CALIFORNIA STATE UNIVERSITY, SAN MARCOS
COLLEGE OF EDUCATION

EDMS 543B : Mathematics Education in Elementary Schools (3 Units)
CRN 40522
Wednesday: 1:00 PM – 3:45 PM (UH237)
Fall 2008

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College of Education Mission Statement

The mission of the College of Education Community is to collaboratively transform public education by preparing thoughtful educators and advancing professional practices. We are committed to diversity, educational equity, and social justice, exemplified through reflective teaching, life-long learning, innovative research and on-going service. Our practices demonstrate a commitment to student-centered education, diversity, collaboration, professionalism, and shared governance. *(Adopted by COE Governance Community, October, 1997).*

COURSE DESCRIPTION

This course focuses on how children develop mathematical understanding; children's mathematical thinking; curriculum development; methods, materials, planning, organization and assessment in various elementary school curricula; and curriculum integration. Methods of cross-cultural language and academic development are integrated into the course.

Course Prerequisites

1. Semesters 1 and 2 of Integrated Bachelor of Arts and Multiple Subject Credential Program and consent of Program Coordinator.

Course Objectives

1. Using reflective writings, teacher candidates will provide ongoing evidence of good depth of understanding as well as application to the classroom, of chosen ideas from weekly assigned readings.

2. Using the interview process to apply the pedagogical content knowledge that is being learned in the course, teacher candidates will improve their use of inquiry for assessment purposes by focusing on students' thinking about mathematics to better understand elementary level students with different understandings.

3. By merging theory and practice in order to enable their future students to understand a mathematical topic and make connections among ideas related to this topic, teacher candidates will participate in the design, construction, and presentation of a reform-minded mathematical activity that focuses on students' mathematical thinking.

4. By compiling an effective list of resources on a predetermined math topic, teacher candidates will demonstrate evidence that they are able to provide students with access to a balanced and comprehensive mathematics curriculum that promotes and enhances student learning and understanding, and provides conceptual understanding of the logic and structure of mathematics, problem-solving skills, and computational and procedural skills.

5. By reflecting on and weaving what has been learned in the course during the semester regarding mathematics standards, reform-minded mathematics ideas, constructivist teaching and learning methods which enhance how

children think and problem solve, teacher candidates will analyze the curriculum that is currently being implemented in their practicum classroom.

Unique Course Requirements

Students will be required to have access to children in a grade K-5 for the purpose of conducting a series of math interviews to learn about how children think and problem solve.

Required Texts

- Van de Walle, J. A. (2007). *Elementary and middle school mathematics: Teaching developmentally* (6th ed). Boston: Pearson Education, Inc.
  ISBN: 0-205-48392-5
  The text has a companion Web site (under construction):
  http://www.ablongman.com/vandewalle6e

- California Department of Education (2000). *Mathematics framework for California public schools, kindergarten through grade twelve* (2000 Revised Ed.). Sacramento, CA: Author. This document can be found on the WWW at: http://www.cde.ca.gov/ci/ma/cf/documents/mathfrwkcomplete.pdf. The Web site contains a downloadable PDF file. There are also copies in the library for checkout.

- Turnbull, A., Turnbull, R., & Wehmeyer, M. (2007). *Exceptional lives: Special education in today's schools.* (5th ed). Pearson/Merrill Prentice Hall. ISBN: 0-13-170869-4.

Recommended Text:

- Choate, J. S. (2000) *Successful Inclusive Teaching (4th ed.).* Needham, MA: Allyn & Bacon.

You will need to access the following Web sites and materials for this course.

- National Council of Teachers of Mathematics (2000). *Principles and standards for school mathematics*. Reston, VA: Author. This document can be found at: http://www.nctm.org/

- Star Test Blueprints for Standards Items (grades 2-7)
  http://www.cde.ca.gov/ta/tg/sr/documents/math1105.doc

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. Students successfully completing this program receive a credential with authorization to teach English learners.
(Approved by CCTC in SB 2042 Program Standards, August 02)

