COURSE CODE: EED 515
COURSE TITLE: Learning technologies
INSTRUCTORS:
CLASS LOCATION:
TIME:
TICKET #:

OFFICE: *By appointment only
TELEPHONE NUMBERS:
OFFICE: 818.677.7394
DEPARTMENT: (818) 677-2621
OFFICE HOURS: Email and by appointment only
Email:

Instruction Mode:
A Hybrid Online Class (HO) is an online course offering in which class sessions and exams are presented in both face-to-face and online learning environments. Please check the class calendar for meeting dates and topics

Course Requirements

Required Textbook: Wan, A., Ivy, J., & Pratt, D. (2025). *The Future-ready educator: Leveraging emerging technologies to revolutionize teaching and learning*. Kendall Hunt.

Additional Readings, Podcasts, and Video Clips will be provided online via CSUN's Learning Management System (Canvas).

Course Website: Class materials and readings will be available on Canvas throughout the semester. All students are required to regularly access the website for information and materials. The website is accessed at http://canvas.csun.edu, and log-in name and password are the same as students' SOLAR log-in. (Please note: there is NO www in the website address!)

Required Capability: A Web-based email address that is accessible from within the CSUN firewall, e.g., my.csun.edu, Gmail, Yahoo, etc. You must also have a CSUN login name and password to use the computers in the Education lab and to login at moodle.csun.edu. You must also have an @gmail email account for this class.

Other Requirements: Access to a microcomputer, Microsoft Office, email, and the Internet. You will use Microsoft Office to complete most of your assignments. If you do not have Microsoft Office on your home computer, check with CSUN Information Technology for access to this software (http://www.csun.edu/it/microsoft-office). You will also use Google Drive and Google Docs.

Place of Course in the Curriculum: This is a Department of Elementary Education core credential course required for all candidates seeking the CCTC Multiple Subject Preliminary Teaching Credential.

College of Education Conceptual Framework

The faculty of the Michael D. Eisner College of Education, regionally focused and nationally recognized, is committed to excellence, innovation, and social justice. Excellence includes the acquisition of professional dispositions, skills, and research-based knowledge, and is demonstrated by the development of ethical and caring professionals—faculty, staff, candidates—and those they serve. Innovation occurs through the leadership and commitment of faculty, and through collaborative partnerships among communities of diverse learners who engage in creative and reflective thinking. We are dedicated to promoting social justice and becoming agents of change in schools and our communities. We continually strive to achieve the following competencies and values that form the foundation of the Conceptual Framework.

1. We value academic excellence in the acquisition of research-based professional knowledge and skills. We commit ourselves to, and expect our candidates to:
    - Acquire in-depth knowledge of subject matter (aligning with state and national curriculum standards when applicable);

- Acquire professional and pedagogical knowledge;
- Acquire pedagogical content knowledge;
- Use professional standards and empirical research to develop and evaluate programs and guide practice;
- Capitalize on advancements in technology to promote learning;
- Communicate effectively using multiple modalities, including speaking/signing, writing, and digital media, in professional and community settings; and
- Understand, apply, and engage in scholarship and research.

2. We strive to positively impact schools and communities. Therefore, we foster a culture of evidence to determine the impact of our programs, to monitor candidate growth, and to inform ongoing program and unit improvement. We commit ourselves to, and expect our candidates to:
    - Develop knowledge and skills that research and evidence have shown to positively impact schools and communities;
    - Acquire knowledge and skills in assessing those we serve, using various indicators including national, state, and institutional standards;
    - Acquire knowledge and skills in identifying and selecting assessment approaches and measures that are reliable, valid, and fair;
    - Develop skills in analyzing, synthesizing, and evaluating data for the purpose of informing practice;
    - Use evidence from multiple assessments to inform and improve practice that will promote learning and growth of all pupils; and
    - Engage in cycles of understanding, learning, application in the field, reflection, and revision of practice.
3. We value ethical practice and what it means to become ethical and caring professionals. We commit ourselves to, and expect our candidates to:
    - Engage in inquiry about what it means to be an ethical and caring professional;
    - Adhere to a code of ethics appropriate to professional practice and recognize its relationship to the realities of the contexts in which practice occurs;
    - Assume personal responsibility for developing, demonstrating, and refining the values, beliefs, and assumptions that guide professional practice; and
    - Demonstrate attitudes, dispositions, and behaviors of caring and ethical professionals in daily practice.
4. We value collaborative partnerships within the Michael D. Eisner College of Education as well as across disciplines with other CSUN faculty, P-12 educators and related professionals, and other members of regional and national educational and service communities. We commit ourselves to, and expect our candidates to:
    - Participate in intra- and interdisciplinary partnerships, including the Michael D. Eisner College of Education and the university.
    - Participate in external partnerships with schools, community agencies, other universities, and local, state, and national agencies with common interests.
    - Collaborate with all stakeholders to support the learning and growth of faculty, staff, candidates, and those they serve; and
    - Identify and use professional and community resources.
5. We value people from diverse backgrounds and experiences and are dedicated to addressing the varied strengths, interests, and needs of communities of diverse learners. We commit ourselves to, and expect our candidates to:
    - Foster a climate in which the meaning and implications of diversity are continuously defined, examined, and addressed.
    - Move from acceptance of diversity to appreciation of diversity to becoming agents of change for social justice.
    - Respect and understand the conditions and contributions of communities and schools and of families from all backgrounds.

