



EDUC 422: TECHNOLOGY TOOLS FOR TEACHING & LEARNING
Section 40012
Fall 2018

Class Meetings:

Tuesdays, 10:30AM – 1:20PM
University Hall 273

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Office Location: By Appointment

Office Hours: By Appointment

COURSE DESCRIPTION

This course is designed to help students (teacher candidates) who are seeking to enter the credential program at CSUSM to develop the skills, knowledge, and attitudes necessary to effectively integrate Science, Technology, Engineering, and Math (STEM) into classroom teaching and learning. It includes a field experience where students practice, design, and implement STEM activities with children (grades 4 through 8) in an afterschool program. This course is one of the three prerequisite courses for entering the teacher credential program. The other two prerequisite courses include EDUC350 Foundations of Teaching as a Profession and EDUC364 The Role of Cultural Diversity in Schooling.

Prerequisite:

The prerequisite for this course is basic computer knowledge and skills such as turning a computer on and off; opening, saving, and deleting a file; creating and deleting a folder; using e-mail and web browsers (i.e. Internet Explorer, Safari, Firefox, Google Chrome). Students may demonstrate their basic knowledge and skills by completing the campus-wide computer competency requirement (CCR) or a computer course within the last 12 months with a grade B or above.

Students must complete certificate of clearance/finger printing and Tuberculosis (TB) test and submit to the instructor before starting their practicum as part of this course. The TB test can be obtained at the Student Health and Counseling Services, your own personal physician's office, or a local clinic. Please check the course Moodle on Cougar Courses for more information on certificate of clearance/finger printing.

COURSE OBJECTIVES

The course objectives are:

Contextualize STEM teaching and learning in authentic contexts.

Develop and disseminate STEM learning experiences.

Implement, assess and reflect on STEM learning experiences.

Engage in instructional conversations and collaborations that enhance STEM teaching and learning across content areas.

Increase confidence and self-efficacy in STEM teaching and learning.

Increase understanding of design thinking.

COURSE LEARNING OUTCOMES

In the end of this course, students will meet the International Society for Technology in Education (ISTE) Educator Standards. These standards are:

- 1. Learner:** Educators continually improve their practice by learning from and with others and exploring proven and promising practices that leverage technology to improve student learning.
- 2. Leader:** Educators seek out opportunities for leadership to support student empowerment and success and to improve teaching and learning.
- 3. Citizen:** Educators inspire students to positively contribute to and responsibly participate in the digital world.
- 4. Collaborator:** Educators dedicate time to collaborate with both colleagues and students to improve practice, discover and share resources and ideas, and solve problems.
- 5. Designer:** Educators design authentic, learner-driven activities and environments that recognize and accommodate learner variability.
- 6. Facilitator:** Educators facilitate learning with technology to support student achievement of the 2016 ISTE Standards for Students (see <https://www.iste.org/standards/standards/for-students>).
- 7. Analyst:** Educators understand and use data to drive their instruction and support students in achieving their learning goals.

COURSE MATERIALS & RESOURCES

Google Drive: This is an online file storage service provided by Google. It allows users to create, share, and collaboratively edit files stored in the cloud. Students should have access to Google Drive through their CSUSM e-mail. If you do not have access to Google Drive, you can create an account at drive.google.com. Directions on how to create an account are available at: <https://support.google.com/drive/answer/2424384?hl=en>

Additional File Storage: While you can create, upload, and store files using Google Drive, you may need to use an additional secondary cloud file storage service such as Dropbox (You can create an account at www.dropbox.com) and/or purchase a USB stick (8GB or larger) to store large files.

Cougar Courses: Course materials, assignment instructions, and grades will be available on Cougar Courses site. Available at: <https://cc.csusm.edu/>. Be sure to set your preferred email in your profile settings of Cougar Courses so that you receive important announcements and communications. It is your responsibility to check the course site regularly and bring any issues immediately to the instructor's attention.

Campus Resources: In addition to attending class meetings, students may need to use campus resources for some assignments. It is the student's responsibility to make arrangements to have the technology resources available in order to complete scheduled assignments and due dates. All students must plan times they can work in labs on campus. Students are required to check campus resources and availability of labs. Mac computers are available in ACD 202, ACD 211, UH 271, and SCI2 306 in addition to other locations such as the library 2nd floor.

Backing Up Work: Many technology platforms you will be using in this course are online and require a username and password. However, for some assignments you will need to take a screenshot or copy/paste your work into a word file, therefore it is important that you backup your work.