SB 2042 - AUTHORIZATION TO TEACH ENGLISH LEARNERS COMPETENCIES

PART 1: LANGUAGE STRUCTURE AND FIRST- AND SECOND-LANGUAGE DEVELOPMENT	PART 2: METHODOLOGY OF BILINGUAL, ENGLISH LANGUAGE DEVELOPMENT, AND CONTENT INSTRUCTION	PART 3: CULTURE AND CULTURAL DIVERSITY
I. Language Structure and Use: Universals and Differences (including the structure of English)	**I. Theories and Methods of Bilingual Education**	**I. The Nature of Culture**
A. The sound systems of language (phonology)	**A.** Foundations	**A.** Definitions of culture
B. Word formation (morphology)	**B.** Organizational models: What works for whom?	**B.** Perceptions of culture
C. Syntax	**C.** Instructional strategies	**C.** Intra-group differences (e.g., ethnicity, race, generations, and micro-cultures)
D. Word meaning (semantics)	**II. Theories and Methods for Instruction In and Through English**	**D.** Physical geography and its effects on culture
E. Language in context	**A.** Teacher delivery for <u>both</u> English language development <u>and</u> content instruction	**E.** Cultural congruence
F. Written discourse	**B.** Approaches with a focus on English language development	**II. Manifestations of Culture: Learning About Students**
G. Oral discourse	**C.** Approaches with a focus on content area instruction (specially designed academic instruction delivered in English)	**A.** What teachers should learn about their students
H. Nonverbal communication	**D.** Working with paraprofessionals	**B.** How teachers can learn about their students
I. Language Change		**C.** How teachers can use what they learn about their students (culturally responsive pedagogy)
II. Theories and Factors in First- and Second-Language Development	**III. Language and Content Area Assessment**	**III. Cultural Contact**
A. Historical and current theories and models of language analysis that have implications for second-language development and pedagogy	**A.** Purpose	**A.** Concepts of cultural contact
B. Psychological factors affecting first- and second-language development	**B.** Methods	**B.** Stages of individual cultural contact
C. Socio-cultural factors affecting first- and second-language development	**C.** State mandates	**C.** The dynamics of prejudice
D. Pedagogical factors affecting first- and second-language development	**D.** Limitations of assessment	**D.** Strategies for conflict resolution
E. Political factors affecting first- and second-language development	**E.** Technical concepts	**IV. Cultural Diversity in U.S. and CA**
		A. Historical perspectives
		B. Demography
		C. Migration and immigration

Teacher Performance Expectation (TPE) Competencies

The course objectives, assignments, and assessments have been aligned with the CTC standards for Multiple 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.

California Teacher Performance Assessment (CalTPA)

Beginning July 1, 2008 all California credential candidates must successfully complete a state-approved system of teacher performance assessment (TPA), to be embedded in the credential program of preparation. At CSUSM this assessment system is called the CalTPA or the TPA for short.

To assist your successful completion of the TPA a series of informational seminars are offered over the course of the program. TPA related questions and logistical concerns are to be addressed during the seminars. Your attendance to TPA seminars will greatly contribute to your success on the assessment.

Additionally, COE classes use common pedagogical language, lesson plans (lesson designs), and unit plans (unit designs) in order to support and ensure your success on the TPA and more importantly in your credential program.

The CalTPA Candidate Handbook, TPA seminar schedule, and other TPA support materials can be found on the COE website provided at the website provided: http://lynx.csusm.edu/coe/CalTPA/CalTPAdocuments.asp

College of Education Attendance Policy

Due to the dynamic and interactive nature of courses in the College of Education, all students are expected to attend all classes and participate actively. At a minimum, students 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. *(Adopted by the COE Governance Community, December, 1997).*
Should the student have extenuating circumstances, s/he should contact the instructor prior to the day and time of the class to discuss alternative assignment/makeup arrangements.

Students with Disabilities Requiring Reasonable Accommodations

Students with disabilities who require reasonable accommodations must be approved for services by providing appropriate and recent documentation to the Office of Disable Student Services (DSS). This office is located in Craven Hall 5205, and can be contacted 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 or, 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 Cal State 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 writing requirement for this course will be met through weekly writings, student interview reflections, the creation of a lesson plan and mathematical resources, and the curriculum analysis assignment.*

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 written work and oral presentation assignments must be original work. All ideas/materials 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 with quotation marks.

Students are responsible for honest completion of their work including examinations. There will be no 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.

Plagiarism:

As an educator, it is expected that each student 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.

Use of Technology:

Students are expected to demonstrate competency in the use of various forms of technology (i.e. word processing, electronic mail, WebCT6, use of the Internet, and/or multimedia presentations). Specific requirements for course assignments with regard to technology are at the discretion of the instructor. Keep a digital copy of all assignments for use in your teaching portfolio. All assignments will be submitted online, and some will be submitted in hard copy as well. Details will be given in class.

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 College 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.

