

CALIFORNIA STATE UNIVERSITY, MONTEREY BAY
College of Education

Department of Education and Leadership
ED 609 Section 81 Math Methods
Fall 2022

Location: Tanimura & Antle Library 1176

Day and Time: Tuesdays, 4:00 p.m. to 6:50 p.m.

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Virtually by Zoom*: Monday's 3:00 p.m. to 5:00 p.m., [Please sign up for a time slot here](#)

- <https://csumb.zoom.us/j/89792877132>
 - Meeting ID: 897 9287 7132
 - Passcode: 121436
 - One tap mobile: +16694449171,,89792877132# US

*I am more than happy to meet with you in person, just send an email

Technical support: (831) 582-HELP

COLLEGE OF EDUCATION CONCEPTUAL FRAMEWORK

Mission

The College of Education prepares caring and responsive educators with the knowledge, skills, and dispositions to effectively facilitate the learning of all students from diverse ethnic, linguistic, and ability groups, so that they can fully participate in a dynamic society and world.

To accomplish this mission we strive to develop caring educators who demonstrate:



in order to effectively facilitate learning for all students so that they can fully participate in a dynamic society and world.

PROFESSIONAL DISPOSITIONS EXPECTED OF STUDENTS

Faculty model and encourage all students to reflect dispositions that represent the values and attitudes expected of professionals in the field of education. These dispositions are based on the Education Unit's conceptual framework and encompass several behavioral indicators within the three program outcomes. As students move through their programs it is expected they demonstrate these dispositions.

COURSE DESCRIPTION

In this course you will investigate the learning and teaching of mathematics at the elementary level (K-8). You will investigate how children learn mathematics and what a deep understanding of mathematics means. You will learn how to teach mathematics so that learners see relationships and connections within and between mathematical ideas. You will also learn how to encourage expectations for self-reliance in students and how to build a foundation of knowledge to support their more advanced study of mathematics.

The following will be expected of you:

- Absolutely reliable and consistent attendance and participation
- Active, engaged participation in a collaborative, group-graded project requiring students to work together interdependently
- A high degree of independence, responsibility, and intellectual resourcefulness
- A willingness to evaluate your own participation in course activities and assignments
- A willingness to take an active role as teacher as well as learner

COURSE GOALS AND RELATED OBJECTIVES

The purpose of this course is to discover how K-8 children think about and learn mathematics. Excellent mathematics teaching starts with knowing our students well and listening to their mathematical thinking and multiple mathematical knowledge bases (school, home, family, community, etc). We will learn to plan and implement mathematical experiences that are rich, rigorous, and relevant, and to promote equity and justice for our students through our mathematics teaching.

Throughout this course, we will learn and discuss how to teach children to reason mathematically, solve problems employing a variety of strategies, and to communicate mathematically. Candidates will be taught in a similar manner in how they are to teach, and are expected to participate actively in class problem solving. Students will experience how concepts and skills are developed from the concrete stage to the symbolic stage. Manipulatives will be emphasized to promote the direct observation of mathematical patterns, procedures, and relationships.

As a result of this course you will:

- Understand the content (what), methods (how), and materials (manipulatives and tools) necessary to teach elementary mathematics.
- Learn and practice eight effective practices for teaching mathematics.
- Learn how to build an instructional environment that supports the teaching and learning of mathematics in the classroom.
- Learn how to plan for meaningful mathematics experiences that are aligned with the CA Common Core State Standards in Mathematics (CCSS-M).
- Understand how to formally and informally assess students' mathematical thinking and plan appropriate instruction (edTPA practice).

- Learn how to make instructional decisions about the use of curricular materials, manipulative materials, technology, and supplemental materials.
- Come to understand how to connect mathematical learning experiences to the lived experiences of your students and the community in which they live.

CTC STANDARDS ADDRESSED IN THIS COURSE

This course meets the California Commission for Teacher Credentialing (CCTC) Program Standards. All courses and fieldwork in the multiple subjects credential program are structured to assist candidates as they work towards mastery of the 6 Teacher Performance Expectations (TPE). This course and the course assignments focus on helping candidates develop in the following areas:

TPE #1: Engaging & Supporting All Students in Learning

TPE #2: Creating & Maintaining Effective Environments for Student Learning

TPE #3: Understanding & Organizing Subject Matter for Student Learning

TPE #4: Planning Instruction & Designing Learning Experiences for All Students

TPE #5: Assessing Student Learning

TPE #6: Developing as a Professional Educator

**See weekly topics for more information about when specific TPEs are introduced, practiced, and/or assessed.*

COURSE DELIVERY & MEETINGS

As a hybrid course, you will alternate between attending a synchronous, in-person class on campus and completing an “online” *module* on Canvas. All course activities will be organized using Canvas. Lectures, assignments, and learning materials will be posted on Canvas. The course requires ~6-8 hours each week and that you are always checking our Canvas Page and emails for information. We will use the following terms:



In-Person Class- meets on campus on assigned lecture days. There are 8 face-to-face sessions.



Asynchronous Module Class- these are the alternate weeks when we don't meet for a Live Class and you are required to complete a module on your own time. There are 6 modules.

