instruction to meet the needs of a diverse group of learners?
5. The student will develop an understanding of how technology can monitor students' mathematical progress and to make instructional decisions based on software output showing classroom summary statistics. Essential questions include, "How can we monitor progress over time to infer when a teacher needs to change instruction for a given child?" "Who in the general classroom is at risk for failure in mathematics?" "What does the construct, response to intervention, mean and used in IDEA?"
6. The student will demonstrate an understanding of multiple assessment models, including both process and product measures, and of both basic and higher levels of critical thinking. Essential questions include, "How can we build assessment of children's thinking into instruction?"

Course Requirements:

1. **Attendance and participation** (15% of the course grade). Because we are providing tutorial services in mathematics to children from the community (10/09, 10/16, 10/23, 10/30, 11/06, 11/13), professional attire and punctual arrival is a requirement, not an option. Students who miss one class will be dropped from the class roster

immediately¹, result in a grade of “NR” for the course, and are required to repeat the course next year. The quality and frequency of your participation may impact your final grade.

2. **Readings and Reflection** (15% of the course grades) are due at the beginning of each class. Turn in a legible, SHORT reflection demonstrating interpretation of 3-5 major concepts, or to answer assigned questions. Responses must include reference to concepts/principles presented in the readings. These entries are graded “pass/fail” and returned to students at the next class. There will be a total of 5 reflections.
3. **Lesson planning and reflection** (50% of the grade) to the class. For each day you see the child (ren) you will: (1) Email a lesson or assessment plan to the course instructor by 5 pm **the day before** you teach the session. (2) **Before your next session**, email the following: (a) data showing the outcome of the session and (b) tell what you would have done differently if you had an opportunity to do the lesson over again. If your student is absent, you will observe a peer and email a reflection.
4. **Parent report and student binder** (10%) are due November 27th. Include assessments, lessons, sample activities, and the parent report.
5. **Final exam** (10%). You will complete an oral, small group exam during the final week of the course. A pool of questions will be provided in advance.

Grading follows the usual standards of grading in graduate courses in the Division of Counseling Psychology and Education at Santa Clara University. The final grade is based on the overall judgment of the instructor, and reflection on the extent to which course competencies have been met. All assignments must be completed to receive a passing grade. Scale: A+ = 99-100%, A = 93-98%, A- = 90-92%, B+ = 88-89%, B= 82-87%.

¹ Real emergencies are considered legitimate exceptions. These include serious injury, illness, and the like to oneself or an immediate family member. Flat tires, bad traffic, colds, etc. are not.

Course schedule:

#1-Sept 18: **Course Introduction; Rethinking Mathematics Learning**
No assigned readings, we will cover TD chapter 1 and BT chapter 1

#2-Sept 25: **Children's Early/Informal Problem Solving Strategies & assessment**
Readings: TD: Chapter 9, Early Number Concepts and Number Sense
BT – Chapter 5: Developing number sense: number and place value

#3- Oct 2: **Teaching Mathematics through Problem solving**
Readings: TD Chapters 2-4 (pp12-59) and BT Chapter 2

Schedule for the next 6 classes: 5:00 – 6:00 pm math tutorial 6:15 – 8:00 pm lecture

#4-Oct 9: **Lesson Planning/Differentiated Instruction**
Readings: TD – Chapter 5: Planning in the problem based classroom
TD – Chapter 7: Teaching mathematics equitably to all children
BT – Chapter 3: Mathematics, computers and students with LD

#5-Oct 16: **Children's Thinking – Addition and Subtraction**
Readings: TD – Chapter 10: Developing meaning for the operations (pp. 143-151)
TD – Chapter 11: Helping children master the basic facts (pp. 165-177)
BT – Chapter 9: The four operations: Learning and using the basic facts (pp. 369-394)

#6-Oct 23: **Children's Thinking – Multiplication and Division**
Readings: TD – Chapter 10: Developing meaning for the operations (pp. 152-162)
TD- Chapter 11: Helping children master the basic facts (pp. 177-185)
BT – Chapter 9: The four operations: Learning and using the basic facts (pp. 395-408)
Journal Articles:
Garrison, *Making NCTM's standards work for Emergent English Speakers*
Licón Khisty, *Mathematics Learning and the Latino Student: Suggestions for Research from Classroom Practice*

#7-Oct 30: **Children's Thinking – Base-Ten Concepts/Algorithms**
Readings: TD – Chapter 12: Whole number place value development (pp. 187-201)
TD – Chapter 13: Strategies for whole number computation
BT – Chapter 6: Concepts and computation of whole numbers (pp. 203-280)

#8-Nov 6: **Teaching & Learning Fractions**
Readings: TD – Chapter 16: Developing fraction concepts

TD – Chapter 17: Computation with fractions
BT – Chapter 7: Rational numbers – early concept work with fractions and decimals (pp. 281-312)

#9-Nov 13: Teaching & Learning Algebra, Curriculum-based Measurement

Readings: TD – Chapter 15: Algebraic Reasoning
BT – Chapter 10: Hard to learn upper grade topics

Journal Articles:

Bresser, *Helping English-Language Learners develop computational fluency*

Torres-Velasquez, *Culturally responsive mathematics teaching and ELLs*

#10-Nov 27: Assessment/Geometry

Parent Report/Student Binder due

Readings: TD – Chapter 6: Building assessment into instruction
TD – Chapter 21: Geometric thinking and geometric concepts