



Advanced Studies in Education & Counseling

Vision:

Equity & Excellence in Education

Mission:

The College of Education at CSULB is a learning and teaching community that prepares professional educators and practitioners who promote equity and excellence in diverse urban settings through effective pedagogy, evidence-based practices, collaboration, leadership, innovation, scholarship, and advocacy.

EDSP 518 Integrated Math Instruction Across Content Areas Fall 2022 Department of Advanced Studies in Education & Counseling

Course Information

Instructor: Dr. Jolan Smith	Email: Jolan.Smith@csulb.edu
Office Hours Days/Times:	Office Hours Location:
Class Days/Times:	Class Location:

Catalog Course Description

Prerequisites: Admission to the Education Specialist Credential Program or consent of instructor. Completion of, or concurrent enrollment in UDCP 400. This course prepares candidates to teach Math across content areas (science, technology, engineering, arts) in inclusive urban schools with students with mild/moderate to extensive support needs. Emphasis on universal design for learning (UDL) and culturally responsive and sustaining pedagogy (CRSP). Letter grade only A-F.

Course Student Learning Outcomes and Goals

Upon successful completion of this course, candidates will:

1. Demonstrate understanding of the connection between mathematical content and mathematical practice aligned with the California Common Core State Standards (CCSS) for Mathematics, Mathematics Framework for California Public Schools, and the National Council of Teachers of Mathematics (NCTM) Process Standards. (TPEs: U 3.1, 4.3; MM 4.2; ESN 3.2, 4.4)
2. Apply a variety of accommodations and modifications related to interdisciplinary instructional plans, instruction delivery, and assessment of learning, reflecting on their effectiveness for student support and access to the curriculum. (TPEs: U 2.2, 3.2, 3.5; MM 2.1, 3.1; ESN 2.5, 3.3)
3. Use best practices to develop formative asset-based assessment strategies (i.e., develop clear learning objectives, collect data, interpret data, adjust instruction/act on the data) that foster self-determination and independent learning strategies in students. (TPEs: U 1.8, 4.5, 5.3; MM 1.6, 1.7; ESN 1.9, 1.11)
4. Interpret and reflect on multiple modes of assessment data (e.g., curriculum-based measures, IEP goals, performance assessment, standardized assessments, etc.) for monitoring student progress, evaluating the efficacy

of instructional planning and delivery, and ensuring equity in assessment. (TPEs: U 1.2, 5.1, 5.2, 5.5, 5.8; MM 1.4, 4.7; ESN 1.4, 4.8, 5.1, 5.3, 5.7)

5. Utilize student strengths and interests to develop multi-modal lessons reflecting universal design for learning (UDL) strategies and supports to reach a wide range of learners with varying instructional and support needs (e.g., mild/moderate supports, extensive support needs) along the continuum of placements and instructional delivery modes (e.g., general education with consultation, special day class, co-teaching, etc.). (TPEs: U 1.1, 1.4, 3.2; MM 1.7, 3.2, 4.5; ESN 1.4, 3.2, 3.4, 4.6)

6. Plan, teach, and reflect on the delivery and effectiveness of instructional lessons using culturally responsive and sustaining pedagogies (CRSP) that reflect Black, Indigenous, and People of Color (BIPOC) cultures. (TPEs: U 1.1, 2.2, 5.7, 6.2)

7. Develop plans to utilize technology, including assistive technology, for planning, instruction, assessment, and communication with students with disabilities, families, and other educational professionals. (TPEs: U 3.6, 3.7, 3.8, 4.8, 5.4; MM 4.1; ESN 1.2, 3.1, 4.3)

8. Demonstrate and reflect on equity-minded practices, including individual cultural competence, communication skills, and cultural sensitivity when collaborating with diverse students and families and when communicating about diverse cultural groups to a variety of audiences (e.g., students, parents, other educational professionals, etc.). (TPEs: U 1.2; MM 4.6; ESN 4.7, 6.1, 6.2)

9. Demonstrate knowledge of instructional practices in mathematical content and practice areas and adaptations/modifications to support learning for students with and without disabilities (e.g., cognitively guided instruction, project-based learning, explicit instruction, small-group, peer-assisted learning, etc.). (TPEs: U 1.5, 3.3, 3.4, 6.1; MM 1.1, 4.2, 4.3; ESN 1.6, 4.1, 4.4)

10. Identify and use grade-level state content standards (e.g., Common Core State Standards, Next Generation Science Standards, etc.) to plan interdisciplinary instructional units and individual lessons that incorporate mathematics, science, technology, engineering, and visual and performing arts. (TPEs: U 1.3, 1.7, 3.1, 3.3, 4.3; MM 4.4; ESN 4.5)