REQUIRED TEXTS & RESOURCES

1. Course Webpage: to be added once published on Canvas
2. Required Texts:
 - a. Van de Walle, J.A., Karp, K.S., & Bay-Williams, J.M. (2019). *Elementary and middle school mathematics: Teaching developmentally*, (10th ed.). New York, NY: Pearson.
 - **Digital (eText)** ISBN-13: 978-0-13-480209-1
 - **Digital and Print** ISBN-13: 978-0-13-480034-9
 - [PDF COPY FREE](#) courtesy of your generous Math Professor. Hard copy

of this book is advisable

- b. Huinker, D., & Bill. V. (2018). *Taking action: Implementing effective teaching practices in K-Grade 5*. Reston, VA: National Council of Teachers of Mathematics.
- [PDF COPY FREE](#) courtesy of your generous Math Professor :) Hard copy is optional
 - **Print** ISBN-13: 978-0-87353-969-2s
 - **Digital Download Purchase:**
[https://www.nctm.org/Store/Products/Taking-Action--Implementing-Effective-Mathematics-Teaching-Practices-in-K-Grade-5-\(Download\)/](https://www.nctm.org/Store/Products/Taking-Action--Implementing-Effective-Mathematics-Teaching-Practices-in-K-Grade-5-(Download)/)

TECHNOLOGY REQUIREMENTS

This course is offered using a combined hybrid synchronous(in-person)/asynchronous(remote) structure. Students will complete the majority of class activities asynchronously (on their own schedule with deadlines), but students must meet in person every other Tuesday through Zoom with the instructor for whole class or group discussion of content. The technology requirements for both asynchronous and synchronous class participation include:

- **CSUMB Email and Canvas:** these platforms will be used for communication in this course. Students are expected to check their CSUMB email and Canvas class page on a frequent basis. You are responsible to check Canvas before attending all synchronous classes.
- **Computer:** access to a personal computer running a recent version of Windows or MacOS (required for synchronous meeting times).
- **Digital devices** or other portable devices such as iPad, Chromebook, or phones can be used for general communications and access to coursework and web on async. days.
- **Internet connection:** Access to wireless (wifi) or wired (landline) stable internet connection. Wifi tips and tricks:
 - If you have multiple people on devices in your home, set a schedule or family calendar for wifi use to improve your connectivity.
 - Ask other members of your household to turn off digital devices when taking exams online or when class Zoom meetings are in session.
 - If you are using a cell phone hotspot, moving closer to a window may improve your connectivity.
 - Try not to have a window or bright light behind you
- **Video Recording:** There will be various opportunities throughout the course to record portions of your assignments, both in and out of class. When uploading videos, please use GoogleDrive or your student YouTube account. Virtual Recordings can be done on zoom, google meets. In person it can be done using your phone;
https://docs.google.com/document/d/12jPg2_B4dwuSzfkJ06yGJoMnX_xd-5a9cY4OLijYmDk/edit

TECHNICAL SKILLS:

- Use of Microsoft Word, Powerpoint, Zoom, YouTube, PDF reader, Google Suites. Students can access these from <https://csumb.edu/cat/> under the heading “Free Software.”
- Use of Google Suite: See the link to DRIVE on the CSUMB dashboard; this is your google drive. You can also find your access to the Google suite of products in your email. (See the nine dot square in the top right corner of your csumb email which includes: Google docs, Google folders, Google Jamboard, Google Slides, etc).
 - Open Google drive and create a folder. Name it for this class. All assigned writing should be written in your Google folder for this class. Copy your writing directly

- into Canvas quizzes, discussion forums, or questionnaires so that work is not lost.
- When asked to share from Google Docs always create a copy of the document. To share work with classmates or instructor select the SHARE link (top right corner), under GET LINK change to “Anyone at CSUMB can view”. Then copy link and paste in the Discussion Forum for your group members to view. Or make a copy and move to your folder.

GRADING POLICY AND GRADING STANDARDS FOR THE COURSE

For all courses which assign a letter grade, each assignment will be completed for a quantitative grade. The grading structure of this course is arranged according to a 1,000 point structure (see “Assignment Breakdown” below for a list of assignments and the points). You earn points for each component or requirement of the class that you complete. Total course points are converted to percentages and then to grades as follows:

A	93-100%	B-	80-82%	D+	67-69%
A-	90-92%	C+	77-79%	D	63-66%
B+	87-89%	C	73-76%	D-	60-62%
B	83-86%	C-	70-72%	F	0-59

LATE ASSIGNMENTS

Prompt submission of assignments for assessment will allow me to give you timely feedback. Due dates for each assignment are published on the course schedule in the syllabus. In order to receive credit for late work you must consult with me at least 24 hours prior to the due date. Here are the policies:

Excused Makeup Work- If the late submission has been requested and approved at least 24 hours in advance of the due date, there will be no deduction of points from the grade. Please contact me to discuss an extension.

Unexcused Makeup Work- If you have not requested an extension at least 24 hours prior to the assignment due date, then the late assignment will be considered unexcused. Unexcused makeup work will be penalized 10% for each day the assignment is late.

Of course, in the event of an emergency, please contact me as soon as possible. I will work with students on an individual basis as the situation warrants. Please contact me if you have questions about this policy.

WRITING EXPECTATIONS

Writing quality (including mechanics, organization, and content) is imperative and may be figured into grading, so please proofread carefully. Follow assignment instructions for formatting requirements. To reference examples of academic writing and learn more, go to:

https://owl.purdue.edu/owl/general_writing/academic_writing/index.html

ASSIGNMENT DESCRIPTIONS

Online Modules: *Online modules* will be completed by students during the “online” weeks of this course. During online weeks, modules will take the place of our face to face in-class discussions and activities. The modules will make further connections between the assigned readings and theory, while contributing from your own learning and field experiences. Online modules will consist of a combination of mini-tasks. Examples of mini-tasks include, but are not limited to: required readings/articles (Elementary and Middle School Mathematics and Taking Action), error analysis activities, analyzing teaching and learning, case study reflections, reflections from the field, related videos, and/or further questions about the readings. It is expected that you are as active in the online modules as you would be in the face-to-face setting and, therefore, your performance will be accounted for in your “Class Attendance and Participation” points. Modules are due at 3pm before the face-to-face class begins. It could be beneficial to schedule a day of the week that works best for you to read and complete each module so that you can stay on pace throughout the semester. Specific information on each of the modules can be found on Canvas under the specific dates they will be assigned. (Appendix A; *TPE’s practiced: 1.3, 1.5, 2.5, 3.1, 3.2, 4.7, 5.1, 6.1; Subject-specific content standard 2*).