Username & Password: You will be using a variety of online platforms. Avoid creating a new username and password for each platform, instead, use the same username and password for all platforms for you to easily remember.

UNIVERSITY AND SCHOOL OF EDUCATION POLICIES

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

Professional Dispositions: The California State University San Marcos School of Education fosters the development of the following professional dispositions among teacher candidates:

Social Justice and Equity: Candidates appreciate the languages, communities, and experiences learners bring to the classroom. Candidates advocate for and support marginalized communities and individuals.

Collaboration: Candidates learn and practice the skills of collaboration in their coursework and use them in their professional interactions with students, colleagues, parents, caregivers and those in the wider community.

Critical Thinking: Candidates analyze various professional contexts, resulting in more informed decision-making about professional practice.

Professional Ethics: Candidates learn to make and act on well-reasoned, principled judgments.

Reflective Teaching and Learning: Candidates critically review their professional practice and the impact it has on student success.

Life-Long Learning: Candidates are committed to actively seeking new knowledge, skills and experiences throughout their career.

Academic Honesty Policy: Students are expected to adhere to standards of academic honesty and integrity, as outlined in the Student Academic Honesty Policy. All written work and oral presentation assignments must be original work. All ideas/materials that are borrowed from other sources must have appropriate references to the original sources including resources found online. Any quoted material should give credit to the source and be punctuated with quotation marks.

Students are responsible for honest completion of their work including examinations. There will be no tolerance for infractions. If you believe there has been an infraction by someone in the class, please bring it to the instructor's attention. The instructor reserves the right to discipline any student for academic dishonesty in accordance with the general rules and regulations of the university. Disciplinary action may include the lowering of grades and/or the assignment of a failing grade for an exam, assignment, or the class as a whole.

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

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

Writing Requirement: The CSUSM writing requirement of 2500 words is met through the completion of course assignments. Therefore, all assignments will be looked at for content, organization, grammar, spelling, and format. If needed, it is suggested that you make an appointment with the Writing Center

[\(http://www.csusm.edu/writing_center/\)](http://www.csusm.edu/writing_center/) to seek help with writing skills before submitting your written assignments.

Because it is important for teachers to be able to effectively communicate their ideas to students, parents, colleagues, and administrators, writing that is original, clear and error-free is a priority for the School of Education.

Students with Disabilities Requiring Reasonable Accommodations

Students with disabilities who require reasonable accommodations must seek approval for services by providing appropriate and recent documentation to the Office of Disability Support Services (DSS). This office is in Craven Hall 4300, contact by phone at (760) 750-4905, or TTY (760) 750-4909. Students authorized by DSS to receive reasonable accommodations should meet with their instructor during office hours. Alternatively, in order to ensure confidentiality, in a more private setting.

COURSE ACTIVITIES

IN CLASS MEETINGS

The course meets on Tuesdays between 10:30AM-1:20PM. Students are expected to attend each weekly session prepared to actively participate in a workshop style class session. During part of the class session, students will learn and practice STEM activities and discuss key concepts related to design thinking and teaching STEM. The course is structured such that students will practice in class what they are expected to do with children at their practicum sites.

FIELD EXPERIENCE

As part of the course, students will implement the STEM activities they learned in class with children (grades 4 through 8) at a school site. The field experience will take place in the late afternoon on Mondays, Tuesdays, Wednesdays, Thursdays, or Fridays in Escondido, Oceanside, San Marcos, or Vista depending on which practicum site you are assigned. Students will work in groups of four to five throughout the semester and will be assigned to one practicum site. Students must be prepared to budget for travel expenses. Carpooling is strongly encouraged. The field experience hours in this class will count towards the 45 hours of supervised field work assignment requirement in EDUC350 Foundations of Teaching as a Profession (one of the three prerequisite courses students must take to enter the teacher credential program). You will accumulate at least 15 hours of field experience in this class.

Be aware that before you begin your observation hours (Field Experience), you MUST complete a TB Risk Assessment (TBRA) and Certificate of Clearance (Live Scan) fingerprinting. You will be asked to provide your instructor with Certificate of Clearance completion – and sign a contract stating that you have secured both the TBRA and the Certificate of Clearance. Bring TBRA and Certificate of Clearance documents to each school site as you may be asked to show them.

COURSE EXPECTATIONS

Professional Demeanor: It is expected that students will conduct themselves as professional adults who show respect to others, bring a positive attitude, and demonstrate productive engagement with people, process, and tasks to be completed. Professional demeanor includes, but not limited to, meeting the following expectations:

Arriving to all class meetings **on time**. Emailing the instructor when you are unable to attend class meetings or when you will be late. If you come late to class more than twice in the semester, you will be considered absent. Consistently being late to class will not be tolerated. You must arrive 15 minutes before to the practicum site. You cannot be late to the practicum site.