Grading Standards

Grading Policy

1. Students will come prepared to class with readings and homework assignments as listed on course schedule.

2. All required work is expected to be on time. One grade level will be deducted for each class meeting for which it is late (e.g., an "A" assignment that is submitted one class session late will be marked down to a "B"). Unless prior instructor approval is secured, assignments will not be accepted three class sessions after which they are due. Exceptions will be handled on a case-by-case basis, as determined by the instructor.

3. Students will use Ariel or Times Roman 11 point fonts on all written work. It is expected that students will proofread and edit their assignments prior to submission. Students will ensure that the text is error-free (grammar, spelling), and ideas are logically and concisely presented. The assignment's grade will be negatively affected as a result of this oversight. Each written assignment will be graded approximately 80% on content and context (detail, logic, synthesis of information, depth of analysis, etc.), and 20% on mechanics (grammar, syntax, spelling, format, uniformity of citation, etc.). All citations, where appropriate, will use American Psychological Association (APA) format. Consult American Psychological Association (APA) Manual, 5th edition for citation guidance. There is a requirement of at least 2500 written words for completion of the written assignments.

4. Grading will also include a component of "professional disposition." Students will conduct themselves in ways that are generally expected of those who are entering the education profession. This includes but is not limited to:

    - On-time arrival to all class sessions with regular attendance;
    - Advance preparation of readings and timely submission of assignments;
    - Respectful participation in all settings (e.g., whole group, small group, in/outside of class);
    - Carefully considered, culturally aware approaches to solution-finding.

Grading Scale

Note: If you do not earn a B- or higher in this course - you must repeat the course to earn your credential.

A= 93 – 100	A-= 90-92	
B+= 86-89	B= 83-85	B-= 80-82
C+= 77-79	C= 73-76	C-= 70-72
D= 60-69		
F= 59 or Lower		

Grading Profiles

Exemplary "A" Students:

- Demonstrate serious commitment to their learning, making full use of the learning opportunities available and searching out the implications of their learning for future use.
- Complete all assignments thoroughly and thoughtfully toward the goal of developing in-depth math projects.
- Make insightful connections between all assignments and their developing overall understanding of mathematical concepts; they continually question and examine concepts in a genuine spirit of inquiry.
- Students show a high level of achievement of course goals.

"B" Students:

- Simply comply with the course requirements and expectations.
- Complete all assignments, usually thoroughly and thoughtfully.
- Usually connect assignments to their developing overall understanding of mathematical concepts; may be satisfied with accepting their learning as it is received without deeply examining concepts or seeking a higher level of understanding.
- Students show reasonable achievement of course goals.

"C" Students:

- Demonstrate an inconsistent level of compliance to course requirements and expectations.
- Complete all assignments with limited thoroughness and thoughtfulness.
- Make limited connections between assignments and their developing overall understanding of mathematical concepts; may not be open to examining concepts on a deeper level and may actually dismiss the importance of such inquiry.
- Attempt, but show limited progress in achieving course goals.

Assignments Grade Weights:

Note: Assignments are due whether or not you are present in class that day.

• Participation and Disposition	10 points
• Mathematics Assessments	25 points
• Mathematics Lesson Design	30 points
• California Frameworks Research Assignment	10 points
• Reflections	25 points
• Mathematics Lesson Design	30 points
Total	100 points

Course Assignment Description

Participation and Disposition (10 points) - You are expected to actively participate in discussions, group work, presentations, and hands-on activities throughout the course. A positive professional disposition includes a willingness to consider and discuss new ideas objectively, curiosity, perseverance, and seriousness about improving one's self as a teacher. It can also include a sense of humor and social intelligence (e.g., the tact and ability to make others feel comfortable and to contribute).

Reflections (25 points) - You write write weekly reflections. For each of week's reading assignment, you will need to write a "meaningful" one-page reflection on the chapters/articles assigned to be read for that week. These reflections must clearly articulate your thoughts on the articles. You are encouraged to make some connections with your teaching/learning experience and your field experience (e.g., your observation of elementary school classroom activities). You can also raise questions for discussion and/or discuss how you might specifically apply what you learned from the readings as a teacher in the classroom. Do not repeat verbatim from the readings.

California Frameworks Research Assignment (10 points). The class will form groups of 3 members, and each group will be assigned one of the following strands of the Califronia Mathematics Standards: (1) place value, (2) whole-number computation, (3) fractions, (4) rational numbers, (5) measurement & geometry, (6) data analysis & probability, and (7) algebra. Each group will use a prompt provided in class to research their strand of the

mathematics Standards and Frameworks. Each group will prepare a ten minute oral presentation with visuals and a one page handout for the entire class.