Papers/Projects: (Descriptions and scoring guides will be posted to Canvas on the dates the papers/projects are assigned.)

1. **Mathematics, Culture, and Community: An Autobiography:** Mathematics educators often bring ideas and beliefs to their learning and teaching experiences that are influenced by culture and community. The purpose of the mathematics, culture, and community autobiography is to explore and present the potential intersection of mathematics, culture, and community in relation to your personal ideas and beliefs about learning and teaching mathematics. You will reflect on how these experiences have shaped your thinking and behavior as a mathematics learner and educator, inside and outside of school. Furthermore, you will address your personal relationship with the terms culture, community, and mathematics. Then, you will use your own experiences to define the kind of mathematics teacher you hope to become. (Appendix B; *TPEs assessed: 1.3, 1.5, 6.1, 6.2; Subject-specific content standard 2*).
2. **E.T.P. Field Project:** The purpose of this assignment is to videotape and reflect upon your implementation of one of the eight effective mathematics teaching practices in your field placement or with students to whom you have access. You will do this twice during the semester as a pre-assessment and post-assessment of your skills. (Appendix C; *TPEs assessed: 1.1, 1.4, 1.5, 1.6, 1.8, 2.5, 3.1, 3.2, 3.3, 3.5, 4.1, 4.5, 5.5, 5.7, 5.8, 6.1, 6.2; Subject-specific content standard 2*).
3. **Philosophy of Teaching Mathematics:** The purpose of this assignment is to clarify and make tangible your personal vision, philosophy, and theory of teaching and learning mathematics. The philosophy will be in the form of a bulleted list. (Appendix D; *TPEs assessed: 1.1, 1.3, 1.4, 1.5, 1.8, 2.2, 2.5, 3.1, 3.2, 3.5, 4.4, 4.5, 4.7, 5.1, 6.1; Subject-specific content standard 2*).

Mathematics Lesson Practice and Reflection: This assignment begins with writing/adapting a complete, hands-on, Common Core-aligned, mathematics lesson plan, from your school’s curriculum framework. You must use the 5E model CSUMB department template. For full credit, you must submit a formal lesson plan (with copies of all handouts, assessments, etc. that

you reference in your lesson plan). You will teach part of it and present all the parts to colleagues on during our face-to-face sessions. Clinical Coaches will participate. Further details will be provided. (Appendix E; *TPEs Assessed: 1.1, 1.3, 1.4, 1.5, 1.6, 1.8, 3.1, 3.2, .3.3, 3.5, 3.6, 4.4, 4.7, 5.1, 5.3, 5.8, 6.1; Subject-specific content standard 2*).

Mathematics Assessment Task: This task is designed to provide candidates practice in critically analyzing student work/assessments and designing remedial tasks/re-teach lessons to support mathematical learning. It is modeled after the mathematics portion of the edTPA Assessment Task. (Appendix F: *TPEs Assessed: 1.1,1.3,1.5,1.6,1.8,3.1,3.2,3.3,3.5,4.3,4.4,4.7,5.1,5.2,5.8; Subject-specific content standard*).

Mathematics Portfolio: The mathematics portfolio is a way to collect and organize copies of course materials, mathematics standards, lesson plans, assigned papers, and handouts. Portfolios can be used during interviews. Students will be instructed on the specifics of building and organizing the mathematics portfolio on Canvas. You can choose from a variety of platforms (digital or hardcopy).




Class Attendance and Participation: Class participation refers to regular involvement and active engagement in class projects and activities, both face-to-face and online. It includes attendance, punctuality, completing the assignments and required readings before class, as well as writing, speaking, and listening.



ASSIGNMENT BREAKDOWN




ACTIVITY	POINTS	STANDARDS ADDRESSED
Online Modules	300 points (50 points x 6 modules)	Appendix A; <i>TPE's practiced: 1.3, 1.5, 2.5, 3.1, 3.2, 4.7, 5.1, 6.1; Subject-specific content standard 2</i>
Papers/Projects 1. Mathematics, Culture, and Community: An Autobiography 2. E.T.P. Field Project Pre and Post 3. Philosophy for Teaching Mathematics	150 points (50 points x 3 papers)	1. Appendix B; <i>TPEs assessed: 1.3, 1.5, 6.1, 6.2; Subject-specific content standard 2</i> 2. Appendix C; <i>TPEs assessed: 1.1, 1.4, 1.5, 1.6, 1.8, 2.5, 3.1, 3.2, 3.3, 3.5, 4.1, 4.5, 5.5, 5.7, 5.8, 6.1, 6.2; Subject-specific content standard 2</i> 3. Appendix D; <i>TPEs assessed: 1.1, 1.3, 1.4, 1.5, 1.8, 2.2, 2.5, 3.1, 3.2, 3.5, 4.4, 4.5, 4.7, 5.1, 6.1; Subject-specific content standard 2</i>
Mathematics Lesson Practice; 5E Lesson Plan, and Reflection	200 points	TPE 1.1; 1.5; 1.6; 1.8; 2.1; 3.1; 3.2; 3.3; 3.4; 3.5; 4.3; 4.4; 4.7; 5.1; 5.2; 5.8
Mathematics Assessment Task	200 points	TPE 1.1; 1.5; 1.6; 1.8; 2.1; 3.1; 3.2; 3.3; 3.4 3.5; 4.3; 4.4; 4.7; 5.1; 5.2; 5.8
Mathematics E-Portfolio	50 points	TPE 6.1; 6.3
Class Attendance and Participation (Face-to-Face)	100 points (12.5 points x 8 weeks)	(All)
TOTAL	1,000 points	