Teacher Performance Expectations (TPEs) Addressed in EDSP 518	Introduced (I), Practiced (P), Assessed (A)
<i>U1.1</i> Apply knowledge of students, including their prior experiences, interests, and social-emotional learning needs, as well as their funds of knowledge and cultural, language, and socioeconomic backgrounds, to engage them in learning.	I,P,A
<i>U1.2</i> Maintain ongoing communication with students and families, including the use of technology to communicate with and support students and families, and to communicate achievement expectations and student progress	I,P
<i>U1.3</i> Connect subject matter to real-life contexts and provide active learning experiences to engage student interest, support student motivation, and allow students to extend their learning.	I,P
<i>U1.4</i> Use a variety of developmentally and ability-appropriate instructional strategies, resources, and assistive technology, including principles of Universal Design of Learning (UDL)	I,P,A

and Multi-Tiered System of Supports (MTSS) to support access to the curriculum for a wide range of learners within the general education classroom and environment.	
<i>U1.5</i> Promote students' critical and creative thinking and analysis through activities that provide opportunities for inquiry, problem solving, responding to and framing meaningful questions, and reflection.	I,P
<i>U1.6</i> Provide a supportive learning environment for students' first and/or second language acquisition by using research-based instructional approaches, including focused English Language Development, Specially Designed Academic Instruction in English (SDAIE), scaffolding across content areas, and structured English immersion, and demonstrate an understanding of the difference among students whose only instructional need is to acquire Standard English proficiency, students who may have an identified disability affecting their ability to acquire Standard English proficiency, and students who may have both a need to acquire Standard English proficiency and an identified disability.	I,P
<i>U1.7</i> Provide students with opportunities to access the curriculum by incorporating the visual and performing arts, as appropriate to the content and context of learning.	I,P,A
<i>U1.8</i> Monitor student learning and adjust instruction while teaching so that students continue to be actively engaged in learning.	I
<i>U2.2</i> Create learning environments (i.e., traditional, blended, and online) that promote productive student learning, encourage positive interactions among students, reflect diversity and multiple perspectives, and are culturally responsive.	I
<i>U3.1</i> Demonstrate knowledge of subject matter, including the adopted California State Standards and curriculum frameworks.	I,P,A
<i>U3.2</i> Use knowledge about students and learning goals to organize the curriculum to facilitate student understanding of subject matter, and make accommodations and/or modifications as needed to promote student access to the curriculum.	I,P,A
<i>U3.3</i> Plan, design, implement, and monitor instruction consistent with current subject-specific pedagogy in the content area(s) of instruction, and design and implement disciplinary and cross-disciplinary learning sequences, including integrating the visual and performing arts as applicable to the discipline. <i>(See Subject-Specific Pedagogical Skills in Section 2 for reference)</i>	I,P,A
<i>U3.4</i> Individually and through consultation and collaboration with other educators and members of the larger school community, plan for effective subject matter instruction and use multiple means of representing, expressing, and engaging students to demonstrate their knowledge.	I,P
<i>U3.5</i> Adapt subject matter curriculum, organization, and planning to support the acquisition and use of academic language within learning activities to promote the subject matter knowledge of all students, including the full range of English learners, Standard English learners, students with disabilities, and students with other learning needs in the least restrictive environment.	I,P
<i>U3.6</i> Use and adapt resources, standards-aligned instructional materials, and a range of technology, including assistive technology, to facilitate students' equitable access to the curriculum.	I,P,A
<i>U3.7</i> Model and develop digital literacy by using technology to engage students and support their learning, and promote digital citizenship, including respecting copyright law, understanding fair use guidelines and the use of Creative Commons license, and maintaining Internet Security	I,P
<i>U3.8</i> Demonstrate knowledge of effective teaching strategies aligned with the internationally recognized educational technology standards.	I

<i>U4.3</i> Design and implement instruction and assessment that reflects the interconnectedness of academic content areas and related student skills development in literacy, mathematics, science, and other disciplines across the curriculum, as applicable to the subject area of instruction.	I,P,A
<i>U4.5</i> Promote student success by providing opportunities for students to understand and advocate for strategies that meet their individual learning needs and assist students with specific learning needs to successfully participate in transition plans (e.g., IEP, IFSP, ITP, and 504 plans.)	I
<i>U4.8</i> Use digital tools and learning technologies across learning environments as appropriate to create new content and provide personalized and integrated technology-rich lessons to engage students in learning, promote digital literacy, and offer students multiple means to demonstrate their learning.	I,P,A
<i>U5.1</i> Apply knowledge of the purposes, characteristics, and appropriate uses of different types of assessments (e.g., diagnostic, informal, formal, progress-monitoring, formative, summative, and performance) to design and administer classroom assessments, including use of scoring rubrics.	I,P
<i>U5.2</i> Collect and analyze assessment data from multiple measures and sources to plan and modify instruction and document students' learning over time.	I,P
<i>U5.3</i> Involve all students in self-assessment and reflection on their learning goals and progress and provide students with opportunities to revise or reframe their work based on assessment feedback.	I,P
<i>U5.4</i> Use technology as appropriate to support assessment administration, conduct data analysis, and communicate learning outcomes to students and families.	I,P
<i>U5.5</i> Use assessment information in a timely manner to assist students and families in understanding student progress in meeting learning goals.	I,P
<i>U5.7</i> Interpret English learners' assessment data to identify their level of academic proficiency in English as well as in their primary language, as applicable, and use this information in planning instruction.	I,P
<i>U5.8</i> Use assessment data, including information from students' IEP, IFSP, ITP, and 504 plans, to establish learning goals and to plan, differentiate, make accommodations and/or modify instruction.	I,P
<i>U6.1</i> Reflect on their own teaching practice and level of subject matter and pedagogical knowledge to plan and implement instruction that can improve student learning.	I,P
<i>U6.2</i> Recognize their own values and implicit and explicit biases, the ways in which these values and implicit and explicit biases may positively and negatively affect teaching and learning, and work to mitigate any negative impact on the teaching and learning of students. They exhibit positive dispositions of caring, support, acceptance, and fairness toward all students and families, as well as toward their colleagues.	I
<i>ESN1.2</i> Demonstrate understanding of mandated considerations for augmentative and alternative communication technology for students with extensive support needs.	I
<i>ESN1.4</i> Use strategies to support positive psychosocial development and self-determined behavior of students with extensive support needs. (U1.1) MM1.7	I,P
<i>ESN1.6</i> Demonstrate the ability to collaboratively develop and implement Individualized Education Programs (IEP), including instructional goals that ensure access to the Common Core State Standards and California Preschool Learning Foundations, as appropriate, that lead to effective inclusion of students with disabilities in the general education core curriculum. MM1.1	I,P