Submitting required assignments **on time**. When you are unable to complete an assignment and need more time, e-mail the instructor and explain the reasons for requesting an extension, and provide a projected timeline for successful completion of the assignment.

Attending ALL six after school sessions at the practicum site. Attending ALL class meetings that focus on practicing the after-school activities.

Compete all 6 additional hours of observation at a site approved by your instructor.

Approaching problems with a disposition to find solutions rather than feeling helplessness or hopelessness when facing a challenge or difficulty. This applies to the learning and teaching of different technologies and other class and field work related issues.

Working respectfully and productively with peers, the instructor, children, and practicum site staff at all times.

Open and clear communication with peers and the instructor at all times.

Contributing to and being part of a supportive and collaborative teaching and learning environment. This includes helping classmates with technical, content, managerial, and pedagogical issues, interacting with your peers and children, connecting and working collaboratively with your teammates.

Electronic Communication: My goal is to respond to your e-mails as soon as possible. However, I have other job responsibilities and family obligations. While it is my intention to respond to all received e-mails in a timely manner, it might take up to 24 hours to respond to your e-mail.

Online Etiquette: Please keep in mind that electronic communication is a very specific form of communication, with its own nuances and etiquette. For instance, electronic messages sent with no title or greetings, in all upper case (or lower case) letters, major typos, or slang, often communicate more than the sender originally intended. With that said, please be mindful of all e-mail and online discussion messages you send to your colleagues, to faculty members in the School of Education, or to persons within the greater educational community. All electronic messages should be crafted with professionalism and care. Things to consider:

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

In addition, if there is ever a concern with an electronic message sent to you, please talk with the author in person to correct any confusion. Be aware that messages sent within an online context may be open to misinterpretation. When concerned, meanings should be verified to clarify sender's intent.

COURSE ASSIGNMENTS

CITI Training: As part of your field experience, you will take on the role of a teacher-researcher, collecting data (information) about children's STEM learning through photos, field notes, and interviews. You will complete the CITI (Collective Institutional Training Initiative (CITI) and receive a certificate upon completing the appropriate modules and submit the certificate to the instructor. The modules will provide information about procedures and guidelines that must be followed when doing research in educational settings with children.

Field Notes: At the end of each afterschool session with children, students will submit field notes that document what happened during the session and their reflections about the session. Each field note entry will be at least 1000 words and will include photos from the site. The photos must be unidentifiable, meaning you can only take photos of children at an angle where children's faces cannot be recognized (e.g. behind their head). Further, in your field notes you must only use children's first name and the first letter of their last name.

Learning and Assessment: This assignment will have three parts. **Part 1:** Students will generate an assessment using Google Forms that could be used to assess what your future students learned from the process of completing a design challenge. Students will focus the assessment according to students' learning in STEM, problem solving, design thinking, etc. **Part 2:** Students will respond to their peers' assessments. **Part 3:** Students will use Excel or Google Sheets to analyze the responses to their assessment and then develop a report that summarizes the results.

Creating a Design Challenge: Students will work in groups to create a design challenge that integrates one of the technology tools they learned in class, and implement the design challenge with children in the afterschool program.

Creating an Instructional Video: Students will work in groups to create an instructional video of their design challenge (at least 4 to 5 minutes long). Students will create storyboard, use digital camera, edit video files, and upload their video and publicly share it on YouTube or Vimeo.

Social Media Share: Students will share the instructional video of their design challenge via LinkedIn, Twitter, Professional Learning Network, or creating a blog post.

STEM Teaching and Learning Reflection: You will write a reflection paper based on a topic related to STEM teaching and learning drawing on your field notes and research articles (1 to 3) you find on the topic. The goal of the reflection paper is for you to reflect on your own learning, your observations of how children learn at your practicum site, and connecting these experiences to what we know from research conducted by others in the field of education. The paper should be 6 to 7 double space pages and 12-point font and normal 1 inch margins (APA).

Digital Portfolio: Student will create a digital portfolio of work completed in the course, using the new Google Sites. Students will reflect on the ISTE Standards for Educators 1-7. The written narratives must include a narrative that describes and provides evidence for how the artifacts meet each standard with a hyperlink within the narrative to the evidence/artifact. Throughout the course, students will work on writing their narratives, and will submit the completed at the end of the courses. Each reflection will be at least 200 words.