TENTATIVE SCHEDULE




Please refer to Canvas for the most up-to-date information


Date	Topic / Activities	Readings/Assignment Due
<p>Week 0</p>  <p>Online</p>	<p>Focus: Course Orientation</p> <p>Welcome to Math Methods for Young Learners! Our first in person class is on Tuesday, 08/30 at 4pm. Before Tuesday night please complete the get to know you survey and watch my introduction video. If you have a chance, read through the syllabus and have questions prepared for class.</p>	<p>Please read and do the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Complete the Getting to Know You Survey <input type="checkbox"/> Read the syllabus and come to class with any questions for the professor <input type="checkbox"/> Watch my intro video <input type="checkbox"/> Create your intro bio-video <p>Week 0 Hw: due Tuesday 8/23 by 3 pm</p>
<p>Week 1 08/30/22</p>  <p>In Person</p> <p><i>TPE</i> 1.5, 1.8, 2.2, 2.5, 2.6, 3.1, 3.4, 3.6, 4.4, 4.8, 6.1, 6.2</p>	<p>Focus: Course Introduction and Math Mindset</p> <ul style="list-style-type: none"> ❖ Introductions ❖ Presentation 1 <ul style="list-style-type: none"> ➢ Review course calendar and syllabus ➢ Review survey results ➢ Module Demo ➢ Canvas demo ➢ Lesson demonstration/5E ❖ Developing a Vision of Teaching Mathematics ❖ Start autobiography <p>Mathematics, Culture, and Community: An Autobiography assigned (due Week 3)</p> <p>Mathematics Portfolio assigned (due Week 16)</p> <p>Lesson Plan Presentation Schedule Sign Up Sheet (presentations are during weeks: 7, 9, 11, 13)</p>	<p>Please read and do the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Familiarize yourself with our Canvas page <input type="checkbox"/> Read Math Mindsets paper by Jo Boaler (read if you can) <input type="checkbox"/> Read Ch. 1 Teaching Dev. <input type="checkbox"/> Read Ch. 1 Taking Action <input type="checkbox"/> Portfolio Set Up (<i>choose 1</i>) <ul style="list-style-type: none"> ● Digital Folder/Site w/Following SubFolder or Sections: Papers, Modules, Math Standards, Lesson Plans, and Articles ● 1 ½ inch 3 ring binder and dividers
<p>Week 2 09/06/22</p> 	<p>Focus: Establish Mathematics Goals to Focus Learning</p> <p>Independent assignments are in the form of Modules. This week you begin with Module 1. Please complete</p>	<p>Please read and do the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Online Module #1 completed by 3 PM on 9/13 <input type="checkbox"/> Find a digital version of your grade level's Common Core State Standards for

<p>Online</p> <p><i>TPE</i> 1.1, 1.3, 2.2, 3.5, 3.1, 3.2, 3.4, 3.1, 3.2, 3.3, 6.1</p>	<p>the module and corresponding assignments by 9/6, 3PM.</p> <ul style="list-style-type: none"> ❖ Online Module #1 <ul style="list-style-type: none"> ➤ Ah-Ha Moment 1 ➤ Error Analysis ➤ Understanding Common Core Standards for Mathematics 	<p>Mathematics; File in your digital portfolio</p> <ul style="list-style-type: none"> <input type="checkbox"/> Read Teaching Dev., Ch. 2 (pp. 13-14, 19-29) <input type="checkbox"/> Read Taking Action, Ch. 2 (pp. 17-24, 29-35) <input type="checkbox"/> Autobiography completed by 3 PM on 9/27 <input type="checkbox"/> <i>Reminder:</i> sign up for lesson plan presentation
<p>Week 3 09/13/22</p>  <p>In Person</p> <p><i>TPE</i> 1.1, 1.3, 2.2, 3.5, 3.1, 3.2, 3.4, 3.1, 3.2, 3.3, 6.1</p>	<p>Focus: Equity and Access in Mathematics</p> <ul style="list-style-type: none"> ❖ Debrief Online Module #1 ❖ Digital Portfolio Check ❖ Presentation 2: <ul style="list-style-type: none"> ➤ Exploring What it Means to Know and Do Mathematics ➤ Teaching Through Problem Solving ➤ Effective Teaching Practice #1: Establish Goals to Focus Learning ➤ 5 Equity Based Practices (Taking Action pg. 6) ❖ Continue Autobiographies ❖ Guidelines for Lesson Plan Assignment: Assign Group 1 <p>Mathematics Lesson Rehearsal and Reflection Assigned (due Weeks 7, 9, 11, 13)</p>	<p>Please read and do the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Read Teaching Dev., Ch. 3 <input type="checkbox"/> Read Taking Action, Ch. 3 <input type="checkbox"/> Browse the National Library of Virtual Manipulatives. <i>Consider: Which manipulative(s) does this technology resource give you access to that you may not otherwise have in your classroom?</i> <input type="checkbox"/> <i>Reminder:</i> sign up for lesson plan presentation <p>Assignments Due:</p> <ul style="list-style-type: none"> ● Module 1 by 3pm
<p>Week 4 09/20/22</p>  <p>Online</p> <p><i>TPE</i> 1.1, 1.5, 1.7, 2.2, 2.5, 3.1, 3.2, 4.1, 4.4, 4.7, 5.1, 5.2, 5.5, 6.1</p>	<p>Focus: Implement Tasks that Promote Reasoning and Problem Solving</p> <ul style="list-style-type: none"> ❖ Online Module #2: <ul style="list-style-type: none"> ➤ Ah-Ha Moment ➤ Error Analysis ➤ Implementing Norms and Routines to Teach Through Problem Solving ➤ Read Launching Complex Tasks 	<p>Please read and do the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Online Module 2 due 9/27 by 3PM <input type="checkbox"/> Read Teaching Dev., Ch. 4 <input type="checkbox"/> Read Taking Action, Ch. 4 <input type="checkbox"/> Consider: How can you use the suggested planning questions to help you launch complex tasks more effectively? <input type="checkbox"/> Last day to sign up for Lesson Plan presentation