- Develop, use, and promote positive interpersonal skills in an open and inclusive process for making decisions and achieving consensus and
- Participate in and be accountable for shared decision-making within the academic and service communities in a manner that supports diversity.

6. We value creative, critical, and reflective thinking and practice. We commit ourselves to and expect our candidates to:
    - Engage in continuous and critical reflection.
    - Participate in ongoing professional development.
    - Accept feedback and consider implications for practice and program renewal.
    - Refine and apply professional competencies through collegial interaction, including for candidates a variety of clinical practice experiences and
    - Solve problems, make decisions, facilitate change, and produce knowledge in new and creative ways.

Course Description

This course addresses technology-driven skills and understandings that Multiple Subject Credential candidates need to effectively plan, implement, and evaluate instructional tools and software programs to teach to the California Core State Standards (CCSS) and Next Generation Science Standards (NGSS) including those for STEM/STEAM education, for diverse student populations. It is designed to provide teacher candidates with models of instruction consistent with learning technology research and our current understanding of learning processes, opportunities to develop related STEM/STEAM practices, and skills in implementing collaborative lessons and units of study to lay a foundation for K-5 students to develop into technologically literate citizens. In addition, students will explore and apply the various dimensions of teacher knowledge, including curriculum frameworks and instructional tools and software curriculum materials, students' alternative conceptions, and teaching strategies. Teacher candidates will apply key practices to the specific content demands of the new curriculum based on the *International Society for Technology in Education National Educational Technology Standards for Teachers* (NETS•T). They will develop strategies for teaching children of widely differing cultural, linguistic, and ethnic backgrounds, developmental levels and learning styles, as well as students with special learning needs to provide all children equal access to the elementary curriculum.

Prerequisites: Intent to Apply or Admission to the Multiple Subject Credential Program
Co-requisite: E ED/EPC 500. Prerequisite: EED/EPC 500 or equivalent course

Teacher Performance Expectations (TPEs) Addressed in EED 515

TPE 1 Engaging and Supporting All Students in Learning. Beginning teachers:

1.1 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.

1.3: 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.

1.4: Use a variety of developmentally and ability-appropriate instructional strategies, resources, and assistive technology, including principles of Universal Design of Learning (UDL) 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.

1.5: 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.

1.8: Monitor student learning and adjust instruction while teaching so that students continue to be actively engaged in learning.

TPE 2 Creating and Maintaining Effective Environments for Student Learning. Beginning teachers:

2.1: Promote students' social-emotional growth, development, and individual responsibility using positive interventions and supports, restorative justice, and conflict resolution practices to foster a caring community where each student is treated fairly and respectfully by adults and peers.

2.2: 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.

2.5: Maintain high expectations for learning with appropriate support for the full range of students in the classroom.

TPE 3 Understanding and Organizing Subject Matter for Student Learning. Beginning teachers:

3.1: Demonstrate knowledge of subject matter, including the adopted California State Standards and curriculum frameworks.

3.2: 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.

3.3: 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. *(See Subject-Specific Pedagogical Skills in Section 2 for reference)*

3.5: 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.

3.6: Use and adapt resources, standards-aligned instructional materials, and a range of technology, including assistive technology, to facilitate students' equitable access to the curriculum.

3.7: 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

3.8: Demonstrate knowledge of effective teaching strategies aligned with the internationally recognized educational technology standards.

TPE 4 Planning Instruction and Designing Learning Experiences for All Students. Beginning teachers:

4.2: Understand and apply knowledge of the range and characteristics of typical and atypical child development from birth through adolescence to help inform instructional planning and learning experiences for all students.

4.7: Plan instruction that promotes a range of communication strategies and activity modes between teacher and student and among students that encourage student participation in learning.

4.8 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.

TPE 5 Assessing Student Learning. Beginning teachers:

5.1: 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.