All assignments are due by 23:55 pm on the due date. More information on each assignment can be found on Cougar Course Site.

GRADING

It is expected that you will complete your practicum, submit your assignments on time, and meet course expectations. Please discuss individual issues with the instructor promptly if extraordinary circumstances (e.g. being sick) prohibit you from turning in assignments on time, going to the practicum sites, or participating in course activities. You must provide a doctor's note if you are sick. Points will be deducted if assignments are submitted late (10% penalty per day late). No credit will be awarded if the assignment is 1 week late. Field notes must be turned in within 48 hours of the completion of an afterschool session. No credit will be awarded if field notes are submitted after the 48 hours limit. Students who wish to revise an assignment (except the CITI and the field notes assignments) must negotiate the requirements of the revision with the instructor.

94 – 100 A
87 – 89 B+
80 – 83 B-
74 – 76 C
60 – 69 D

90 – 93 A-
84 – 86 B
77 – 79 C+
70 – 73 C-
Below 60 F

Failure to complete this course with a grade of C+ or better will prohibit a teacher candidate from entering a teaching credential program. You are responsible to track your grades and progress in the course by logging in Cougar Course. Attendance will be taken each class. 10 points will be deducted for each class you miss. You cannot miss any field experience sessions at the practicum site. Fulfilling at least 10.5 hours of field experience is a requirement to pass this course.

COURSE

Please note modifications discretion of and based on the practicum changes to and activity announced in students will mail. To complete this **assignments completed** at level noted on directions. **All are due by the due date.**

Assignments	Points
Student Survey, Release of Liability, TB Clearance, Fingerprinting Clearance, Student Questionnaire (1 pt. Each)	5
CITI Training	10
Discussion Forums 1. Introduction (post and comment) (20) 2. Design Challenge Feedback (Feedback only) (10)	30
Learning and Assessment 1. Create Google Form Quiz (10) 2. Respond to other's quizzes 3. Analyze Responses (10)	20
Field Notes Field Notes Practice Weekly Field Notes (10 points x 6)	1 60
Creating a Design Challenge	30
Instructional Video	30
Social Media Share	10
STEM Teaching and Learning 1. Topic 2. Article 3. Rough Draft 4. Reflection	2 8 10 30
Digital Portfolio (20) with ISTE Standards (35)	55
Total:	301

SCHEDULE

that may occur at the the instructor coordination with sites. Any assignments schedule will be class OR be notified via e-successfully course, **all must be** an acceptable assignment **assignments 23:55 pm on**

Week	Date	Topics	Due Dates
1	Aug. 28	1. Introductions 2. Course Overview 3. Review of GMail, Creating of foundation of Google Site digital portfolio	Student Survey Contact Information Discussion Forum Post: Introduction Initial Post DUE Thursday, Aug. 30 Peer Responses DUE Sunday, Sept. 2 Release of Liability DUE Monday, Sept. 3 Hardcopy to class on Tuesday, Sept. 4
2	Sept. 4	1. Facilitating STEM after school activities 2. Continue Course Overview 3. Google Forms Survey	CITI Training Assignment: DUE Thursday, September 9
3	Sept. 11	1. Introduction to Design Thinking 2. Classroom Management Discussion 3. Google Apps Review	TB Risk Assessment Assignment: DUE Sunday, September 16 Fingerprinting Clearance Assignment:

			<u>DUE Sunday, September 16</u>
4	Sept. 18	<ol style="list-style-type: none"> 1. Learn & Practice Design Challenge 1 2. Training/Review for Taking Field Notes 3. Field Notes Practice 	Field Notes Assignment: Field Note Practice <u>DUE Tuesday, September 18</u>
5	Sept. 24-28 Sept. 25	Field Experience: Per Group Assignment <ol style="list-style-type: none"> 1. Learn & Practice Design Challenge 2 2. Design Challenge 2 Discussion 	Field Notes Assignment: Field Note Entry #1 <u>DUE within 48 hours of site visit</u>
6	Oct. 1-5	Field Experience: Per Group Assignment	Field Notes Assignment: Field Note Entry #2 <u>Due within 48 hours of site visit</u>
	Oct. 2	<ol style="list-style-type: none"> 1. Field Experience Discussion 2. Learn & Practice Design Challenge 3 3. Design Challenge 3 Discussion 4. LinkedIn- Professional Networking and creating a Professional Learning Network 	
7	Oct. 8-12	Field Experience: Per Group Assignment	Field Notes Assignment: Field Note Entry #3 <u>DUE within 48 hours of site visit</u> STEM T&L Reflection Assignment: Identify a Topic <u>DUE Thursday, Oct. 11</u>
	Oct. 9	<ol style="list-style-type: none"> 1. Field Experience Discussion 2. Learn & Practice Design Challenge 4 3. Design Challenge 4 Discussion 4. Writing STEM Reflection Paper Discussion 	
8	Oct. 15-19	Field Experience: Per Group Assignment	Field Notes Assignment: Field Note Entry #4 <u>DUE within 48 hours of site visit</u>
	Oct. 16	<ol style="list-style-type: none"> 1. Field Experience Discussion 2. Learn & Practice Design Challenge 5 3. Design Challenge 5 Discussion 	
9	Oct. 22-26	Field Experience: Per Group Assignment	Field Notes Assignment: Field Note Entry #5 <u>DUE within 48 hours of site visit</u> STEM T&L Reflection Assignment: Find an Article <u>DUE Thursday, Oct. 25</u>
	Oct. 23	<ol style="list-style-type: none"> 1. Field Experience Discussion 2. Learn & Practice Design Challenge 6 3. Design Challenge 6 Discussion 	
10	Oct. 29-Nov. 2	Field Experience: Per Group Assignment	Field Notes Assignment: Field Note Entry #6 <u>DUE within 48 hours of site visit</u> Learning Assessment Google Form Quiz: <u>DUE Tuesday, Oct. 30</u> Discussion Forum Post: Hyperlink to Learning Assessment-
	Oct. 30	<ol style="list-style-type: none"> 1. Field Experience Discussion 2. Learning Assessment Discussion and Activities 3. Create Your Design Challenge 7- Create your own design challenge using Google Slides 	

			<p>Google Form Quiz Initial Post DUE Tuesday, Oct. 30 Peer Responses DUE Thursday, Nov. 1</p> <p>Learning Assessment Analysis: <u>DUE Sunday, Nov. 4</u></p>
11	Nov. 5-Nov.9	Field Experience: Per Group Assignment	<p>Discussion Forum Post: Design Challenge Presentation Initial Post DUE Thursday, Nov. 8 Peer Responses DUE Sunday, Nov. 11</p>
	Nov. 6	<ol style="list-style-type: none"> 1. Field Experience Discussion 2. Finish Design Challenge 7 3. Groups to share slide presentation 4. Share Your Slides in the discussion forum and get/give feedback 5. Instructional Video Discussion 	
12	Nov. 12-19	Field Experience: At approved site	<p>STEM T&L Reflection Assignment: Draft Submission <u>DUE Thursday, Nov. 15</u></p> <p>Design Challenge Assignment: Presentation <u>DUE Sunday, Nov. 18</u></p> <p>Instructional Video Assignment: Storyboarding <u>DUE Sunday, Nov. 18</u></p>
	Nov. 13	<ol style="list-style-type: none"> 1. Field Experience Discussion 2. ISTE Teacher Standards Discussion 3. Preparing storyboarding for the instructional video 4. Instructional Video Discussion 	
13	Nov. 19-23	CSUSM Thanksgiving Break: No Field Experience	No assignments Due
	Nov. 20	CSUSM Thanksgiving Break: No Class	
14	Nov. 26-30	Field Experience: At approved site	<p>Field Notes Assignment: Field Note Entry #7 (Additional 6 hrs.) <u>DUE Sunday, Nov. 12</u></p>
	Nov. 27	<ol style="list-style-type: none"> 1. Field Experience Discussion 2. Learn & Practice Design Challenge 7 3. ISTE Teacher Standards Discussion 4. Add to Digital Portfolio 5. Instructional Video group work 	
15	Dec. 4	<p>No Class (Instructor will not be present)</p> <ul style="list-style-type: none"> • Classroom available for group work - Shooting & Editing the Instructional Video with group 	<p>STEM T&L Reflection Assignment: Final Submission <u>DUE Thursday, Dec. 6</u></p> <p>Instructional Video Assignment: Final Submission <u>DUE Sunday, Dec. 9</u></p>
16	Dec. 11	<ol style="list-style-type: none"> 1. Editing & Publishing the Instructional Video 2. Social Media Share 3. Completion of digital portfolio 	<p>Social Media Share: <u>DUE Sunday, Dec. 16</u></p> <p>Digital Portfolio with ISTE Teacher Standards Narratives: <u>DUE Sunday, Dec. 16</u></p>

