# **EDUC X313: Technology Supported Project Based Learning (3 units)**

*UC Merced Extension Education Programs has developed a plan for preparing teachers, which is defined by our Mission and Vision statements and is aligned with the Teacher Performance Expectations (TPEs) and the California Standards for the Teaching Profession (CSTP)****,*** *developed by the California Commission on Teacher Credentialing (CTC).*

**Mission**

The UC Merced Teacher Preparation Program exists to develop culturally responsive educators who equitably facilitate cross-disciplinary, integrative learning to catalyze student potential and empowerment.

**Vision**

The UC Merced Teacher Preparation Program aspires to be a recognized model for developing culturally responsive teachers who are committed to empowering their students. The Teacher Preparation Program is aligned with the vision of the University of California, Merced—upholding 21st century priorities for interdisciplinary learning and public service. To achieve this aspiration, the Teacher Preparation Program:

1. Aims to establish culturally respectful communication regarding questions, ideas, and solutions in the context of the Teacher Preparation Program courses and clinical placements.
2. Aims to nurture collaboration between teacher candidates and students to achieve learning goals, maximizing collective talent and expertise.
3. Aims to develop skills for critical and creative problem-solving among teacher candidates and students, applicable to all content domains.

**Extension Education Programs Learning Outcomes (EPLOs)**

The Teacher Preparation Program mission and vision are embedded in our Extension Education Programs Learning Outcomes (EPLOs). Teacher candidates graduating from the Teacher Preparation Program will be able to:

**Cultural Responsivity and Values (CRV):** demonstrate awareness, sensitivity, and responsiveness to diversity in every domain of learning, understanding values as opportunity for respectful exchange, collaboration, and shared commitment to the greater good.

**Content Knowledge (CK):** master state standards in the arts, humanities, language, literature, mathematics, physical science, natural science, and applied science along with capacity to monitor and guide personal learning.

**Communication and Information Literacy (CIL):** effectively convey information, engage in respectful dialogue, and share ideas through oral and written discourse, cultivating inquiry inclusive of self, other, and community.

**Professional Development (PD):** deploy problem-solving skills capable of transforming classrooms, promoting justice, fostering collaborative leadership, and addressing community concerns with mature civic identity.

**The Teacher Preparation Program Learning Outcomes (PLOs)**

Candidates (students) who complete the Teacher Preparation Program will be able to:

1. Develop a philosophy of education which uses theory to collaboratively guide practice, attending to the cultural and socio-emotional dimensions of teaching.
2. Personalize instruction and develop co-teaching models.
3. Develop lesson plans and deliver effective cross-disciplinary content, deploy appropriate assessments, distinguish between students of differing abilities, and apply learning-enhancing technologies to promote student potential and empowerment.
4. Practice restorative justice and authentic care.
5. Nurture and educate English language learners through an inclusive and positive class environment.
6. Develop critical and creative problem-solving for student empowerment across all academic subjects and content domains.
7. Communicate effectively through oral, visual, and written means with a wide range of audiences, including colleagues, families, and the community.

Finally, the *Teacher Performance Expectations (TPEs),*developed by the California Commission on Teacher Credentialing (CTC), and aligned with the California Standards for the Teaching Profession (CSTP) define how we formatively and summatively assess candidates.

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| **TPE 1:** Engaging and Supporting All Students in Learning | **TPE 2:** Creating and Maintaining Effective Environments for Student Learning | **TPE 3:** Understanding and Organizing Subject Matter for Student Learning |
| **TPE 4:** Planning Instruction and Designing Learning Experiences for All Students | **TPE 5:** Assessing Student Learning | **TPE 6:** Developing as a Professional Educator |

1. **Course Description:** EDUC X313 integrates Project Based Learning (PBL) with national classroom technology standards from the International Society for Technology in Education (ISTE). Candidates will learn how to design and implement PBL lessons for TK-12 classrooms which align with ISTE standards. The course will emphasize hands-on, project-based learning using current educational technologies. Candidates will become technology facilitators, nurturing a classroom culture which emphasizes cross-cutting digital literacy.

1. **Course Goal and Outcomes**

1. ***Course Goal:*** The course goal is to equip candidates for implementation of ISTE classroom technology standards using PBL pedagogy.
2. ***Learning Outcomes:*** Course Student Learning Outcomes (CLOs) are linked with Teacher Performance Expectations (TPEs) outlined by the CTC and with Program Learning Outcomes (PLOs), which are informed by the Extension Education Programs Learning Outcomes (EPLOs).
3. ***Literacy Definition and Course Component:*** CLO 1, 2

Digital literacy includes “the ability to effectively plan and monitor the efficacy of strategies used to search and manage the wealth of information available online, and the knowledge to appropriately vet and integrate those information sources. Therefore, digital literacy requires effective self-regulated learning (SRL) skills, and availing epistemic cognition (EC)” (Greene, Seung, & Copeland, 2014, p. 55).