<p>Week 5 09/27/22</p>  <p>In Person</p> <p><i>TPE</i> 1.1, 1.3, 2.2, 2.3, 2.4, 2.4, 2.5, 4.7, 4.7, 6.1, 6.2</p>	<p>Focus: Elicit and Use Evidence of Student Thinking</p> <ul style="list-style-type: none"> ❖ Debrief Online Module #2 <ul style="list-style-type: none"> ➢ Ch. 4 Review ➢ Presentation 3: <ul style="list-style-type: none"> ■ Math Principle 8: Elicit and Use Evidence of Student Thinking <p>ETP Field Project (Pre) Assigned (due Week 8)</p>	<p>Please read and do the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Begin Online Module 3 due 10/11 by 3 PM <input type="checkbox"/> Read Teaching Dev., Ch. 5&6 <input type="checkbox"/> Read Taking Action, Ch. 5 <input type="checkbox"/> Group 1 begin working on lesson plan presentation <p>Assignment Due by 3pm:</p> <ul style="list-style-type: none"> ● Module 2 ● Mathematics, Culture, and Community: An Autobiography submit in class
<p>Week 6 10/04/22</p>  <p>Online</p> <p><i>TPE: 1.1, 1.3, 1.4, 1.5, 1.6, 2.5, 3.1, 3.2, 3.5, 3.6, 4.4, 5.1, 6.1, 6.2, 6.3</i></p>	<p>Focus: Posing Purposeful Questions</p> <ul style="list-style-type: none"> ❖ Online Module #3: <ul style="list-style-type: none"> ➢ Ah-Ha Moment ➢ Pose Purposeful Questions 	<p>Please read and do the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Begin Online Module 3 due 10/11 by 3 PM <input type="checkbox"/> Read Teaching Dev., Ch. 7 <input type="checkbox"/> Read Taking Action, Ch. 6 <input type="checkbox"/> Group 1 lesson plan due Tuesday 10/11 by 3pm. Print copies for the class and prepare to teach lesson
<p>Week 7 10/11/22</p>  <p>In Person</p> <p><i>TPE</i> 1.1, 1.3, 1.4, 1.5, 1.6, 2.5, 3.1, 3.5, 3.6, 4.4, 6.1, 6.2, 6.3</p>	<p>Focus: Facilitate Meaningful Mathematical Discourse</p> <ul style="list-style-type: none"> ❖ Debrief Online Module #3 ❖ Group 1 Presents Lesson Plans and Offer Feedback in Small Groups ❖ Presentation 4: <ul style="list-style-type: none"> ➢ Leading a Group Discussion ➢ Facilitate Meaningful Mathematical Discourse <p>Philosophy of Teaching Mathematics Assigned (due Week 13)</p>	<p>Please read and do the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Begin Online Module 4 due 10/18 by 3PM <input type="checkbox"/> Read Teach Dev., Chs. 8-9 <input type="checkbox"/> We covered Teaching Action, Ch. 7 in our in person session; Review Teaching Action, Ch. 7 <input type="checkbox"/> Group 1 Reflection due by Tuesday 10/18. <p>Assignment Due by 3pm:</p> <ul style="list-style-type: none"> ● Module 3 ● Group 1 Lesson plan
<p>Week 8 10/18/22</p>	<p>Focus: Use and Connect Mathematical Representations</p>	<p>Please read and do the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Module 4 due by 10/25 3 PM <input type="checkbox"/> Read Teach Dev., Chs. 10-11

