California State University
SAN MARCOS
SCHOOL OF EDUCATION

Engaging diverse communities through leading and learning for social justice.

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Course & Section Nos.	**EDMX 543**
Course Title	**Mathematics Education in Inclusive Classrooms**
Class Roster No.	**40356**
Days	**Thursday**
Time	**5:30 – 8:20 pm**
Course Location	**UNIV 439**
Semester / Year	**Fall 2018**
Instructor	Rong-Ji Chen, Ph.D.
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E-Mail	rchen@csusm.edu
Office	UH 418
Office Hours	By Appointment or before and after class

SCHOOL OF EDUCATION MISSION & VISION STATEMENT

(Adopted by SOE Governance Community, January 2013)

Vision

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

Mission

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

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

BASIC TENETS OF OUR CONCEPTUAL FRAMEWORK

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

COURSE DESCRIPTION

Focuses on the scope and sequence of mathematics in the K-12 curriculum, mathematics instructional methods, materials, and assessment. Additional emphasis is provided on assessing student mathematical thinking and developmentally appropriate instructional practices. Methods of cross-cultural language and academic development and strategies for accommodating learners with special educational needs in assessment and instruction are integrated into the course. *Requires participation and observation in public school programs*.

Course Prerequisites

Admission to the Special Education/Multiple Subject Credential Concurrent Program.

Course Objectives

Learning to teach mathematics well is challenging and, therefore, this course is but one stage in your process of becoming a mathematics teacher. We are expected to: (a) increase our skills of listening to students and asking questions, (b) develop an understanding of children's content specific thinking, (c) develop strategies to create a classroom environment that promotes the investigation and growth of mathematical ideas and to ensure the success of all students, including students with special needs, in multi-cultural settings, (d) deepen our understanding of the mathematics taught at the elementary school level, including such topics as place value, base systems, number theory, fractions, proportions, statistics, and algebra, (e) develop an understanding of the current issues and best practices in mathematics education and how to work with children with special needs, (f) develop a familiarity with the California Common Core State Standards, (g) understand the nature, purposes, and application of mathematics assessment and its relationship with curriculum, teaching, and learning, and (h) learn to teach content specific concepts using effective and appropriate strategies, including the educational use of technology.

REQUIRED TEXTS, MATERIALS AND ACCOUNTS

Required Texts

- Boaler, J. (2016). *Mathematical mindsets: Unleashing students' potential through creative math, inspiring messages and innovative teaching*. San Francisco, CA: Jossey-Bass. ISBN 9780470894521. For access to an eCopy of this book, follow this link: https://goo.gl/kKfJih
- Fennell, F. (2011). *Achieving fluency: Special education and mathematics.* Reston, VA: National Council of Teachers of Mathematics. ISBN 978-0873536547
- California Department of Education. (2013). *California common core state standards for mathematics*. Sacramento, CA: Author. http://www.cde.ca.gov/ci/cc/ (PDF, free download)
- California Department of Education. (2016). *Mathematics framework for California public schools: Kindergarten through grade twelve*. Sacramento, CA: Author. http://www.cde.ca.gov/ci/ma/cf/mathfwchapters.asp (PDF, free download)
- Several other readings are required and will be available for download.

Recommended Texts (not required)

- Burns, M. (2007). *About teaching mathematics: A K-8 resource* (3rd ed.). Sausalito, CA: Math Solutions Publications.
- Carpenter, T. P., Fennema, E., Franke, M. L., Levi, L., & Empson, S. B. (2014). *Children's mathematics: Cognitively guided instruction* (2nd ed.). Portsmouth, NH: Heinemann.
- Carpenter, T. P., Franke, M. L., & Levi, L. (2003). *Thinking mathematically: Integrating arithmetic & algebra in elementary school*. Portsmouth, NH: Heinemann.
- Empson, S. B., & Levi, L. (2011). *Extending children's mathematics: Fractions and decimals*. Portsmouth, NH: Heinemann.
- Kamii, C. (2000). *Young children reinvent arithmetic: Implications of Piaget's theory* (2nd Ed.). New York, NY: Teachers College Press. ISBN-13: 978-0807739044.