1. ***English Language Learner (ELL), English Language Development (ELD) and/or Specifically Designed Academic Instruction for English (SDAIE) Course Component:*** CLO 1, 3
2. ***Inclusive Instruction Course Component:*** CLO 2, 3, 4
3. ***Technology Course Component:*** CLO 4

The Course Learning Outcomes (CLOs) support student development of the Program Learning Outcomes (PLOs). The connections between the CLOs are made explicit through the indication of which PLOs are connected to each CLO below.

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| **CLOs & Assessments** | **Grading** |
| **CLO 1:** Candidates will learn and critically appraise PBL pedagogies and ISTE standards for digital literacy (TPE 1, 2, 4; PLOs 1, 2, 4-7).  **Assessment: MindTap, Capstone PBL Lesson** | Description, Points, Weight:  see below |
| **CLO 2:** Candidates will acquire tools to evaluate the pedagogical value of new and unproven learning technologies in a rapidly changing environment (TPE 1, 2, 4; PLOs 2-7).  **Assessment: MindTap, Capstone PBL Lesson** | Description, Points, Weight:  see below |
| **CLO 3:** Candidates will design collaborative PBL activities aligned with ISTE standards, accommodating students across a spectrum of digital expertise (TPE 1, 2, 4; PLOs 1, 2, 4, 5, 6, 7).  **Assessment: Capstone PBL Lesson** | Description, Points, Weight:  see below |
| **CLO 4:** Candidates will apply course content to professional identity, emphasizing the importance of the teacher as technology facilitator (TPE 1, 2, 4, 6; PLOs 1, 4, 5, 6, 7).  **Assessment: Technology & Professional Practice** | Description, Points, Weight:  see below |

| Description of Assessments | Points | **Weight** | Due Date |
| --- | --- | --- | --- |
| **Participation**  Students are required to participate in class, online activities, and group work as assigned. | 10 | 10% | Weekly |
| **MindTap Activities**  MindTap is an interactive learning toolkit designed for your textbook. Log-in information, a quick start guide, and introductory video are available once you have registered for the textbook and MindTap through Canvas. | 30 | 30% | Weekly through Canvas |
| **Technology & Professional Practice**  Project Based Learning (PBL), the International Society for Technology in Education (ISTE), and digital literacy together assume that all TK-12 classrooms have (a) stable internet, (b) student hardware such as Chromebooks and/or iPads, and (c) dedicated tech support. Depending on funding and/or administration, some (or all) of these assumptions may prove faulty. The notion of “teacher as technology facilitator” means that in the real-world, teachers must be highly adaptable with a strong do-it-yourself (DIY) ethic.  Write a 4-5-page paper on technology and professional practice. Your thesis should address the inevitable school site challenges which you will confront at your future school site. If applicable, use a case study from an actual school site to illustrate how challenging it can be to teach digital literacy in California schools. Is it worthwhile to find solutions to these challenges? What free (or low-cost) software and hardware options are available to teachers looking for ways to integrate PBL with ISTE standards? Find a DIY resource on the internet pertinent to a classroom problem. Examples might include creating a mobile WIFI hotspot or sharing a handful of computers with 30 kids. How will you adapt? | 25 | 25% | Week 7 |
| **Capstone Project Based Learning (PBL) Lesson**  Find a few others in class that are interested in working with your preferred age-group (i.e., primary, middle school, secondary). Form a group and decide on a hypothetical age-group (i.e., 4th graders) for your capstone lesson.  Your starting point is the standards, based on the credential you are seeking. First, choose a standard(s) from the Next Generation Science Standards (NGSS), Common Core State Standards (CCSS) for Mathematics, or English Language Arts and Literacy in History, Social Science, Science and Technical Subjects, all of which work very well with PBL.  Second, choose 1-2 ISTE standards to guide your use of technology in the lesson. Create a group Google Docs site to archive your work, making sure to invite the instructor as observer.  Third, identify your desired results. Key Questions: *What should students know, understand, and be able to do? What is the ultimate transfer we seek as a result of this unit? What enduring under- standings are desired? What essential questions will be explored in-depth and provide focus to all learning?* See [Understanding by Design Framework](https://www.ascd.org/ASCD/pdf/siteASCD/publications/UbD_WhitePaper0312.pdf).  Once you’ve selected lesson standards, spend a chunk of time with at the Buck Institute for PBL website ([www.bie.org](http://www.bie.org)). This website is FULL of PBL and ISTE-aligned content. Build your capstone lesson using best pedagogical practices, curriculum, assessments, and classroom examples from BIE resources. You will present the completed capstone lesson (minimum 30 minutes) to our class at the end of the semester.  Your capstone should be built in Google Sites. Here are some examples:  Project Me: http://projectmepbl.weebly.com/  My University City: https://sites.google.com/site/daegudnue/ Design a Dream Room: https://sites.google.com/site/edtech542libertypbl/ Playground Planner: https://sites.google.com/a/u.boisestate.edu/nateirwinpbl/home | 35 | 35% | Last day of class |

1. **Format and Procedures:** This synchronous, face-to-face class meets weekly for a semester. Some course content and all assessment submissions are handled through the Canvas learning management system.