<i>ESN1.9</i> Monitor student progress toward learning goals as identified in the academic content standards and the IEP/Individual Transition plan (ITP). (U1.4) MM1.4	I
<i>ESN1.11</i> Facilitate and support students in assuming increasing responsibility for learning and self-advocacy based on individual needs, with appropriate transitions between academic levels in programs and developing skills related to career, college, independent living and community participation. (U1.3) MM1.6	I
<i>ESN2.5</i> Develop accommodations and modifications specific to students with disabilities to allow access to learning environments, including incorporating instructional and assistive technology, and alternative and augmentative procedures to optimize the learning opportunities and outcomes for all students, and to move them toward effective inclusion in general education settings. (U2.2) MM 2.1	I,P,A
<i>ESN3.1</i> Demonstrate a depth of knowledge and skills, including the use of assistive technology, in the teaching of strategies for early literacy skills, reading, writing, math, and science, that ultimately enable students with extensive support needs to access the academic core curriculum.	I,P
<i>ESN3.2</i> Identify and utilize curricula and evidence-based instructional strategies that meet the diverse learning characteristics of students with extensive support needs across an array of environments and activities.	I,P
<i>ESN3.3</i> Adapt, modify, accommodate and differentiate the instruction of students with identified disabilities in order to develop appropriate goals and accommodations and facilitate access to the Least Restrictive Environment (LRE). (U3.5) MM 3.1	I,P
<i>ESN3.4</i> Demonstrate knowledge of disabilities and their effects on learning, skills development, social-emotional development, mental health, and behavior, and of how to access and use related services and additional supports to organize and support effective instruction. (U3.2) MM 3.2	I,P
<i>ESN4.1</i> Identify and utilize behaviorally based teaching strategies in the design and implementation of instruction to effectively serve students with extensive support needs with the understanding that behaviors are communicative and serve a function. MM 4.3	I,P
<i>ESN4.3</i> Demonstrate the ability to use assistive technology, augmentative and alternative communication (AAC) including low- and high-tech equipment and materials to facilitate communication, curriculum access, and skills development of students with disabilities. (U4.4) MM 4.1	I,P,A
<i>ESN4.4</i> Demonstrate the ability to use evidenced-based high leverage practices with a range of student needs, and evaluate a variety of pedagogical approaches to instruction, including instructional sequences, unit and lesson plans, in order to provide students with disabilities equitable access to the content and experiences aligned with the state-adopted core curriculum. (U4.3) MM 4.2	I,P,A
<i>ESN4.5</i> Demonstrate the ability to create short and long-term goals that are responsive to the unique needs of the student and meet the grade level requirements of the core curriculum, and which are systematically adjusted as needed to promote maximum learning and academic achievement within inclusive environments. (U4.1) MM 4.4	I,P
<i>ESN4.6</i> Demonstrate knowledge of core challenges associated with the neurology of open or closed head injuries resulting in impairments and adjust teaching strategies based upon the unique profile of students who present with physical/medical access issues or who retain a general fund of knowledge, but demonstrate difficulty acquiring and retaining new information due to poor memory processing, as well as neuro behavioral issues. MM 4.5	I,P
<i>ESN4.8</i> Use person-centered/family centered planning processes, and strengths-based, functional/ecological assessments across classroom and non-classroom contexts that lead to	I,P