TPE 6 Developing as a Professional Educator. Beginning teachers:

6.1: Reflect on their own teaching practice and level of subject matter and pedagogical knowledge to plan and implement instruction that can improve student learning.

6.2: 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.

TPE 7 Effective Literacy Instruction

7.9: Promote students' content knowledge by engaging students in literacy instruction, in all pertinent content areas, that integrates reading, writing, listening, and speaking in discipline-specific ways, including through printed and digital texts and multimedia, discussions, experimentation, hands-on explorations, and wide and independent reading. Teach students to navigate increasingly complex literary and informational texts relevant to the discipline, research questions of interest, and convey knowledge in a variety of ways. Promote digital literacy and the use of educational technology, including the ability to find, evaluate, use, share, analyze, create, and communicate digital resources safely and responsibly, and foster digital citizenship.

Course Objectives

1. Apply best practices and research on instructional technology to design lesson plans that integrate STEAM, support diverse learners, and meet CCSS/NGSS standards.
   ‣ Aligned TPEs: 1.1, 1.3, 3.1, 3.2, 3.3, 3.6, 4.2, 4.8

2. Use instructional technologies and digital tools to promote student engagement, inquiry, critical thinking, and collaboration in K–5 classrooms.
   ‣ Aligned TPEs: 1.4, 1.5, 3.7, 3.8, 4.8, 7.9

3. Create inclusive, equitable, and culturally responsive learning environments supported by digital tools and Universal Design for Learning (UDL) principles.
   ‣ Aligned TPEs: 2.1, 2.2, 2.5, 3.5, 4.8

4. Evaluate and implement a variety of assessment tools, including technology-based tools, to monitor and support student learning.
   ‣ Aligned TPEs: 1.8, 5.1

5. Reflect on their teaching practices and values to enhance student learning and equity, demonstrating professional responsibility as digital citizens and educators.
   ‣ Aligned TPEs: 6.1, 6.2, 3.7, 7.9

Course Assignments

Assignment	Points (100 Total)
Robotics Assignment	10
Impossible Science Day or Alternative Assignment	10
AI Assignment	10
Group Virtual Reality/Science lesson plans	15

Groups Virtual Reality/Science lesson Presentations	10
Group Integrated STEM Project Assignment	15
Group Integrated STEM Project Presentation	10
Final Activity	10
Participation (1 points/week)	10

**All assignments should be turned in by the specified due date and time. It is not typical for me to accept late assignments unless prior arrangements have been made.*

COURSE GRADING SCALE:

Be aware that issues with attendance and professionalism can result in further points being subtracted after all the assignments have been calculated together. Your final grade will be based on the percentage of points you have earned relative to the maximum points possible (100).

Percentages will be translated into letter grades using the following system:

A-Values	**B-Values**	**C-Values**	**D-Values**	**F**
A 100-95%	B+ 89.99-87%	C+ 79.99-77%	D+ 69.99-67%	F < 60%
A- 94.99-90%	B 86.99-83%	C 76.99-73%	D 66.99-63%	
	B- 82.99-80%	C- 72.99-70%	D- 62.99-60%	

Note: This syllabus is flexible enough to meet the needs and changing circumstances of those to whom it applies. I will give you sufficient notice prior to any changes.

Relevant details, including assignment parameters and rubrics, will be shared in class and uploaded to Canvas before the due date.

Assignment	**Points (105 Total)**
Robotics Assignment	10
Impossible Science Day or Alternative Assignment (Tuesday February 25th)	12
AI Assignment	10
Group Virtual Reality/Science lesson plans	15
Groups Virtual Reality/Science lesson Presentations	10
Group Integrated STEM Project Assignment	15
Group Integrated STEM Project Presentation	10
Final Activity	10

Participation (1 points/week)	13

Robotics Assignment: In this assignment, students will complete a series of coding challenges using the Minecraft Voyage Aquatic Hour of Code tutorial. For each level, students will document the task, identify the featured coding block, and submit a screenshot or video of their code. The activity concludes with a brief reflection focused on how the experience supported student engagement, problem-solving, and computational thinking, as well as strategies for supporting diverse learners in a tech-rich environment**.** Students will also analyze how to adapt this activity to meet varied student needs, demonstrating their ability to differentiate instruction using digital tools.