Mathematics Lesson Design (30 points) - The purpose of this assignment is to help you learn how to design effective mathematical activities and lessons and to provide an opportunity for you to practice teaching mathematics. Working in small groups of 3 members, your team will design (using the TPA Lesson Design model) one standard-based lesson addressing both California Mathematics and Writing standards (approximately 40 minutes) that you will present in an elementary school mathematics class. The same lesson plan will also be submitted to Dr. Erika Daniels (EDMS 522B) as you address both writing and mathematics standards. While the lesson design is group work, each of you needs to implement the lesson at the school you are observing. A draft of the lesson should be submitted for review before the lesson is taught to students. The draft of the lesson is worth 15 points, and the final version is worth 10 points. Your teaching performance will not affect your grade.

Mathematics Assessments (25 Points)

Part I. A practical handbook (10 points) - Working in a group, you need to compile a mathematics assessment handbook that you will be using in your future teaching career. This handbook will provide you with concepts and practical tools and provocative suggestions for classroom assessment in the elementary school mathematics. The handouts produced in the CA Frameworks Research Assignment will become Chapter one of the handbook. The group will share the work of researching and compiling the resources. Each individual in the group will produce their own copy of the group's handbook.

Part II. Student interviews (15 points) - You need to conduct two student interviews based on questions provided in class. You need to choose two mathematical topics from the following seven areas: (1) number concepts, (2) addition/subtraction, (3) multiplication/division, (4) fraction, (5) measurement/geometry, (6) data, analysis, probability, and (7) algebra. The purpose is to get you to begin thinking about students' mathematical understanding, to learn how to effectively pose questions and interpret the meaning of students' responses, and to provide you with an opportunity to interact with students. For each interview, you need to complete a 1-2 page report using the interview Response form provided in class. Please also include the child's written work (if available). You will work in groups of three in the interviewing process, but each needs to write his or her own response report. You will share/present your interview findings in class.

Course Assignment Rubrics

Reflective Writing Rubric

	Developing	Approaching Meets	Meets	Exceeds
TPE 13 - Evaluating teaching practice and subject matter knowledge Using reflection and feedback to improve teaching practice and subject matter knowledge	Reflective Writing demonstrates little to no understanding of how the identified readings in Mathematics can be applied in instruction. Little or no connection to improving professional practice or subject matter knowledge.	Reflective Writing demonstrates some understanding of how the readings in Mathematics can be applied in instruction. Minimal connection to improving professional practice or subject matter knowledge.	Reflective Writing demonstrates accurate understanding of how the i readings in Mathematics can be applied in instruction. Student makes a personal connection from the reading to improving professional practice or subject matter knowledge.	Reflective Writing demonstrates exceptional understanding of how the i readings in Mathematics can be applied in instruction. Student makes a variety personal connections to the content and effectively applies them to improving professional practice or subject matter knowledge

Assessment Handbook Assignment

	Developing	Approaching Meets	Meets	Exceeds
TPE 4 Making Content Accessible	Resources and descriptions in the Handbook demonstrate little to no understanding of how instructional resources can help provide all students with access to a balanced and comprehensive curriculum.	Resources and descriptions in the Handbook demonstrate some understanding of how instructional resources can help provide all students with access to a balanced and comprehensive curriculum.	Resources and descriptions in the Handbook demonstrate considerable understanding of how instructional resources can help provide all students with access to a balanced and comprehensive curriculum.	Resources and descriptions in the Handbook demonstrate exceptional understanding of how instructional resources can help provide all students with access to a balanced and comprehensive curriculum.
TPE 2 - Determining student progress toward achieving the state-adopted academic content standards . Using instructional strategies and techniques to support students' learning **TPE 3** Understanding a range of assessments	Handbook demonstrates little to no understanding of how instructional resources can be used to support student learning and assess or monitor student progress. Minimal evidence of a varied range of assessments	Handbook demonstrates some understanding of how instructional resources can be used to support student learning and assess or monitor student progress Some evidence of a variety of assessments	Handbook demonstrates multiple examples showing understanding of how instructional resources can be used to support student learning and assess or monitor student progress Assessments examples showing varied purpose for assessment.	Handbook demonstrates a variety of examples showing understanding of how varied instructional resources can be used to support student learning and assess or monitor student progress Purpose of assessment examples linked to standards. A variety of styles of assessment are provided.