students' meaningful participation in core, standards-based curriculum, life skills curriculum, and/or wellness curriculum, and that support progress toward IEP goals and objectives. (U4.5) MM 4.7	
<i>ESN5.1</i> Utilize person-centered/family centered planning processes, self-determination, strengths-based, functional/ecological, and observational assessment data from multiple sources to develop effective evidence-based instructional supports and strategies for students with extensive support needs.	I,P
<i>ESN5.3</i> Each candidate utilizes assessment data to: 1) identify effective intervention and support techniques, 2) develop needed augmentative and alternative systems, 3) implement instruction of communication and social skills, 4) create and facilitate opportunities for interaction; 5) develop communication methods to demonstrate student academic knowledge; and 6) address the unique learning, sensory and access needs of students with physical/orthopedic disabilities, other health impairments, and multiple disabilities. MM 5.2	I,P
<i>ESN5.7</i> Know how to appropriately administer assessments according to the established protocols for each assessment. Candidates also understand how to implement appropriate accommodations on assessments for students with disabilities that do not fundamentally alter the nature and/or content of what is being tested, and how to use AAC appropriately for facilitating the participation in the assessment of students with complex communications needs. (U5.2/5.4) MM 5.6	I
<i>ESN6.1</i> Create supportive partnerships with parents, families, teachers and employers to provide instructional, behavioral, social, communication, sensory, and pragmatically appropriate supports to students with extensive support needs.	I
<i>ESN6.2</i> Demonstrate the ability to coordinate and collaborate effectively with paraprofessionals and other adults in the classroom. (U6.4) MM 6.1	I
Developmentally Appropriate in Relation to Subject-Specific Pedagogy Beginning teachers understand that students' development varies across and within age ranges; is influenced by social, cultural, linguistic, and other contexts; and that these factors influence each other in complex ways. Beginning teachers understand that students' learning and development are also influenced by the interaction between their prior experiences; ethnic, cultural, and linguistic backgrounds; maturational status; and the range of environmental and cultural experiences that they bring to the classroom. Beginning teachers approach classroom practice with the belief that all students can learn, and they recognize that the social and academic environment within their classroom has tremendous impact on learning.	A

Required Texts/Course Materials:

An, S., & Wu, Z. (2020). *Teaching elementary and middle school mathematics using the MSA approach* (5th ed.). Education for All.

Quigley, C. F., & Herro, D. (2019). *An educator's guide to STEAM: Engaging students using real-world problems*. Teachers College.

Additional assigned readings, videos, and learning modules will be posted on BeachBoard. See Weekly Course Schedule for reading assignments, instructional activities, and due dates.

Mode of Delivery and Technical Requirements

This course is hybrid in design, involving both in-person instruction and online learning. Students will access the course material and activities on [BeachBoard](#) and are required to participate in synchronous class meetings via [Zoom](#) or in person, as applicable. All students must have access to a computer or other device with Internet functionality to access BeachBoard and Zoom, participate in class activities, and complete assignments. Students must also have access to Internet sufficient to interact in synchronous meetings.

Students who experience unexpected technical issues for a class session or assignment will be provided with the opportunity to make up missed work. Students who experience technical issues during a synchronous meeting or with an assignment should email me as soon as possible to let me know.

To access this course on [BeachBoard](#) and [Zoom](#), students will need access to the Internet and a supported web browser (Safari, Google Chrome or Firefox). Log in to [BeachBoard](#) with your CSULB Campus ID and BeachID password. Once logged in, you will see the course listed in the My Courses widget; click on the title to access the course. To access Zoom, first [install the latest version](#) of the Zoom app on your device. Use the link provided and/or sign in using your CSULB Campus ID and BeachID password via Single Sign On to create or join a Zoom session. If students need technical assistance during the course or would like to report a technical issue with BeachBoard or Zoom, they should contact the [Technology Help Desk](#).

Documents in this course will be available to you mainly in Word and PowerPoint forms. However, some of the documents in this course will be available to you in PDF form. If you do not have Adobe Acrobat Reader software on your computer, you can download it by going to <http://get.adobe.com/reader/>.

Course Communication and Zoom Etiquette

We will use BeachBoard to make announcements, communicate information, post assignments and corresponding due dates, and discuss course-related topics. Please note: It is the student's responsibility to check BeachBoard a minimum of once per week, as it will contain important information about upcoming class assignments, activities, and other elements of the course. Students should also be sure to check their CSULB email accounts a minimum of once per week to receive important communications about the course from the instructor or other enrolled students. Students should also review the Office of Student Conduct and Ethical Development's [Zoom Etiquette for Students @ the Beach](#).

Students are strongly encouraged to contact the instructor with any course-related issues or questions you may have. Email is the most effective way of contacting the instructor. E-mail will generally be answered within 24 hours Monday-Friday. Emails sent Friday after 3pm through Sunday will receive a response the following Monday; please plan accordingly. The instructor is also available for office hours (see first page for days, hours, and location).

TPEs that are Introduced and Practiced are listed under the Course Schedule. TPEs that are Assessed are listed under Course Evaluation Components and Grading.