‣ Aligned TPEs: 1.4, 1.5, 3.1, 3.6, 4.2, 4.8, 6.1, 6.2

Impossible Science Day (or Alternative Assignment): In this assignment, students will engage in a STEAM outreach opportunity by supporting a community-based science event held at CSUN. Participants will help facilitate interactive activities designed to promote curiosity and exploration in STEAM disciplines. This experience allows students to apply course concepts in an authentic educational setting while gaining hands-on experience with informal science instruction and public engagement. Students will reflect on how informal learning spaces can support culturally responsive teaching, student agency, and equitable access to STEAM learning by providing active learning experiences to engage student interest, support student motivation, and allow students to extend their learning. (Aligned with TPE 1.3, 1.8, 2.1, 2.2, 3.3, 4.8, 6.1)

Through your participation, you will demonstrate your ability to:

- Connect subject matter to real-life contexts and provide active learning experiences to engage student interest, support motivation, and extend learning. (**TPE 1.3**)
- Promote students' social-emotional growth and responsibility by using positive supports and fostering a safe, respectful environment. (TPE 2.1)
- Make real-time instructional decisions based on student responses, behavior, and engagement. (1.8)
- Create inclusive learning environments that are culturally responsive and reflect diverse perspectives and learners. (**TPE 2.2**)
- Use digital tools and technology as appropriate to create engaging, personalized, and integrated tech-rich lessons that allow students to demonstrate their learning in multiple ways. (TPE 4.8)
- Reflect on your teaching practice to improve your instruction and enhance student learning. (**TPE 6.1**)
- Use developmentally and ability-appropriate instructional strategies, including scaffolds and UDL principles, to support student access to the curriculum. (**TPE 1.4**)
- Promote students' critical and creative thinking through inquiry, problem-solving, and meaningful questioning. (**TPE 1.5**)
- Demonstrate accurate knowledge of subject matter, including standards-aligned STEAM content and practices. (**TPE 3.1**)
- Use and adapt instructional tools and technology, including assistive technology, to ensure equitable access for all learners. (**TPE 3.6**)
- Apply knowledge of child development to plan and implement developmentally appropriate experiences for diverse learners. (**TPE 4.2**)
- Recognize your own implicit and explicit biases and reflect on how they may affect student learning and engagement. (**TPE 6.2**)

AI Assignment: This assignment introduces students to the use of artificial intelligence (AI) as a tool to support lesson planning and instructional design. Students will explore how AI can help generate ideas, improve clarity, and align lessons with effective teaching practices. The goal is to help students begin thinking critically about how

emerging technologies can support their work as future elementary educators. Students will evaluate the ethical implications and equity considerations of using AI in the classroom, including ensuring transparency and fairness when using AI-supported tools while respecting copyright laws. (Aligned with TPE 3.1, 3.3, 3.7 4.2, 4.8, 6.1, 6.5)

Group Virtual Reality/Science Lesson Plans and Presentations: This three-part group assignment introduces students to the use of augmented reality (AR) in elementary science instruction through the development of a standards-based, inclusive lesson using subject-specific pedagogy. Students will design and present an engaging science lesson that meaningfully integrates AR to enhance student learning. Lessons should reflect Universal Design for Learning (UDL**)** principles and include multiple means of representation and engagement**,** ensuring that all students—including English learners and students with disabilities—can access and benefit from the content. Lessons should promote productive student learning, encourage positive interactions among students, reflect diversity and multiple perspectives, and be culturally responsive.
The project includes: (1) collaborative lesson plan development, (2) a class presentation and demonstration of the lesson using Merge VR/AR, and (3) an individual written reflection evaluating the educational value and implementation of AR in the classroom. Lesson plans must explicitly address NGSS standards and ITEEA technology standards and demonstrate strategies for making science content accessible to English learners and students with special needs, supporting academic language acquisition. Students will also explain how AR can support conceptual understanding and student discourse and demonstrate how AR can be used to model and develop digital literacy skills (Aligned with TPE 1.4, 1.5, 2.2 3.1, 3.3, 3.5, 3.6, 3.7, 3.8, 4.8, 5.1, 6.1**)**

Group Integrated STEM Project and Presentations: In this assignment, you will work individually or in teams to design a K–5 lesson plan centered around an open-ended, real-world task that actively engages students in Integrated STEM Practices (ISPs) as described in the TEE paper. The goal is to create a hands-on, problem-based learning experience that blends science, technology, engineering, and mathematics meaningfully, addressing students' knowledge, prior experiences, interests, social-emotional learning needs, funds of knowledge, culture, and language. You will identify relevant content standards and define a real-world problem or design challenge that engages students in critical and creative thinking through inquiry and meaningful questions and reflection. Activities should connect to real-life contexts and provide active learning experiences based on student interest, support motivation, and allow student to extend their learning. Your final submission will include a written lesson plan, a list of materials, prompts for student thinking, and strategies for supporting diverse learners. This project will culminate in a short presentation of your lesson idea to the class. Lesson plans must show clear alignment to NGSS and Common Core standards, support cross-disciplinary learning, and explicitly demonstrate how you will support students' critical thinking, language development, and collaborative problem-solving as well as maintain high expectations for learning. Lessons should include accommodations and/or modifications as needed to promote student access to the curriculum as well as formative assessments. You will also reflect on how the design task supports equitable access to STEM learning for all students, including English learners and students with disabilities. (Aligned with TPE 1.1, 1.3, 1.5, 3.1, 3.2, 3.3, 3.5, 4.2, 4.8, 5.1, 6.1, 7.9)