- National Council of Teachers of Mathematics (NCTM) (2014). *Principles to actions: Ensuring mathematics success for all*. Reston, VA: Author. http://www.nctm.org/PrinciplestoActions/ (eBook/PDF $5 or print edition $29)
- NCTM's professional journal: *Teaching Children Mathematics*, see http://www.nctm.org/publications/toc.aspx?jrnl=tcm
- Smith, M. S., & Stein, M. K. (2011). *Five practices for orchestrating productive mathematics discussions*. Reston, VA: National Council of Teachers of Mathematics.
- Van de Walle, J. A., Karp, K. M., & Bay-Williams, J. M. (2015). *Elementary and middle school mathematics: Teaching developmentally* (9th ed.). Boston, MA: Allyn & Bacon.

Hansen Curriculum Library: You are encouraged to use the books, manipulatives, and multimedia in the Hansen Curriculum Library, located on the 5th floor of the Kellogg Library on the CSUSM main campus.

Cougar Courses

The course materials and assignments are posted at Cougar Courses, accessible at https://cc.csusm.edu/.

COURSE AND PROGRAM LEARNING OUTCOMES

Upon successful completion of this course, teacher candidates will demonstrate the course objectives listed above. Teacher candidates will also complete other courses, clinical practice, and additional requirements for the credential program. Upon successful completion of the program, teacher candidates will demonstrate the following competencies and dispositions:

Authorization to Teach English Learners

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

Teacher Performance Expectation (TPE) Competencies

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

Teacher Performance Assessment

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

CalTPA

To assist with your successful completion of the CalTPA, 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. The CalTPA Candidate Handbook, TPA seminar schedule, and other TPA support materials may be found on the SOE website:
http://www.csusm.edu/education/CalTPA/ProgramMaterialsTPA.html

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

Expected Dispositions for the Education Profession

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

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

TENTATIVE COURSE SCHEDULE/COURSE OUTLINE

The dynamic nature of teaching and learning makes it hard to establish a set schedule. Please note that modifications will likely to occur at the discretion of the instructor. You're expected to complete a week's reading materials BEFORE coming to the class of the week.

Date	Session, Topics, & Essential Questions	Reading & Assignments
8/30	**1. Building a math learning community** What are characteristics of an effective math classroom? What is your relationship to math?	Course syllabus
9/6	**2. Students as young mathematicians in a community of learners** What does it mean to "do mathematics"? How do classroom norms influence students' learning experiences?	Boaler (2016) Intro & ch 1-3
9/13	**3. Challenging students with rich math tasks** What are different levels of cognitive demand of math tasks? How can we challenge students using appropriate math tasks?	Boaler (2016) ch 5 **Reflection 1**
9/20	**4. Math games and activities** How can we look into the mathematical concepts in a few popular games? How do we provide opportunities for hands-on explorations of math?	Boaler (2016) ch 4 Explore NCTM Illuminations: http://illuminations.nctm.org/
9/27	**5. Equity and social justice in math education** How does traditional math education preserve elite groups while denying other children access to powerful math? How is math education related to educational equity and social justice?	Boaler (2016) ch 6-7
10/4	**6. Unpacking math standards & setting learning goals** How can we unpack math standards? How do we establish learning goals to guide student learning & instructional decisions?	Browse a selected grade in *Mathematics framework for California public schools: Kindergarten through grade twelve* **Unpacking Standards**
10/11	**7. Mathematics assessment** What does "assessment for learning" mean? How do we use assessment data to inform teaching?	Boaler (2016) ch 8 **Reflection 2**