Course Schedule

Week	Topics (SLO Number)	Readings, Activities, & Assignments
1	-Introduction to Math Foundations -CA Math Standards & Framework -Mathematical Practice and Process Standards -Characteristics of Effective Math Programs	Watch the Video: Common Core State Standards for Math (IRIS)

	(U 3.1, 4.3; MM 4.2; ESN 3.2, 4.4 – I)	Complete the IRIS Module: High Quality Mathematics Instruction – What Teachers Should Know (U6.1, MM 4.2, ESN 4.4 – P)
2	-Math Instructional Strategies: <i>5E model, Inquiry-Based Learning, Cognitively Guided Instruction, Problem-Based Learning, 3-phase model, Explicit Instruction, Cooperative learning</i> (U 1.3, 1.5, MM 4.2, ESN 3.2, 4.4, 6.2 – I)	Watch the Video - HLP#16: Use Explicit Instruction (IRIS) Read Ch. 1 – An & Wu (2020) Read Alghamdi et al. (2020) In-Class Math Strategy Jigsaw Activity: Groups will demonstrate how to solve a math problem using the assigned instructional strategy (U 1.3, 1.5, MM 4.2, ESN 4.4 – P)
3	- Standards-based math lesson plans & IEPs - Lesson Plan and Unit Plan Development - Writing Clear Learning Objectives - Accommodations & Modifications - Differentiation Strategies (U 1.3, 3.1, 3.2, 3.4, 3.5, 3.6, 5.8, MM 1.1, 4.4, ESN 1.6, 2.5, 3.2, 3.3, 4.5 – I) Developmentally Appropriate Practices in Relation to Subject-Specific Pedagogical TPEs	Watch the Video – HLP #12: Systematically Design Instruction Towards Learning Goals Lesson Plan Workshop Activity: Math Lesson Plan #1 – Candidates will begin and get feedback on 1 st math lesson for math unit assignment (U 3.1, 3.2, 3.4, 3.5, 3.6, 5.8, 6.1, MM 1.1, 4.2, ESN 1.6, 2.5, 3.2, 3.3, 4.4, 4.5 – P)
4	- Universal Design for Learning (UDL) - Culturally Responsive & Sustaining Practices (CRSP) - Respect, Bias, & Privilege in Curriculum - Meeting the Needs of Special Populations: <i>Black, Indigenous, and People of Color (BIPOC), English Language Learners (ELL), Extensive Support Needs (ESN), Traumatic Brain Injury (TBI)</i> (U 1.1, 1.4, 1.6, 2.2, 3.2, 3.4, 3.5, 3.6, 4.5, 5.7, 6.2, MM 2.1, 3.2 ESN 1.2, 2.5, 3.2, 3.3, 3.4, 4.6 – I) Developmentally Appropriate Practices in Relation to Subject-Specific Pedagogical TPEs	Watch the Video - HLP #18: Use Strategies to Promote Active Student Engagement (IRIS) Read Bowman et al. (2019) Lesson Plan Workshop Activity: Math Lesson Plan #2 – Candidates will begin and get feedback on 2 nd lesson for math unit assignment (U 1.1, 1.4, 1.6, 3.1, 3.2, 3.4, 3.5, 3.6, 5.7, 6.1, MM 2.1, 3.2, 4.2, ESN 2.5, 3.2, 3.3, 3.4, 4.4 – P)
5	- Assessing Student Learning: Diagnostic, Formative, Summative, Progress Monitoring, Student Self-Assessment	Complete IRIS Module: Progress Monitoring in Mathematics (MM 4.4, ESN 4.5)

	<ul style="list-style-type: none"> - CAASPP, Smarter Balanced Math Assessments (U 1.2, 1.8, 5.1, 5.2, 5.3, 5.4, 5.5, 5.8, MM 1.7, 4.4, 4.7, ESN 1.4, 1.9, 1.11, 4.5, 4.8, 5.1, 5.3, 5.7-I) 	<p>Lesson Plan Workshop Activity: Math Lesson Plan #3 – Candidates will begin and get feedback on 3rd lesson for math unit assignment</p> <p>(U 1.2, 3.1, 5.1, 5.2, 5.3, 5.4, 5.5, 5.8, 6.1, MM 1.7, 3.2, ESN 1.4, 3.4, 4.8, 5.1, 5.3 – P)</p>
6	<ul style="list-style-type: none"> - Technology as a Tool – Equity, Access, and Engagement - Teaching Technological Skills, Understanding Data - ISTE Standards - Assistive Technology for Students with Disabilities <p>(U 3.1, 3.7, 3.8, 4.8, 5.4, MM 1.1, 4.1, ESN 1.6, 3.1, 4.3 – I)</p>	<p>Complete IRIS Module: MTSS/RTI Mathematics (MM 4.4, ESN 4.5)</p> <p>Technology Supported Science, Technology, Engineering, and Math (STEM) Instruction for Students with Disabilities LD Topics LD OnLine</p> <p>Lesson Plan Workshop Activity: Math Lesson Plan #4 – Candidates will begin and get feedback on 4th lesson for math unit assignment</p> <p>(U 3.1, 3.7, 4.8, 5.3, 5.4, 6.1, MM 1.1, 3.1, ESN 1.6, 3.1, 3.2, 3.3, 3.4, 4.3-P)</p>
7	<p>Math Lesson Plan Presentations – Candidates present and deliver 1 lesson from their math unit (MM 4.2, ESN 4.4 – P)</p>	<p>Math Unit Assignment Due (5 lessons)</p>
8	<ul style="list-style-type: none"> - Next Generation Science Standards (NGSS) - The Nature of Science - Scientific Methods: <i>5E, Problem-Based Learning, Inquiry-Based Learning, Cognitively Guided instruction, Explicit Instruction, Cooperative Learning</i> <p>(U 3.1, MM 4.2, ESN 3.2, 4.4, 4.8 – I)</p>	<p>Read VanUitert et al. (2020)</p> <p>Read Knight et al. (2020)</p> <p>Read Jimenez et al. (2012)</p> <p>ESN 3.4</p>
9	<ul style="list-style-type: none"> - Science Strategies for Students with Disabilities - Accommodations & Modifications - Behavior-based Teaching Strategies - Science Safety - Integrating Math & Science: Reasoning, Explaining, Collecting and Interpreting Data <p>(U 3.2, 4.3, MM 3.2, 4.1, 4.2 ESN 1.2, 2.5, 3.1, 3.2, 3.3, 3.4, 4.1, 4.3, 4.4, 4.6 – I)</p>	<p>Assessment Project Due</p> <p><i>In-Class Activity:</i> Complete the Science Inclusive TBI Table. Using an inclusive science lesson plan, candidate pairs complete a table including the causes, characteristics, strategies, accommodations, and modifications for a student with brain injury. (MM 4.2, ESN 4.1, 4.4, 4.6 – P)</p>
10	<ul style="list-style-type: none"> - Visual and Performing Arts Standards (VAPA) - Studio Habits of Mind: Using Art for Problem-Based Learning, UDL - Art, Design, and Critique: Feldman’s Model, June McFee Framework 	<p>Module 8: Student Engagement: Habits of Mind and Competency Targets: SBVC Design Thinking (instructure.com)</p> <p><i>Reflection:</i> Candidates will write a 1- or 2-page reflection on the relationship between</p>