1. **Course Requirements**
   1. ***Class Attendance and Participation Policy*** 
      1. Attendance: Attendance for all class sessions is required. A candidate is responsible for the content and experiences of any missed class sessions. Missing more than one class session for any reason constitutes excessive absences, which may be handled in the following way:
         1. Absences may impact a candidate’s final grade.
         2. The candidate may be granted an incomplete (in the case of illness or death in the family) and asked to retake a portion of, or the entire course in the following term.
         3. The candidate may be asked to re-enroll or retake the course.
      2. Anticipated Absences: The candidate is responsible for clearing anticipated absences with his/her professor of the class BEFORE committing to an event which conflicts with class (e.g., Back to School Night). This assures that a candidate has either developed a plan for receiving full benefit from the course or does not commit to the conflicting event.
      3. Late Work: In general, the policy regarding late work is that if work is late due to an excused absence (an absence cleared in advance), the work may be turned in up to one week late without penalty. All other late work is docked one letter grade and must be turned in within one week of its due date. Work turned in later than one week will receive no credit.
      4. Participation**:** Candidates are expected to participate fully in each class session, as each Teacher Preparation Program course is a combination of theory and praxis to facilitate development of the California Standards for the Teaching Profession (CSTP) as outlined in the Teaching Performance Expectations (TPEs), developed by the CTC.
      5. Tardiness: A candidate who is late to class is considered absent for that portion of the class. Habitual tardiness will accumulate to equal an absence of one or more class sessions (refer to section on Attendance above).
   2. ***Technology Policy***

Candidates are preparing to become professional educators. Candidates are expected to conduct themselves as professionals, fully engaging classroom learning as a matter of courtesy extended to colleagues. Smart phone and laptop technologies are for learning purposes only. These cannot be used during class for personal texting, email, or social media. Violators will receive a “F” grade for class participation.

* 1. ***Time Expenditure***

EDUC X313 is 3-unit course requiring a total of 135 hours (including class time) over the semester. The following is an estimated breakdown of time candidates can expect to spend in completing this course:

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| Class Sessions | 45 hours |
| Weekly Reading and Activities | 70 hours |
| Technology and Professional Practice | 10 hours |
| Capstone Project Based Learning (PBL) Lesson | 10 hours |
| **Total** | **135 hours** |

1. **Grading Procedures:** All UC Merced Extension Teacher Preparation Program courses are graded. The course grade will be calculated as follows:

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| --- | --- |
|  | % |
| Participation | 10 |
| MindTap Activities | 30 |
| Technology and Professional Practice | 25 |
| Capstone Project Based Learning (PBL) Lesson | 35 |
| **Total** | **100%** |

Candidates must achieve a B course grade for credit in the UC Merced Extension Teacher Preparation Program. A course grade lower than B is not acceptable for credit in the Teacher Preparation Program. Letter grades will be assigned as follows:

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| **Letter Grade** | **Percentage** | **Grade Point Equivalent** | **Graduate Level Grades** |
| A | 93-100% | 4.0 | Excellent |
| A- | 90-92% | 3.7 | Outstanding |
| B+ | 87-89% | 3.3 | Above Average |
| B | 83-86% | 3.0 | Average |
| B- | 80-82% | 2.7 | Satisfactory |
| C+ | 77-79% | 2.3 | Marginal, but not acceptable for credit in the Teacher Preparation Program |
| C | 73-76% | 2.0 |
| C- | 70-72% | 1.7 |
| D | 60-69% |  | Not acceptable |
| F | 0-59% |  | Not acceptable |

1. **Academic Integrity:** Each candidate in this course is expected to abide by the University of California, Merced Academic Honesty Policy. Any work submitted by a candidate in this course for academic credit will be the candidate's own work. Candidates are encouraged to study together and to discuss information and concepts covered in the course with other students. Candidates can give "consulting" help to or receive "consulting" help from each other. However, this cooperation should never involve one student taking credit for work done by someone else. Violation of UC Merced Academic Honesty Policy will result in an automatic “F” for the assignment. At instructor discretion, the policy may be extended to include failure of the course and/or University disciplinary action.
2. **Accommodations for Students with Disabilities:** The University of California, Merced is committed to ensuring equal academic opportunities and inclusion for candidates with disabilities based on the principles of independent living, accessible universal design and diversity. The instructor is available to discuss appropriate academic accommodations that may be required for a candidate with disabilities. Requests for academic accommodations are to be made during the first three weeks of the semester (or equivalent), except for unusual circumstances. Candidates are encouraged to register with the Disability Services Center to verify their eligibility for appropriate accommodations.
3. **Tentative Weekly Schedule**