Date	Session, Topics, & Essential Questions	Reading & Assignments
10/18	**8. A growth mindset in mathematics** How does affect (beliefs, attitudes, etc.) influence learning? How can we help students develop a growth mindset in mathematics?	Boaler (2016) ch 9
10/25	**9. Lesson design (1)—Teaching through problem solving** How do we make decisions about what to teach and how we teach it? What is the Launch-Explore-Summarize model?	TBD
11/1	**10. Mathematics for all learners** Is it a learning disability or a teaching disability? How can we use the response to intervention (RTI) model to determine the nature of students' learning difficulties?	Fennell (2011) ch 3-5
11/8	**11. Mini-lesson presentations and discussions (1)**	**Reflection 3** **Mini-lesson Reflection**
11/15	**12. Lesson design (2)—Teaching children with special needs** What are effective intervention strategies for a multitiered system of support? How do we identify common stumbling blocks for students with special needs?	Self-select articles*
11/22	Thanksgiving Day. Campus closed. No class.	
11/29	**13. Supporting students' productive struggle** What do teachers mean when they say, "I want to make math easy for kids"? How can we support students' productive struggle?	Self-select articles* **Reflection 4**
12/6	**14. Mini-lesson presentations and discussions (2)**	**Mini-lesson Video & Reflection**

* You will use library research database and find 2-3 articles pertaining to mathematics education and special education.

COURSE REQUIREMENTS AND GRADED COURSE COMPONENTS

Teaching and learning require engaged and reflective participants. It is essential that you prepare carefully for class, be ready to discuss readings and assignments thoughtfully, and actively participate in all class activities.

Course Assignments

Here is a list of the assignments and requirements, followed by descriptions of each of them:

Assignment	Points	Due Date
Reflections	24	ongoing
Unpacking Common Core State Standards for Mathematics	6	10/4
Mini-lesson 1 Reflection	25	11/8
Mini-lesson 2 Video Presentation	25	12/6
Participation, discussions, & dispositions	20	ongoing

Reflections—You will reflect on the readings, observations, or our class activities. You will submit a reflection on particular dates (see the schedule above). The focus will be on how you make sense of the information rather than a summary. The purpose of the reflections is to prepare you for class discussion and to reflect on your own experiences, beliefs, and theories about mathematics education. There will be time for discussion of the readings, so it is imperative that you do the readings each week. The way in which you are asked to share your reflection may change week to week.

Unpacking Common Core State Standards for Mathematics – You will familiarize yourself with California Common Core State Standards—Mathematics and the Mathematics Framework for California Public School. You will use the Framework and: (1) focus on a grade level, (2) read the overview of the grade level, (3) select a standard or a cluster of standards, (4) study the explanations, examples, common students' misconceptions, and so on, and (5) write a reflection on your exploration.

Mini-Lessons— You will design and teach two mini-lessons to students and reflect on their learning. The students can be a small group (minimum of 4 students), a bigger group, or even the entire class. The lessons need to focus on *student thinking* and *interaction*. It needs to include the effective math teaching practices in Boaler's book (2016) and Fennell's (2011) book.

Videotaping: You need to videotape at least one of the two mini-lesson implementations (videotaping both lessons are encouraged). This is a great means for improving your teaching; reviewing the video can usually help you see what you do not see during instruction. You will bring the video to one of the class meetings. We will review it together and provide feedback.

Reflection papers: You will reflect on students' learning and the effectiveness of the mini-lessons. After each mini-lesson is taught, you will submit a reflection paper. Some reflection prompts are (these prompts are intended to help you write the paper; you do not need to answer each question): What went well and what could be done differently? Did students learn what they were supposed to learn? What evidence of learning do you have? What does the evidence tell you? What difficulties in learning did you observe? What did you do to overcome such difficulties? If manipulatives or technology tools were used, were they effective? Why or why not? If a worksheet was given, how did it help or fail to facilitate learning? If you allowed student presentations, how did students share their ideas? How did other students respond to the presentations? If you made particular moment-to-moment decisions in your teaching moves, explain why. What were the effects of these moves? For example, you planned to encourage Jason to talk, but Cassidy raised a question in the middle of the lesson. You decided at that moment to pursue Cassidy's question instead of asking Jason to share his ideas. Why did you change your mind and take a "detour"? It is not sufficient to just say that Cassidy's question was important. You need to explain why the question was important and how the learners responded to it. You are encouraged to use some theories or ideas you learn from our 543 class.