Final Activity: Following the development and presentation of your integrated STEM lesson, you will complete a written reflection analyzing your planning process, the role of student-centered practices, and insights gained from peer presentations. Your reflection should describe how you integrated Universal Design for Learning (UDL) principles and culturally responsive pedagogy into your STEM lesson design. Additionally, you'll evaluate the effectiveness of your lesson in supporting diverse learners' access to content and the development of 21st-century skills such as collaboration, creativity, critical thinking, and digital citizenship. (Aligned with TPE 1.8, 3.7, 4.8, 5.1, 6.1, 7.9)

Class Participation and Attendance: Attendance and participation are required components of the course and are reflected in your final grade. Participation includes contributing to class discussions, engaging in online and face-to-face group activities, and thoughtfully responding to weekly readings and assignments. Students are expected to demonstrate professionalism by contributing constructively to collaborative work, supporting peers, and engaging respectfully across diverse perspectives. Participation also includes reflecting on feedback, posing questions about practice, and contributing to a positive and inclusive classroom community. (Aligned with TPE 6.1, 6.2)

Attendance is required and affects the final grade. Therefore, attendance and participation are mandatory. Attendance is defined as presence and participation in class discussions and activities for this class. Lack of participation may be considered an absence from class. University-accepted excused absences are religious holidays or participation in university-sponsored events; students planning to take university-sanctioned religious holidays must inform the instructor no later than the second
class. There are no other identified excused absences.

Unexcused Absences Effect
0-1 no change to grade
2 grade drops 5% points off final grade (half a letter grade 90% to 85%)
3 grade drops one letter grade (i.e., A to B 93% becomes 83%)
4 grade drops 2 letters (e.g., A will drop to a C)
> 5 students will receive an F in the course

Excused absences include illness, illness/death of family member, jury duty, university-sanctioned events, and religious holidays. Students are required to give a 1-week notification for a planned absence. Faculty may request documentation (a note from your doctor excusing you from work is sufficient).

Attendance will be taken EARLY IN THE CLASS PERIOD. Your record of absences, tardies, and participation will be taken into consideration when determining your final grade (see below). Three recorded tardies will be considered equivalent to one absence. Your attendance pattern will be considered when final grades are being computed and may affect your grade.

Students are expected to attend all scheduled classes on scheduled days for the entire designated class time. Because learning takes place through active participation in discussion and class activities, attendance in this course is critical. If you find yourself in a tough spot regarding attendance, please proactively communicate with me so we can problem-solve together. In general, you are allowed **one absence** for any reason.

Participation in online and face-to-face meetings factors your final grade. You are expected to contribute to each class session by reading the appropriate materials, working in small/large groups, and actively contributing during each class session. Your grade will be assessed each week.

RESOURCES AND POLICIES:

As a school stakeholder responsible for the well-being and education of children, your active engagement in the course is of the utmost importance. This includes expectations that all students will: (1) prepare in advance by completing readings and assignments prior to class, (2) participate fully in class discussions and activities, (3) reference readings and raise questions about the material and subject, (4) actively listen to everyone who inhabits our scholarly community. Below, you will find information on other aspects of academic integrity that are part of class and program expectations.

Upholding Professional Standards Relating to Knowledge, Performance, and Professional Dispositions: The Student Delay/Withdrawal Process:

In accordance with state and national standards, students in the Department of Elementary Education at California State University, Northridge are assessed on knowledge, performance, and dispositions. Faculty in the Department of Elementary Education fully expect students to be successful and meet all program standards, but poor academic preparation, poor academic work, poor performance, or observed dispositional deficiencies will constitute grounds for a decision regarding separation from the teacher preparation program (or any other Elementary Education program) at California State University, Northridge. The Department of Elementary Education has adopted a process for ensuring that all CSUN students uphold standards of knowledge, performance, and dispositions recognized by the education profession. Obtain detailed information about the delay/withdrawal process, the Statement of Concern form, student appeals, and the list of Qualities Important to Future Teachers and Educational Professionals at www.csun.edu/education/eed/delay_withdrawal/index.html

Accommodations for Students with Disabilities:

CSUN is committed to providing equitable access to learning opportunities for all students. The Disability Resources and Educational Services (DRES) or the National Center on Deafness (NCOD) are campus offices that collaborate with students who have disabilities to provide and/or arrange reasonable accommodations. If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please visit DRES at https://www.csun.edu/dres or call (818) 677-2684 to arrange a confidential discussion regarding equitable access and reasonable accommodations. If you need to contact NCOD, please call (818) 677-2054. **Remember, accommodations are your legal right!** I am dedicated to cultivating a classroom environment that is as accessible as possible to all students. **I invite you to discuss your learning needs with me, regardless of your documentation status with DRES/NCOD**.