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| **EDUC X313 TENTATIVE SCHEDULE**  **(subject to change)** | | | |
| **Week** | **Topic** | **Before Class** | **Due** |
| 1 | *Welcome!*  Topic: The International Society for Technology in Education (ISTE) standards, including digital citizenship. Wait, *more* standards? Why?  Topic: Preparing students for the information economy (digital literacy).  Topic: Introducing Project Based Learning (PBL). |  |  |
| 2 | *PBL*  Topic: Wittgenstein: We know because we do.  Topic: Overview of PBL principles.  Topic: PBL in classroom practice. | Canvas Week 2  Cennamo et al., Chapter 1 | MindTap Assignments |
| 3 | *ISTE*  Topic: Technology shouldn’t be uncritically used in the classroom. Some learning technologies are useless.  Topic: Using ISTE standards to critically evaluate new and unproven technologies.  Topic: Which technologies are capable of the following?   1. Suitable for equitable and accessible learning. 2. Pedagogically impactful. 3. Amenable to PBL and ISTE standards. | Canvas Week 3  Cennamo et al., Chapter 2 | MindTap Assignments |
| 4 | *Google & PBL*  Topic: Don’t know where to start? How about Google?  Topic: Free. Easy to use. \*May\* adhere to the three criteria.  Topic: Docs, sites, classroom. | Canvas Week 4  Cennamo et al., Chapter 3 | MindTap Assignments |
| 5 | *Show and Tell*  Topic: What technologies have you observed at your school site?  Topic: Survey design.  Topic: e-textbooks and integrated learning toolkits (i.e., MindTap, Connect). | Canvas Week 5  Cennamo et al., Chapter 4 | MindTap Assignments |

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| 6 | *The State of the (Assessment) Art*  Topic: ALEKS and math learning.  Topic: Latent semantic analysis and IEA.  Topic: ETS Criterion. | Canvas Week 6  Cennamo et al., Chapter 5 | MindTap Assignments |
| 7 | *Learning Management Systems & PBL*  Topic: What? Why?  Topic: Free options…Moodle, Sakai, Latitude Learning.  Topic: Or, Google docs. | Canvas Week 7  Cennamo et al., Chapter 6 | MindTap Assignments  Technology & Professional Practice Paper |
| 8 | *Using Zoom for PBL*  Topic: Peer-peer learning with Zoom.  Topic: Screen share and recordings.  Topic: Making videos with Zoom. | Canvas Week 8  Cennamo et al., Chapter 7 | MindTap Assignments |
| 9 | *Google Sites with PBL*  Topic: Publishing projects, web-presence.  Topic: Beyond Facebook.  Topic: Teaching kids to teach others using media. | Canvas Week 9  Cennamo et al., Chapter 8 | MindTap Assignments |
| 10 | *Voice-to-Text with PBL*  Topic: Siri is your friend.  Topic: Voice-to-text and writing in MS Word.  Topic: Google chrome will read to you. | Canvas Week 10  Cennamo et al., Chapter 9 | MindTap Assignments |

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| 11 | *Buck Institute and PBL*  Topic: BIE, good, bad, ugly.  Topic: Resources for PBL.  Topic: How can we improve upon the BIE model? | Canvas week 11.  Cennamo et al., Chapter 10 | MindTap Assignments |
| 12 | *Introducing the Next Generation Science Standards (NGSS) and the Common Core State Standards (CCSS) for Mathematics (CCSS-Math) and English Language Arts and Literacy in History, Social Science, Science and Technical Subjects (CCSS-ELA).*  Topic: Introducing NGSS and CCSS  Topic: What does hands-on, PBL look like with NGSS and CCSS?  Topic: Examples from the [Teaching Channel](https://www.teachingchannel.org/site-search?keyword=project+based+learning). | Canvas week 12.  Cennamo et al., Chapter 11 | MindTap Assignments |
| 13 | *Putting it All Together*  Group work, consultations. | Canvas week 13  Cennamo et al., Chapter 12 | MindTap Assignments |
| 14 | Capstone PBL Lessons | Canvas week 14  Cennamo et al., Appendices | MindTap Assignments |
| 15 | Capstone PBL Lessons |  |  |

**Required Texts**

Cennamo, K., Ross, J., & Ertmer, P. (2019). *Technology Integration for Meaningful Classroom Use: A Standards- Based Approach (3rd Edition)*. Boston, MA: Cengage.

Nota Bene: This is an e-textbook which will be purchased with integrated online learning software (MindTap). Please wait until the first class meeting for purchase instructions.