	(U 1.5, 1.7, 3.1, 4.3, MM 4.2, ESN 4.4 - I)	Habits of Mind and the instructional strategies from other disciplines. (U 1.5, 1.7, 3.1, 4.3, 6.1, 6.2, MM 4.2, ESN 4.4 - I)
11	- Developing Lessons that Integrate Art Media: Fine Arts, Painting, Ceramics, Digital Art, Music Technology for Art - Integrating Art with Math & Science - Constructing Models in Teams, Cooperative Learning (U 1.7, 3.3, 4.3, 4.8, MM 4.1, 4.2, 4.4, ESN 4.3, 4.4, 4.5 - I)	Interacting with Peers in Mathematics LD Topics LD OnLine Quigley & Herro (2019) – read pgs. 1-28 <i>In Class Activity:</i> Constructing multiple models for lesson samples (U 1.3, 1.7, 6.1, MM 4.2, ESN 4.4 – P)
12	Integrated Lesson Plan Presentations – Candidates present and deliver 1 lesson from their integrated math unit (U 3.3, 4.3, 4.8, MM 4.2, ESN 4.4, – P)	Integrated Math Unit Due
13	- Engineering Design Process – A Problem-Solving Approach - Core Concepts, Skills, & Habits of Mind - Engineering Thinking (EThink) - Similarities and Differences in Engineering, Science, and Math (U 1.5, 1.7, 3.3, 4.3, 4.8, ESN 3.1 – I)	Read Ch. 2 – Teaching Engineering in K-12 Education (National Academy of Sciences) Read Butera et al. (2016) (U 1.5, 1.7, 3.3, 4.3, 4.8, ESN 3.1 – I)
14	FALL BREAK	
15	-Teaching Engineering in Urban Schools - Real-World Problems and Real-World Solutions for BIPOC communities - Self-Determination Skills Development through Engineering Design (U 6.1, 6.2, ESN 1.4, 3.1 – I)	Read Ch. 3 – Teaching Engineering in K-12 Education (National Academy of Sciences) Read Miller et al. (2015) (U 6.1, 6.2, ESN 1.4, 3.1 – I)
16	- Current Issues in STEM and STEAM - Inclusion of Students with Disabilities in STEM/STEAM (U 3.2, MM 2.1, 3.2 ESN 1.6, 2.5, 3.4 – I)	Interdisciplinary Unit & Electronic Portfolio Due

Course Evaluation Components and Grading

Evaluation Components

I. Mathematics Unit - 125 points; Due Week 7; SLO #1, #2, #3, #4, #6, #7, #8, #9

TPEs Assessed: U 1.1, 1.2, 1.5, 1.8, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 4.3, 4.5, 4.8, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 6.1, 6.2; MM 1.1, 1.4, 1.6, 1.7, 2.1, 3.1, 4.1, 4.2, 4.3, 4.6, 4.7; ESN 1.2, 1.4, 1.6, 1.9, 1.11, 2.5, 3.1, 3.2, 3.3, 4.1, 4.3, 4.4, 4.7, 4.8, 5.1, 5.3, 5.7, 6.1, 6.2

Developmentally Appropriate Practices in Relation to Subject-Specific Pedagogy TPEs

Candidates will develop a unit of math instruction (with a minimum of five lessons) that demonstrate different approaches to math instruction (e.g., 5E approach, modeling, strategy, application (MSA) approach, cognitively guided instruction (CGI) approach). Unit plan must integrate use of assistive technology, reflect culturally responsive and sustaining practices (CRSP) for Black, Indigenous, and People of Color (BIPoC), demonstrate universal design for learning (UDL), and explicitly address the accommodations and modifications for students with mild/moderate support needs and extensive support needs, and supports for English language learners. Candidates will deliver a lesson from that unit to the class or a group of students and complete a written reflection.