Counseling and Psychological Services:

Maintaining your mental and emotional health is important -- being a human is hard! I can attest to the many benefits of therapy and am willing to talk with any student about my experiences. For information about counseling and psychological services offered to students, please visit https://www.csun.edu/counseling and let me know how I can help.

Sexual Misconduct and Title IX:

Title IX and CSUN's Sexual Misconduct Policy prohibit sexual misconduct in any form, including sexual harassment, sexual assault, stalking, and dating and domestic violence. If you have experienced sexual misconduct, or know someone who has, I can help you locate the appropriate resources. You can visit https://www.csun.edu/eqd/title-ix to learn more about what constitutes sexual misconduct and violates Title IX.

It is also important that you know that Title IX and University policy require me to share any information brought to my attention about potential sexual misconduct with the campus Deputy Title IX Coordinator or CSUN's Title IX Coordinator. In that event, those individuals will work to ensure that appropriate measures are taken and resources are made available. Protecting student privacy is of utmost concern, and information will only be shared with those that need to know to ensure the University can respond and assist. CSUN's Title IX Coordinator is:

Susan Hua
University Hall, Room 285

Phone: (818) 677-2077
E-Mail: susan.hua@csun.edu

If you do not want the Title IX Coordinator notified, instead of disclosing the experience to me, you can speak confidentially with CSUN's Care Advocate. CSUN's Care Advocate is:

Paria Zandi
Klotz Student Health Center, Room 140G
Phone: (818) 677-7492
E-Mail: paria.zandi@csun.edu

General Policies:
Check your e-mail daily. Set up alerts from Canvas so that announcements and messages sent through Canvas go directly to your email. **You are responsible for all information sent via email and Canvas**. Although I will attempt to respond to questions as promptly as possible, please be aware that I may take up to 48 – 72 hours to respond to an email or text. Until you hear from me, proactively reaching out to a classmate and/or reviewing the previous week's resources on Canvas may yield some insights.

Course Concerns:
I am here to help you. If there are any potential issues that may hinder your academic engagement or progress this semester, please share them with me as soon as you know about them so that we can work together to devise a plan to address those needs and concerns. Similarly, if you have other questions, comments or concerns about our class, please speak to me directly. If you are uncomfortable speaking with me for any reason, please contact the chair of the department, Dr. Greg Knotts, at greg.knotts@csun.edu.

Equal Treatment:
The instructor and students in this course will act with integrity and strive to engage in equitable verbal and non-verbal behavior with respect to differences arising from age, gender, sexuality, race, ability, citizenship, and religion.

Bias-Based Incident Reporting:
As your instructor, one of my responsibilities is to create an equitable learning environment for all students. Bias incidents (events or comments that dehumanize an individual or group based on age, color, religion, disability, race, ethnicity, national origin, sex, gender, gender identity, sexuality, marital status or veteran status) are inappropriate in our classroom or on campus. **Please note that a bias incident is different from a principled critique of systemic and institutional oppressions and those who uphold them.** If you witness or experience a bias incident, you can submit a report online at https://www.csun.edu/stophate/report-incident or by calling 818.677.2077. If someone is in immediate danger or experiencing an emergency, call 911.

Ethics/Academic Integrity:
The CSUN Code of Ethics, which includes plagiarism, cheating, fabrication, and the facilitation of such acts, applies to this course. Please review the university policy at https://catalog.csun.edu/policies/student-conduct-code/

If You Need Financial Aid or Other Assistance:

The Financial Aid and Scholarship Department can help you work through financial difficulties and concerns in order to help you progress towards earning a degree. In addition to advising students on financial aid and/or tuition, they also have emergency funds for CSUN students experiencing emergency financial crisis related to COVID-19 or other issues. Find out more at https://www.csun.edu/financialaid.