Frameworks Assignment Rubric

	Developing	Approaching Meets	Meets	Exceeds
TPE 1, 1a Subject Specific Pedagogical skills for MS Teaching Assignment (Teaching Mathematics in a MS Assignment)	Frameworks/Standards representation demonstrates little to no understanding of how the identified strand of the content standard in mathematics can be applied in instruction.	Frameworks/Standards representation demonstrates some understanding of how the identified strand of the content standard in mathematics can be applied in instruction	Frameworks/Standards representation demonstrates a competent understanding of how the identified strand of the content standard in mathematics can be applied in instruction Provides clear effective examples of the strand in lesson applications.	Frameworks/Standards representation demonstrates a exceptional understanding of how the identified strand of the content standard in mathematics can be applied in instruction Provides a variety engaging examples of the strand in lesson applications.

Lesson Design Assignment Rubric

	Developing	Approaching Meets	Meets	Exceeds
TPE 1, 1a Subject Specific Pedagogical skills for MS Teaching Assignment (Teaching Mathematics in a MS Assignment)	Lesson Design demonstrates little to no understanding of how to teach the state adopted academic content standard in mathematics.	Lesson Design demonstrates some understanding of how to teach the state adopted academic content standard in mathematics.	Lesson Design demonstrates considerable understanding of how to teach the state adopted academic content standard in mathematics. Provides clear example of effective lesson presentation.	Lesson Design demonstrates exceptional understanding of how to teach the state adopted academic content standard in mathematics. Provides multiple clear examples of effective lesson presentation.
TPE 4 Making Content Accessible	Demonstrates little to no understanding in the use of pedagogical strategies that will provide all students access to the mathematics curriculum.	Demonstrates some understanding in the use of pedagogical strategies that will provide all students access to the mathematics curriculum.	Demonstrates considerable understanding in the use of pedagogical strategies that will provide all students access to the mathematics curriculum. Clearly connects adaptations to the specific needs of identified students.	Demonstrates exceptional understanding in the use of pedagogical strategies that will provide all students access to the mathematics curriculum. Provides varied adaptations to meet the unique needs of identified students
TPE 6, 6a, 6b Developmentally Appropriate Teaching Practices in Grades K-3 & 4-8	Demonstrates little to no understanding in the use of developmentally appropriate teaching practices.	Demonstrates some understanding in the use of developmentally appropriate teaching practices	Demonstrates considerable understanding in the use of developmentally appropriate teaching practices through application of varied instructional strategies	Demonstrates exceptional understanding in the use of developmentally appropriate teaching practices through application of engaging instructional strategies and assessments.

Student Interviews Assignment Rubric

	Developing	Approaching Meets	Meets	Exceeds
TPE 1, 1a Subject Specific Pedagogical skills for MS Teaching Assignment (Teaching Mathematics in a Multiple Subject Assignment)	Candidate's assessment and recommendations from the student interview demonstrates little to no understanding of how to teach the state adopted academic content standard in mathematics	Candidate's assessment and recommendations from the student interview demonstrates some understanding of how to teach the state adopted academic content standard in mathematics	Candidate's assessment and recommendations from the student interview demonstrates considerable understanding of how to teach the state adopted academic content standard in mathematics	Candidate's assessment and recommendations from the student interview demonstrates exceptional understanding of how to teach the state adopted academic content standard in mathematics
TPE 2 Monitoring Student Learning During Instruction	Candidate's assessment and recommendations from the student interview demonstrates little to no understanding of how to monitor student learning and how to effectively make use of this information when teaching.	Candidate's assessment and recommendations from the student interview demonstrates some understanding of how to monitor student learning and how to effectively make use of this information when teaching.	Candidate's assessment and recommendations from the student interview demonstrates considerable understanding of how to monitor student learning and how to effectively make use of this information when teaching.	Candidate's assessment and recommendations from the student interview demonstrates exceptional understanding of how to monitor student learning and how to effectively make use of this information when teaching.
TPE 3 Interpretation and Use of Assessments	Candidate demonstrates little to no understanding of how to effectively assess students' content knowledge through the use of student interviews.	Candidate demonstrates some understanding of how to effectively assess students' content knowledge through the use of student interviews.	Candidate demonstrates considerable understanding of how to effectively assess students' content knowledge through the use of student interviews.	Candidate demonstrates exceptional understanding of how to effectively assess students' content knowledge through the use of student interviews.
TPE 4 Making Content Accessible	Candidate's recommendations from the student interview demonstrates little to no understanding in the use of pedagogical strategies that will provide all students access to the mathematics curriculum	Candidate's recommendations from the student interview demonstrates some understanding in the use of pedagogical strategies that will provide all students access to the mathematics curriculum	Candidate's recommendations from the student interview demonstrates considerable understanding in the use of pedagogical strategies that will provide all students access to the mathematics curriculum	Candidate's recommendations from the student interview demonstrates exceptional understanding in the use of pedagogical strategies that will provide all students access to the mathematics curriculum