II. Integrated Math Unit – 150 points; Due Week 12; SLO #1, #3, #5, #6, #7, #8, #9, #10

TPEs Assessed: U 1.1, 1.2, 1.3, 1.4, 1.5, 1.7, 1.8, 2.2, 3.1, 3.2, 3.3, 3.6, 3.7, 3.8, 4.3, 4.5, 4.8, 5.3, 5.4, 5.7, 6.1, 6.2; MM 1.1, 1.6, 1.7, 3.2, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6; ESN 1.2, 1.4, 1.6, 1.9, 1.11, 3.1, 3.2, 3.4, 4.1, 4.3, 4.4, 4.5, 4.6, 4.7, 6.1, 6.2

Candidates will develop a learning unit of mathematics integrated with a subject of choice: science, art, or engineering. Unit plan (minimum of 3 lessons) must integrate use of assistive technology, reflect culturally responsive and sustaining practices (CRSP) for Black, Indigenous, and People of Color (BIPoC), demonstrate universal design for learning (UDL), and explicitly address the accommodations and modifications for students with mild/moderate support needs and extensive support needs, and supports for English language learners. Candidates will deliver a lesson from that unit to the class or a group of students and complete a written reflection.

III. Assessment Project – 125 points; Due Week 9; SLO #1, #2, #3, #4

TPEs Assessed: U 1.2, 1.8, 2.2, 3.1, 3.2, 3.5, 4.3, 4.5, 5.1, 5.2, 5.3, 5.5, 5.8; MM 1.4, 1.6, 1.7, 2.1, 3.1, 4.2, 4.7; ESN 1.4, 1.9, 1.11, 2.5, 3.2, 3.3, 4.4, 4.8, 5.1, 5.3, 5.7

Candidates will complete CAASPP assessment and analyze case study student strengths and areas of need by the four claims (i.e., concepts & procedures, problem solving, communicating reasoning, modeling & data analysis). Emphasis on formative assessment for student-directed learning (e.g., clear learning objectives, student evaluation of performance, teacher evaluation of performance, etc.).

IV. Interdisciplinary Unit - 200 points; Due Week 16; SLO #2, #3, #4, #6, #7, #9, #10

TPEs Assessed: U 1.1, 1.2, 1.3, 1.5, 1.7, 1.8, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 4.3, 4.5, 4.8, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 6.1, 6.2; MM 1.1, 1.4, 1.6, 1.7, 2.1, 3.1, 4.1, 4.2, 4.3, 4.4, 4.7; ESN 1.2, 1.4, 1.6, 1.9, 1.11, 2.5, 3.1, 3.3, 4.1, 4.3, 4.4, 4.5, 4.8, 5.1, 5.3, 5.7

Developmentally Appropriate Practices in Relation to Subject-Specific Pedagogy TPEs

Candidates will collaboratively develop an interdisciplinary unit plan (with a minimum of five lessons) that demonstrates multiple pedagogical strategies, and formative and summative assessment strategies. Unit must reflect culturally responsive and sustaining practices (CRSP) for Black, Indigenous, and People of Color (BIPoC), demonstrate universal design for learning (UDL), and explicitly address the accommodations and modifications for students with mild/moderate support needs and extensive support needs, and supports for English language learners. Project includes professional collaboration between M/M and ESN credential candidates and reflection on collaboration.

V. Electronic Portfolio – 100- points; Due Week 16; SLO #1, #2, #3, #4, #5, #6, #7, #8, #9, #10

TPEs Assessed: U 1.1, 1.2, 1.3, 1.4, 1.5, 1.7, 1.8, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 4.3, 4.5, 4.8, 5.1, 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 6.1, 6.2; MM 1.1, 1.4, 1.6, 1.7, 2.1, 3.1, 3.2, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7; ESN 1.2, 1.4, 1.6, 1.9, 1.11, 2.5, 3.1, 3.2, 3.3, 3.4, 4.1, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 5.1, 5.3, 5.7, 6.1, 6.2

Candidates will compile graded unit plans, individual lesson plans, teaching demonstration videos, reflections, and critiques in an electronic portfolio database.

Course Grading

Total points earned for participation, class activities, assignments, and quizzes will be calculated and divided by the total points possible, with the course grade based on the following scale:

Grading Scale

Letter Grade	Percentage
A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	59% and below

Evaluation Components and Weight (Sample)

Evaluation Component	Points	Weight
I. Math Unit	125	20%
II. Integrated Math Unit	150	25%
III. Assessment Project	125	20%
IV. Interdisciplinary Unit	200	25%
V. Electronic Portfolio	100	10%
Total	700	100%

Course Policies

Attendance and Participation

Attendance (e.g., being present for all synchronous class sessions) and active participation are essential to your success in this class. Asynchronous participation in BeachBoard discussions is also required. Participation is 10% of your grade and will be monitored through attendance at Zoom sessions, through entries in the online discussion board via BeachBoard, and through completion of group activities. Non-participation in either synchronous or asynchronous aspects of the course will negatively impact your grade.