Covid-19 + Trauma:

We are in the middle of a COVID surge and I encourage all students to wear masks in the classroom. Please visit the following websites for comprehensive information, resources, and support for students who may be struggling with traumas associated with anti-black and other racisms or have concerns about healthcare, technology and access, etc.
https://www.csun.edu/csunasone/ https://www.csun.edu/covid-19/covid-19-information-students

CSUN is following guidelines from the California Department of Public Health and Los Angeles County Department of Public Health to promote safety during the COVID-19 pandemic for all students, employees, and visitors. The California State University requires all students and employees to be fully vaccinated against COVID-19 *before* coming to campus, and no later than September 30, 2021, unless an approved exemption has been requested and regular testing is underway. In order to protect against the spread of COVID, all students, employees, and visitors to campus are required to adhere to all health and safety requirements outlined on the University's website regarding COVID-19.

Tentative Course Schedule of Topics and Assignments

Week & Date	Topics	Assignments and readings due this day	TPEs
1 **1/20**	No Class MLK day		
2 **1/27**	****In person**** **Topics**: Course overview, SAMR framework, introduction to robotics **Focus**: Setting the foundation for the course **by** applying knowledge of students' prior experiences and interests to explore learning technologies. We'll also introduce the California content standards and begin thinking about how to plan accessible, engaging instruction using UDL and assistive tech Also introduced on this day will be internationally recognized technology standards**.**	No Reading	1.1, 1.4, 3.1, 3.8

3 **2/3**	****In person**** **Topics**: Building and testing basic robots **Focus**: Students will begin practicing developmentally appropriate technology-based instructional strategies and use tools to support diverse learners. Emphasis will be placed on designing lessons that integrate digital tools with student engagement in mind**.**	See module for weekly reading assignment	1.4, 3.6, 3.8, 4.8,
4 **2/10**	****Asynchronous**** **Topics**: Coding robots **Focus**: Through coding challenges, candidates will use assistive technologies and scaffolded activities to support computational thinking. Activities are designed to reflect child development and differentiation and model equitable access to learning through UDL.	See module for weekly reading assignment	3.6, 4.2,4.8, 6.2
5 **2/17**	****In person**** **Topics**: Robotics extension, introduction to artificial intelligence **Focus**: Begin applying subject-specific pedagogy using emerging technologies and reflect on how tools like AI can support inclusive instructional design and ongoing professional growth .	See module for weekly reading assignment	3.3, 4.2 4.8, 6.1
6 **2/24**	****Alternative CLASS*** Impossible Science Day** **Topics**: STEAM community engagement **Focus**: Apply knowledge of real-life, culturally responsive science learning through informal teaching environments. Reflect **on** student motivation, agency, and equitable access to STEAM.	**Robotics Assignment**	
7 **3/2**	****Zoom**** **Topics**: Creativity in the age of AI **Focus**: Discuss how creativity and critical thinking relate to AI. Discuss ethical concerns and responsibility using AI Reflect on teaching values and assumptions (TPE 6.2) and how digital tools can foster developmentally appropriate instructional planning (TPE 4.2, 6.1)**.** Promote digital citizenship, including respecting copyright law, understanding fair use guidelines and the use of Creative Commons license. Reflect on how AI can be implemented with students using ITEEA technology standards.	See module for weekly reading assignment Impossible Science Day Reflection	3.7, 3.8, 4.2, 6.1, 6.2, 6.5 6.1

8 **3/10**	****Zoom**** **Topics**: Designing lessons using AI **Focus**: Use AI to brainstorm and adapt lessons. Analyze how to monitor learning with digital tools and align instruction with content standards and inclusive pedagogy and offer students multiple means to demonstrate their learning**.** Discuss how AI can be used to needs of all learners and support designing of learning outcomes for all learners.	See module for weekly reading assignment	3.3, 4.8, 5.1, 6.1, 6.5
Spring Break No Classes			
9 **3/24**	****In person**** **Topics**: Virtual reality in science education that promotes digital literacy **Focus**: Learn to integrate VR with science content in ways that support academic language development and encourage inquiry and problem solving **.** Emphasis on designing meaningful access through tech**.**	See module for weekly reading assignment AI Assignment	1.4, 1.5, 3.5, 3.3, 3.6, 4.8, 5.1, 6.1 3.1, 3.3, 3.7 4.2, 4.8, 6.1, 6.5
10 **3/31**	**Asynchronous** **Topics**: VR lesson planning workday **Focus**: Plan tech-rich science lessons that are standards-aligned, inclusive, and responsive to student needs. Lessons should include Use a variety of developmentally and ability-appropriate instructional strategies, resources. Apply tools that promote student engagement and learning assessment and demonstrate knowledge of science and the California State science standards and science framework.	See module for weekly reading assignment	1.4, 3.1, 3.3, 3.6, 4.8, 5.1,
11 **4/7**	**Zoom** Topics: VR lesson presentations Focus: Practice professional communication and reflection while presenting integrated lessons that model digital literacy and interactive instructional strategies to encourage student learning (TPE 4.7). Emphasize high expectations and equity.	See module for weekly reading assignment **Group Virtual Reality/Science lesson plans** **Groups Virtual Reality/Science lesson Presentations**	1.4, 1.5,2.5, 3.1, 3.3, 3.6, 3.7, 4.7, 5.1, 6.1
12 **4/14**	****Zoom**** **Topics**: Equity and inclusive environments in STEM **Focus**: Explore strategies for creating culturally responsive, inclusive STEM spaces and examine	See module for weekly reading assignment	1.5, 2.2, 3.5 4.8, 6.1