 <p>Online</p> <p><i>TPE: 1.1, 1.3, 1.4, 1.5, 1.6, 2.5, 3.1, 3.5, 3.6, 4.4, 6.1, 6.2, 6.3</i></p>	<p>❖ Online Module #4:</p> <ul style="list-style-type: none"> ➢ Ah-Ha Moment <ul style="list-style-type: none"> <input type="checkbox"/> Error Analysis <input type="checkbox"/> One-to-One Correspondence 	<ul style="list-style-type: none"> <input type="checkbox"/> Read Taking Action, Ch. 8 <input type="checkbox"/> Review Taking Action, Ch. 6 <input type="checkbox"/> Group 2 lesson plan due Tuesday 10/25 by 3pm. Print copies for the class and prepare to teach lesson <p>Assignment Due by 3pm:</p> <ul style="list-style-type: none"> ● ETP Field Project (Pre) ● Group 1 Reflection
<p>Week 9 10/25/22</p>  <p>In Person</p> <p><i>TPE</i> <i>1.1, 1.3, 1.4, 1.5, 1.6, 2.5, 3.1, 3.5, 3.6, 4.4, 6.1, 6.2, 6.3</i></p>	<p>Focus: Build Procedural Fluency from Conceptual Understanding</p> <ul style="list-style-type: none"> ❖ Debrief Online Module #4 ❖ Group 2 Presents Lesson Plans and Offer Feedback in Small groups ❖ Presentation 5: <ul style="list-style-type: none"> ➢ Approaches to Teaching Fluency ➢ Assessing Students Learning <p>Mathematics Assessment Task Assigned (due Week 16)</p>	<p>Please read and do the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Begin Online Module #5 due 11/8 by 3PM <input type="checkbox"/> Read Teach Dev., Chs. 12-13 <input type="checkbox"/> Read Taking Action, Ch. 9 <input type="checkbox"/> Group 2 Reflection due by Tuesday 11/1 <input type="checkbox"/> Read the Mathematics Assessment Task Assignment Part I <p>Assignment Due by 3pm:</p> <ul style="list-style-type: none"> ● Module 4 ● Group 2 Lesson Plan
<p>Week 10 11/01/22</p>  <p>Online</p> <p><i>TPE: 1.1, 1.3, 1.4, 1.5, 1.6, 2.5, 3.1, 3.2, 3.5, 3.6, 4.4, 5.1, 6.1, 6.2, 6.3</i></p>	<p>Focus: Build Procedural Fluency from Conceptual Understanding & Support Productive Struggle in Learning Mathematics</p> <ul style="list-style-type: none"> ❖ Online Module #5: <ul style="list-style-type: none"> ➢ Ah-Ha Moment 5 ➢ Invented Strategies for Addition and Subtraction ➢ Productive Struggle 	<p>Please read and do the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Module 5 due 11/8 by 3 PM <input type="checkbox"/> Read Teach Dev., Chs. 13 & 14 <input type="checkbox"/> Read Taking Action, Ch. 10 <input type="checkbox"/> Group 3 lesson plan due Tuesday 11/8 by 3pm. Print copies for the class and prepare to teach lesson <p>Assignment Due by 3pm:</p> <ul style="list-style-type: none"> ● Group 2 Reflection
<p>Week 11 11/08/22</p>  <p>In Person</p> <p><i>TPE</i></p>	<p>Focus: Assessments and Checks for Understanding</p> <ul style="list-style-type: none"> ❖ Debrief Module #5 ❖ Group 3 Presents Lesson Plans and Offer Feedback in Small Groups ❖ Presentation 6: <ul style="list-style-type: none"> ➢ Checks for understanding and 	<p>Please read and do the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Begin Online Module #6, due 11/29 by 3pm <input type="checkbox"/> Read Teach Dev., Chs. 15 & 16 <input type="checkbox"/> Complete Part I Analysis of Whole Class <input type="checkbox"/> Group 3 Reflection due by Tuesday 11/15

<p>1.1, 1.3, 1.4, 1.5, 1.6, 2.5, 3.1, 3.2, 3.5, 3.6, 4.4, 5.1, 5.2, 6.1, 6.2, 6.3</p>	<p>Formative Assessments ➤ Math Assessment Task</p> <p>ETP Field Project (Post) Assigned (due Week 15)</p>	<p>Assignment Due by 3pm:</p> <ul style="list-style-type: none"> ● Module 5 ● Group 3 Lesson Plan
<p>Week 12 11/15/22</p>  <p>Online</p> <p><i>TPE</i> 1.1, 1.3, 1.4, 1.5, 1.6, 2.5, 3.1, 3.2, 3.5, 3.6, 4.4, 5.1, 6.1, 6.2, 6.3</p>	<p>Focus: Build Procedural Fluency from Conceptual Understanding & Support Productive Struggle in Learning Mathematics</p> <ul style="list-style-type: none"> ❖ Online Module #6: <ul style="list-style-type: none"> ➤ Ah-Ha Moment 6 ➤ A Dreaded Math Topic ➤ A Common Fraction Error 	<p>Please read and do the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Module 6 due 11/29 by 3 PM <input type="checkbox"/> Read Teach Dev., Ch. 17 <input type="checkbox"/> Read Mathematics Assessment Assignment Part II <input type="checkbox"/> Complete Part II Analysis of Three Focus Students <input type="checkbox"/> Group 4 lesson plan due Tuesday 11/29 by 3pm. Print copies for the class and prepare to teach lesson <p>Assignment Due by 3pm:</p> <ul style="list-style-type: none"> ● Group 3 Reflection
<p>Week 13 11/22/22</p>	<p style="text-align: center;">NO</p>	<p style="text-align: center;">CLASS</p>
<p>Week 14 11/29/22</p>  <p>In Person</p> <p><i>TPE</i> 3.1, 6.1, 6.2, 6.5</p>	<p>Focus: Build Procedural Fluency from Conceptual Understanding</p> <ul style="list-style-type: none"> ❖ Debrief Online Module #6 ❖ Group 4 Presents Lesson Plans and Offer Feedback in Small Groups ❖ Presentation 7: <ul style="list-style-type: none"> ➤ Surveys and Data ➤ Multiplication and Division ❖ Portfolio scoring procedures discussed ❖ Review Math Assessment Task Part II; Math Assessment Task Q and A 	<p>Please read and do the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Read Mathematics Assessment Assignment <input type="checkbox"/> Complete Part III Reengaging Students in Learning Mathematics <input type="checkbox"/> Group 4 Reflection due by Tuesday 12/06 <p>Assignment Due by 3pm:</p> <ul style="list-style-type: none"> ● Module 6 ● Philosophy of Teaching Mathematics ● Group 4 Lesson Plan
<p>Week 15 12/06/22</p>  <p>Online</p>	<p>Focus: Catch Up Week</p> <ul style="list-style-type: none"> ❖ Organize and Complete Digital Portfolio ❖ Complete Math Assessment Task Parts I, II, and III 	<p>Please read and do the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Mathematics Assessment Task due 12/13 by 3 PM <input type="checkbox"/> Prepare to present the <i>Error Analysis of the Whole Class</i> <input type="checkbox"/> Prepare to present <i>Explore & Explain</i> parts of the Re-Engagement Lesson