Late Work/Make-up Policy

It is expected that all assigned work be completed and submitted to Dropbox by the published due dates. In cases where the student knows in advance that a deadline cannot be met, it is the student's responsibility to communicate with the instructor prior to the actual due date. Points will be deducted for assignments turned in late: 1 point per day, including weekends and holidays. Assignments submitted after the published deadline date will be considered late. **Assignments more than 7 days late will NOT be accepted.** If a student is experiencing personal or academic difficulty completing the requirements of the course, it is the student's responsibility to reach out to the instructor and communicate concerns.

Plagiarism/Academic Integrity Policy

There is zero tolerance for cheating, plagiarism, or any other violation of academic integrity in this course. Work submitted is assumed to be original unless your source material is documented using proper citations. Using the ideas or words of another person, even a peer or a web site, as if it were your own, constitutes

plagiarism. It is your responsibility to review the University policy on [Cheating and Plagiarism](#) that governs your participation in courses at CSULB.

University Withdrawal Policy

Class withdrawals during the final 3 weeks of instruction are not permitted except for a very serious and compelling reason such as accident or serious injury that is clearly beyond the student's control and the assignment of an Incomplete grade is inappropriate (see [Grades](#)). Application for withdrawal from CSULB or from a class must be filed by the student [online](#), whether or not the student has ever attended the class; otherwise, the student will receive a grade of "WU" (unauthorized withdrawal) in the course. View the CSULB guidelines on [Dropping and Withdrawal](#) for more detailed information.

Special Needs Accommodations

Students with disabilities who require reasonable academic accommodations are strongly encouraged to register with the Bob Murphy Access Center (BMAC) each semester. Students must submit supporting disability documentation to BMAC and provide faculty of any BMAC verification of accommodations as early in the semester as possible. BMAC is located in the Student Success Center, Room 110 and may also be reached by phone at (562) 985-5401 or via email at bmac@csulb.edu.

College of Education Expectations for Professional Conduct

Professional conduct and ethical dispositions are expected of all CED students at all stages of program participation including: advising, coursework, clinical/field practice, and extra-curricular activities in face-to-face, hybrid and online/virtual learning environments.

A CED student is expected to:

1. Act to benefit all individuals and communities by promoting the physical and psychological safety of others. Do no harm.
2. Abide by the mission, policies, procedures, safety regulations, and standards of professionalism of partnering institutions (e.g., schools, clinics, colleges, community organizations) when engaged in clinical or field practice.
3. Demonstrate cultural competence and responsiveness in honoring and respecting multiple perspectives, identities, and lived experiences of others in diverse classroom and clinical settings.
4. Monitor professional integrity by engaging in self-reflective practice and acknowledging the consequences of one's own actions or inactions on others.
5. Maintain essential collegial behaviors and ethical obligations delineated in standards of professional practice by accrediting organizations and professional associations in one's field of practice, including but not limited to the California Commission on Teacher Credentialing and other associations noted in the appendices to this document.

CED students must adhere to CSULB's Rules and Regulations and student conduct codes enforced by the CSULB Office of Student Conduct & Ethical Development, as well as to college, department, and program policies. If deemed necessary, reports of discriminatory behaviors toward others based on age, culture, national origin, gender, ability, race, religion, or sexual orientation will be referred to the CSULB Office of Equity and Diversity. Observed forms of harassment in physical or digital form may require immediate referral to the CSULB Office of Student Conduct & Ethical Development. Claims of sexual harassment, discrimination, harassment, or retaliation will be reported immediately to the CSULB Office of Equity and Diversity.

Sexual Assault, Rape, Dating/Domestic Violence and Stalking

Title IX prohibits gender discrimination, including sexual harassment and sexual misconduct. If you have experienced sexual harassment, sexual assault, rape, dating/domestic violence, or stalking, the campus confidential Victim's Advocate is available to help. Jaqueline Urtez (e: advocate@csulb.edu, p: (562) 985-2668) can provide **free** and **confidential** support, accommodations, and referrals for victims without having to report the assault to campus authorities. While students are welcome to discuss assaults with faculty, both faculty and teaching assistants are mandatory reporters who are required to report all incidents of sexual harassment/misconduct to the Title IX office for follow-up and possible investigation. Students who do wish to report the assault for possible investigation may contact the confidential victim's advocate, who can help them through the reporting process, or they can report the assault directly to the Title IX Office by completing an online reporting form at <https://www.csulb.edu/equity-diversity/title-ix> or contacting the Office of Equity & Diversity at OED@csulb.edu.

Syllabus Changes

The instructor reserves the right to alter this syllabus and/or the structure of the course, including components of the BeachBoard platform, assignments and deadlines, if situations arise that necessitate doing so.

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