	how to support diverse learners' participation and access to content.		
13 **4/21**	****In person**** **Topics**: Introduction to Integrated STEM Practices **Focus**: Begin designing lessons that integrate multiple disciplines and reflect child development and make accommodations and/or modifications as needed to promote student access to the curriculum. While promoting critical thinking and real-world problem solving by providing active learning experiences to engage student interest, support student motivation, and allow students to extend their learning. Emphasis on content knowledge, digital literacy, and the use of technology to create, communicate, and explore ideas across discipline.	See module for weekly reading assignment	1.1, 1.3, 1.5, 3.2, 3.5, 3.8, 4.2, 4.8, 5.1, 6.1, 7.9
14 **4/28**	****In person**** **Topics**: ISP project workday **Focus**: Using knowledge of students, prior experiences, interests, social-emotional learning needs, funds of knowledge, culture, and language. Collaborate with classmate on lesson design. Emphasizing providing active learning experiences to engage student interest, support student motivation, and allow students to extend their learning with an emphasis on content knowledge, digital literacy, and the use of technology to create, communicate, and explore ideas across discipline. Activities should 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. Lessons should use formative assessment practices and refine your approach based on reflective practice and inclusion strategies.		1.1, 1.3, 1.5, 3.2, 3.5, 4.2, 4.8, 5.1, 6.1, 7.9
15 **5/5**	****In person**** **Topics**: Final ISP presentations **Focus**: Present your integrated STEM project and reflect on how it supports academic thinking, digital literacy, and equity.		
5/12	**Topics**: Final activity due **Focus**: Submit a final reflection that analyzes how you applied digital tools to support learning and how your teaching practice evolved through ongoing self-reflection and equity work.	**Final activity is due**	TPE 1.8, 3.7, 4.8, 5.1, 6.1, 7.9

Reading, Topics, and Schedule are subject to change in response to student and course needs. For weekly readings and assignments, please refer to the course Canvas page.

Legend

TPE Number	I/P/A	Where Referenced in Syllabus (by Line)
1.1	A	Integrated STEM project pg. 8
1.3	I	Week 13 pg. 15
1.3	P	Impossible Science Day Assignment pg. 7,
1.3	A	Integrated STEM project pg. 8
1.4	P	Week 10 pg. 14
1.4	A	VR Science assignment pg. 8
1.5	I	week 13 pg. 15
1.5	P	week 14 pg.15
1.5	A	Integrated STEM project pg. 8
1.8	I	Impossible Science Day Assignment pg. 7
2.2	I	Science Lesson Plan, page 8
2.5	I	Integrated STEM project pg. 8
3.1	P	Integrated STEM project pg. 8
3.2	P	Integrated STEM project pg. 8
3.3	I	Week 5 pg. 13
3.3	P	VR Science assignment pg. 8
3.3	A	Integrated STEM project pg. 8
3.5	P	VR Science assignment pg. 8
3.6	I	Week 4 pg. 13
3.6	P	VR Science assignment pg. 8
3.7	I	Week 9 pg. 14
3.7	P	Week 11, pg 14
3.7	A	VR Science assignment pg. 8
3.8	I	Week 2 pg. 12
3.8	P	Week 7 pg. 13
3.8	A	VR Science assignment pg. 8
4.2	I	Week 4 pg. 13
4.7	I	Week 11 pg. 14
4.8	I	Week 3 pg. 13
4.8	P	Week 8 pg.14
4.8	A	VR Science assignment pg. 8
5.1	I	Integrated STEM project pg. 8
6.1	I	Final Reflection pg. 8
6.2	I	Week 7 pg. 13
6.5	I	Week 7 pg. 13
6.5	P	Week 8 pg. 14

7.9	I	week 13 pg. 15
7.9	P	week 14 pg.15
7.9	A	Integrated STEM project pg. 8