Participation, Discussions, & Professional Dispositions—You are expected to actively participate in in-class and online 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).

Assignment Policy
All assignments, requirements, due dates, and scoring rubrics will be available through Cougar Courses. You are responsible to track your grades and progress in the course. In order to successfully complete this course, all assignments must be completed at an acceptable level noted on assignment directions and rubrics. Each written assignment is expected to have a clear organizational presentation and be free of grammar, punctuation, or spelling errors. There will be a reduction in points for the above-mentioned errors. All assignments are due by 11 p.m. on the due date, unless specified otherwise. Reading reflections are typically due in class.

Grading Standards

Final grades are calculated on the standard of:

A: 93% - 100%	A-: 90% - 92%	B+: 87% - 89%	B: 83% - 86%
B-: 80% - 82%	C+: 77% - 79%	C: 73% - 76%	C-: 70% - 72%
D: 60% - 69%	F: below 60		

Failure to complete this course with a grade of C+ or higher will prohibit a teacher candidate from continuing the teaching credential program.

Final Exam Statement

There will be no final exam.

School of Education/Course Attendance Policy

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

This course: Hands-on activities and discussions are a vital part of the course. Attendance will be taken in each class. Candidates missing more than one class session cannot earn an A or A-. Candidates missing more than two class sessions cannot earn a B or B+. Candidates missing more than three classes cannot earn a C+. Excessive tardiness in a class period or leaving early may count as an absence. Notifying the instructor does not constitute an excuse. All assignments must be turned in on due date even in case of an absence.

Policy on Late/Missed Work

Late assignment: There will be 10% deduction for being one day late, 20% deduction two days late, and 30% deduction three days late. After three days, no assignments will be accepted. If extraordinary circumstances occur, please contact the instructor BEFORE the deadline.

GENERAL CONSIDERATIONS

CSUSM Academic Honesty Policy

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

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

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

Refer to the full Academic Honesty Policy at:
http://www.csusm.edu/policies/active/documents/Academic_Honesty_Policy.html

Plagiarism

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

Students with Disabilities Requiring Reasonable Accommodations

Students with disabilities who require reasonable accommodations must seek approval for services by providing appropriate and recent documentation to the Office of Disability Support Services (DSS). This

office is in Craven Hall 4200, contact by phone at (760) 750-4905, or TTY (760) 750-4909. Website: http://www.csusm.edu/dss/. 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. The CSUSM's accessibility policy can be found at https://www.csusm.edu/accessibility/.

Credit Hour Policy Statement

Per the University Credit Hour Policy, students are expected to spend a minimum of 6 hours outside of the classroom each week because this is a 3-unit course. The course has a few online sessions. The online tasks are designed to reflect an appropriate amount of time needed for the course credit.

All University Writing Requirement

The CSUSM writing requirement of 2500 words is met through the completion of course assignments. Therefore, all writing will be looked at for content, organization, grammar, spelling, and format. For this class please use APA Manual, 6th edition (see a guide at http://owl.english.purdue.edu/owl/section/2/10/).

Necessary Technical Competency Required of Students

This course has a few online sessions. To successfully complete online activities, you need to use Cougar Courses (download course documents, watch presentations and videos, upload your assignments, post discussion responses and reply to peers' posts, join online chats, etc.). You need to use e-mail effectively and know how to attach files. It is best that you know how to make minor configuration changes in a Web browser (change font sizes, open and close tabs, allow or disable pop-ups and plug-ins, enable Cookies and JavaScript, etc.). In addition, you are expected to use office applications (such as a word processor, a presentation tool, a spreadsheet tool, an image viewer, a PDF reader, etc.), engage in collaboration and file sharing (such as Dropbox and/or Google Drive & Apps), and apply Web literacy skills (conduct an effective search with a search engine, evaluate trustworthiness of web content, understand copyrights). Lastly, you may need to troubleshoot basic hardware and software problems.

Contact Information for Technical Support Assistance

If you need any technical support, contact IITS Student Help Desk: http://www.csusm.edu/sth/.

Electronic Communication Protocol

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

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

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