		Assignments Due by 3pm: <ul style="list-style-type: none"> ● ETP Field Project (Post) ● Group 4 Reflection
<p>Week 16 12/13/22</p>  <p>In Person</p>	<p><u>Focus:</u> Course Closure</p> <ul style="list-style-type: none"> ❖ Self-Score Portfolios using Google Forms ❖ Analyze the ETP Field Project (post) ❖ Present Math Assessment Tasks in Pairs and Self Score Parts ❖ Presentation 8: <ul style="list-style-type: none"> ➢ Fractions ➢ Best Practices for Educators ➢ Complete Online Course Evaluation 	<p>Assignments Due by 3pm:</p> <ul style="list-style-type: none"> ● Math Assessment Task ● Mathematics Portfolio <p>REST, SLEEP, SELF-CARE, WINTER BREAK!!!!</p>

IMPORTANT POLICIES:

Department and University Policies

Please review the following policies that apply in this course.

- Please review these important [department and university policies](#).
- Please review [CSUMB's Student Support Resources](#).

Student Disability Resource Center

Students with disabilities who may need accommodations can talk with me during office hours or make an appointment. Please call me at (831) 582-XXXX or email: XXXXXXXX. Also contact Student Disability Resources at: Student_Disability_Resources@csumb.edu or call 582-4024 fax/TTY. <https://csumb.edu/sdr>

Student Disability Resources (SDR) promotes the empowerment, wellness, and full integration of students with disabilities into campus life and the campus community. The staff provides academic and personal support services to students with disabilities in order for them to attain success at CSUMB. SDR is located in Building 80, (831) 582-3672.

Behavior & Netiquette

Please treat all others in the class with respect and consideration. Activities that are disruptive to the class will not be tolerated. Respect the privacy of your classmates and what they share in class. Ask classmates for clarification if you find a discussion posting difficult to understand and be prepared to back opinions with facts and reliable sources. Also, be mindful of communicating online:

- Be careful with humor and sarcasm, as they are easily misunderstood online.
- Avoid typing in all capital letters.
- Acronyms (LOL, etc.) and emoticons (smiles) are commonly used online, but only use them when they clarify your intent.
- Personal communications are best handled through email. Only post on the classroom forums if the content is relevant to others in the class.

TENTATIVE RUBRICS

A scoring guide accompanies each activity in the course and it describes how points are earned for various components of a given assignment. The following tentative scoring guides are attached as a courtesy to give you an idea of how each assignment will be graded, however, they are subject to change. Please see Canvas for the most up to date scoring guides for each activity.

The following criteria will be used to determine a score for each component of a given activity:

Criteria	0% Not acceptable	75% Important aspects of the activity are neglected or unfinished	85% Adequate; Most aspects of the activity have been fulfilled	100% Outstanding; meets all requirements
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Mathematics, Culture, and Community: An Autobiography Scoring Guide

50 points

1. Content _____ 20pts
 - a. Does the paper fully address the three required sections?
 - b. Is there evidence of self-assessment and reflection throughout?
 - c. Is the reflection both insightful and articulate?
 - d. Is ample support provided through detailed examples and elaboration of ideas?

2. Organization _____ 10pts
 - a. Is the paper well organized?
 - b. Does the introduction set forth the organization of the paper?
 - c. Does the conclusion bring closure to the paper?
 - d. Do the expressed ideas follow a logical progression?

3. Clarity of Thoughts _____ 10pts
 - a. Are the ideas well thought out?
 - b. Are there major gaps in the logical progression of ideas?
 - c. Are ideas integrated and investigated to a significant depth?

4. Clarity of Expression _____ 10pts
 - a. Is the paper easy to follow?
 - b. Are the ideas expressed well?
 - c. Are transitions used effectively?
 - d. Are correct grammar and syntax used?

Comments:

Math Methods: Effective Teaching Practice (ETP) Field Project Scoring Guide
50 points

Teacher: _____

1. Required Parts of Assignment _____ 20pts
 - a. Are the planning sheets for the pre-assessment and post-assessment interviews both completed and uploaded to Canvas?
 - b. Are the links for the video clips (created through a campus YouTube account) shared in the appropriate forums for this assignment in Canvas?
 - c. Are photographs of student work related to both interviews uploaded to Canvas?

2. Formulating and Posing Questions (post-assessment) _____ 15pts
 - a. Does the teacher develop hypotheses to test about the student's thinking and lead with general, open-ended questions?
 - b. Does the teacher choose areas of the student's expressed thinking or work to focus on and develop appropriate questions to reveal the student's understanding of the mathematical content?
 - c. Does the teacher identify elements of the student's thinking that are unstated, confusing, incorrect, and/or interesting, and probe further with corresponding questions or prompts?

3. Listening to and Interpreting the Student's Response _____ 15pts
 (post-assessment)
 - a. Is the student given plenty of time to speak?
 - b. Does the teacher pay close attention to what the student is saying without unnecessary interruptions?
 - c. Does the teacher notice and respond to specific features of the student's thinking: common patterns, strengths, strategies, novel ideas, areas of particular interest or engagement, weaknesses, and/or errors?

Comments:

Philosophy for Teaching Mathematics Scoring Guide**50 points**

1. Organization (Introduction Paragraph Only) _____ 20pts
 - a. Does the introduction set forth the organization of the bulleted principles?
 - b. Do the ideas reflect the knowledge base of math teaching research and the reading materials that we have covered in class?

2. Principles (Bulleted List) _____ 30pts
 - a. Are the principles clear and concise?
 - b. Are the principles coherent and well written?
 - c. Are the number of principles reasonable? (ten maximum)
 - d. Are the ideas expressed well thought out?