Schedule and Course Outline EDMS 543 9CRN 40522

While this Schedule and Course Outline is carefully planned, it may be modified at any time in response to the Course needs.

Date	EDMS 543-B Topic	Assignment
Session 1 8/27/08	Introduction to Mathematics Education Developing Mathematical Understanding *Introduction: CA Mathematics Frameworks and Content Standards Research Assignment*	2 - Exploring What It Means to do Mathematics 3 -Developing Understanding in Mathematics CA Mathematics Frameworks available at http://www.cde.ca.gov/re/pn/fd/documents/mathematics-frame.pdf.
Session 2 9/3/08	Group Work: CA Mathematics Frameworks and Content Standards Research Assignment	CA Mathematics Frameworks
Session 3 9/10/08	Using Standards and the Frameworks to guide instruction **Group presentations of Frameworks-Standards Research** **Reflections due for Ch 2 and 3 (One Reflection for each chapter.)**	1 – Teaching Mathematics in the Era of NCTM Standards
Session 4 9/17/08	Effective Classrooms: Overview of Instructional Practices Writing in Mathematics *Introducing the Interview Assignments* **Reflections due for Ch. 1**	Student selected article or instructional practice resource (See last page of Chapters 2-5 for web resources or do your own Internet search.) http://mathforum.org/library/ed_topics/writing_in_math/
Session 5 9/24/08	Problem Solving **Reflections due for Week 4 Article and Math Forum Article**	4 -Teaching Through Problem Solving 5 - Planning in the Problem-Based Classroom
Session 6 10/1/08	Assessment – Connecting Instruction with Assessment **Reflections due for Ch. 4 and 5 (One each.)**	6 - Building Assessment into Instruction
Session 7 10/8/08	Special Populations: Creating Inclusive Classrooms *Introducing the Lesson Plan Assignment* **Interview I Due and Reflections due for Ch 6**	7 - Teaching Mathematics Equitably to All Children
Session 8 10/15/08	Number Sense I: What it Means and How We Can Help Children Develop It. **Reflections due for Ch 7**	9 - Developing Early Number Concepts and Number Sense
Session 9 10/22/08	Number Sense II: Operations and Basic Facts *Introducing Math Assessment Assignments* **Reflections due for Ch 9**	10 - Developing Meanings for the Operations 11 - Helping Children Master the Basic Facts
Session 10 10/29/08	Number Sense III: Place Value Developing Understanding of Place Value **Interview II Due and Reflections due for Ch 10 and 11**	12 - Whole-Number Place-Value Development
Session 11 11/5/08	Number Sense IV: Estimation and Computation **Lesson Plan Assignment Due** **Reflections due for Ch 12**	13 - Strategies for Whole-Number Computation 14 – Computational Estimation with Whole Numbers
Session 12 11/12/08	Algebraic Reasoning and Functions – **Reflections due for Ch 13 and 14**	15 - Algebraic Thinking: Generalizations, Patterns, and Functions 24 – Developing Concepts of Exponents, Integers, and Real Numbers
Session 13 11/19/08	Fractions I and Fractions II **Reflections due for Ch 15 and 24** **Math Assessment Assignments Due**	16 - Developing Fraction Concepts 17 - Computation with Fractions 18 – Decimal & Percent Concepts and Decimal Computation 19 – Proportional Reasoning
Session 14 11/26/08	Measurement - Customary and Metric system Geometry – Developing Geometric Reasoning and Spatial Sense **Reflections due for Ch 16, 17, 18, 19 (Select two of these chapters for reflection)**	20 - Developing Measurement Concepts 21 - Geometric Thinking and Geometric Concepts
Session 15 12/3/08/	Probability & Data Analysis – Developing meaningful experiences Exploring concepts of chance, simple and independent events **Reflections due for Ch 20, 21, 22, 23 (Select two of these chapters for reflection)**	22 - Concepts of Data Analysis 23 – Exploring Concepts of Probability