Comments:

Mathematics Lesson Plan Scoring Guide

200 points

1. Lesson Plan Structure and Format _____ 40pts
 - a. Does the lesson plan contain all components required in the CSUMB lesson plan template?
 - b. Within this template, does the lesson plan accurately apply the 5E format?
 - c. Is the lesson plan well organized?
 - d. Are appropriate sources cited?

2. Lesson Objective(s) _____ 30pts
 - a. Are the objective(s) derived from the CA Common Core Standards for Mathematics?
 - b. Are the related Standard(s) for Mathematical Practice included?
 - c. Are the objective(s) clear, concise, and written in a measurable form?
 - d. Do the objective(s) align with the activities and assessment task?

3. Lesson Activities _____ 40pts
 - a. Are the procedures and learning activities explained completely and clearly?
 - b. Are the activities in the Exploration Phase hands-on and were manipulatives used?
 - c. Did a class discussion occur in the Explanation stage with adequate elicitation of student thinking? Did the class discussion conclude with effective modeling and/or explanation of the content?
 - d. Are supports/scaffolding/ modifications included to allow all students to show their understanding?

4. Lesson Assessments _____ 30pts
 - a. Is a pre-assessment utilized and fully described to guide the lesson?
 - b. Are formative assessments utilized when appropriate to gauge student learning and guide the course of the lesson?
 - c. Is the summative assessment appropriate for the standard(s), objective(s), and grade level?

5. Teaching Rehearsal _____ 30pts
 - a. Are all the necessary set-up materials present? (10pts)
 - b. Does the presentation utilize the full allotted time given? (10pts)
 - c. Are the lesson segments well organized and delivered? (10pts)

6. Post-Teaching Reflection _____ 30pts
 - a. Is the reflection meaningful and insightful? (10pts)
 - b. Does the reflection adequately address the requirements? (10pts)
 - c. Are proper conventions used in the reflection? (10pts)

Comments:

Math Assessment Task Scoring Guide

200 points

I. Analyzing Student Work _____

100pts

1. Analysis of Whole Class

- a. Standards/Objectives _____ 10pts
- Were the CA Common Core Mathematics Standard(s) for the assessment task accurately identified?
 - Were appropriate learning objective(s) for the assessment task identified?
- b. Evaluation Criteria _____ 10pts
- Was an example of the evaluation criteria included?
- c. Analysis _____ 20pts
- Was student work from the assessment critically analyzed using the included evaluation criteria?
 - Was a graphic (chart or table) or narrative that summarized student learning for the whole class of six students included?
- d. Analysis Results _____ 20pts
- Were patterns of learning within and across learners in the class identified relative to conceptual understanding, procedural fluency, and mathematical reasoning/problem-solving skills?
 - Were examples from the summary chart referenced in this discussion?

2. Analysis of Three Focus Students

- a. Area of Struggle _____ 10pts
- Was one area where the students struggled mathematically properly identified?
- b. Student Work Samples _____ 10pts
- Were 3 student work samples selected that demonstrate this area of struggle?
- c. Analysis Results _____ 20pts
- Were the 3 students' work samples analyzed to describe the students' struggle(s) as they relate to the underlying mathematical understanding and/or concept?
 - Was specific evidence from the work samples in relation to mathematical errors, confusions, and partial understandings cited?

II. Re-Engaging Students in Learning Mathematics _____ 100pts

When revisiting a topic, effective teachers use a different approach with the assumption that the first approach did not work for all the students. Teachers of mathematics re-engage students by implementing different instructional strategies and using different representations while either correcting misconceptions or deepening understandings. You must re-engage the students in the area of struggle that you identified in the analysis of the focus student work samples

The lesson plan for the re-engagement lesson should provide enough detail that the scorer can see that:

- (a) the lesson deals with the same struggle as identified during the analysis of the focus student work _____ 10pts
- (b) that it uses a different approach than the original lessons in the Learning _____ 10pts
- (c) must include a learning objective/goal, the related content standards, the strategies and learning tasks to engage students, the representations or materials to be used _____ 50pts
- (d) must include the assessment(s) to monitor student learning during the re-engagement lesson and specific student responses. _____ 30pts

Comments:

Digital Math Notebook Scoring Guide**50 points**

Name: _____

Folder Contents*:**1. Papers _____ /25 points**

- Math Autobiography (5pts)
- Philosophy Paper (5pts)
- ETP Pre & Post (5pts)
- Math Assessment Task (5pts)
- Course Syllabus (5pts)

2. Student Error Analysis _____ /10 points

- Module 1 (2pts)
- Module 2 (2pts)
- Module 3 (2pts)
- Module 4 (2pts)
- Module 5 (2pts)

3. Lesson Plans (4 + Lesson Plans; this includes your own) _____ /5 points

- Please have your peers share their lesson plans with you!

4. Standards _____ /5 points

- Copy of your grade level standards

5. Articles/Handouts/Links to Digital Resources _____ /5 points

- [High Leverage Practices](#) by Teaching Works University of Michigan
- [Fluency without Fear](#) by Jo Boaler
- [Warning Signs](#) by Victoria Jacobs, Heather Martin, Rebecca Ambrose, and Randolph Philipp
- [Find Your Marigolds](#) by Jennifer Gonzalez
- Choose any 1 fluency engagement game (Tall Towers, Place Value Game, shake and spill, How Close to 100 etc....)

TOTAL _____ /50 points

**your binder can be in any of the following formats: Digital (gDrive, Adobe, gDoc (w/hyperlinks), website (gSite, Weebly, Wordpress etc.), Hard Copy (paper with dividers)*

Comments: