SJSU SAN JOSÉ STATE UNIVERSITY

Connie L Lurie College of Education · Special Education

Applying Assistive & Instructional Technology EDSE 241

Fall 2025 Section 80 Fully Online 3 Unit(s) 08/20/2025 to 12/08/2025 Modified 08/20/2025

Contact Information

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Course Information

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Class Days/Time:	Online

Course Description and Requisites

Examination and application of evidence-based applications of AT/IT for students with disabilities. This includes the consideration of AT, including AAC, and evaluation for technology to be included in the IEP.

Prerequisite(s): Department consent.

Letter Graded

Program Information

LCOE Department of Special Education Mission

We prepare candidates to be transformative leaders in the field, and lifelong learners who respond to racism, ableism, bigotry, and prejudice in their schools and communities. To this end, we center anti-racist and anti-ableist policies and practices in our teaching, research, and service to disrupt systemic racism that has historically prevented full inclusion and equity for students with disabilities including our BIPOC (Black, Indigenous, People of Color) students, staff, and faculty. We engage culturally sustaining pedagogies and the principles of UDL in our coursework and fieldwork, partnering with our local districts to push for the success of students with disabilities in inclusive settings.

LCOE Department of Special Education Program Learning Outcomes

- PLO 1 Assess and identify the educational needs and strengths of students with disabilities from diverse socioeconomic, cultural and linguistic backgrounds.
- PLO 2 Critically evaluate pedagogy, curricula and instructional materials grounded in quality indicators of evidence-based practices for students with disabilities.
- PLO 3 Plan, design, implement, and monitor linguistically and culturally appropriate instruction that meets the unique needs of students with disabilities.
- PLO 4 Apply knowledge of the purpose, characteristics, and appropriate use of different types of assessments used for special education eligibility, placement, and service selection.
- PLO 5 Utilize research-based knowledge and theoretical, conceptual and evidence-based practices related to individuals with disabilities to improve services and instruction in the field.

Link to Education Specialist TPEs (pps 13 – 42) (https://www.ctc.ca.gov/docs/default-source/educator-prep/standards/education-specialist-standards-pdf.pdf?sfvrsn=729750b1_45)

Course Goals

This course is intended to assist students to meet the competencies specified in the Mild/Moderate Standards and Extensive Support Needs (ESN) Specialty Teaching Performance Expectations (TPE) related to assistive and instructional technology, alternative augmentative communication systems, and universal design for learning.

Course Learning Outcomes (CLOs)

Upon successful completion of this course, students will be able to:

1. Develop a protocol for teachers to implement an evidenced based technology intervention.
2. Synthesize evidenced based practices in assistive/instructional technology (AT/IT) and multimedia learning.
3. Analyze research and policy related to the use of AT/IT with students with disabilities.
4. Review current web-based applications and interventions to support special education learners.

5. Create a technology-based intervention that supports an academic, behavioral, or social outcomes for students with disabilities.
6. Conduct an assessment that identifies students AT and AAC needs.
7. Work as a member of a multidisciplinary team to develop systems that incorporate augmentative communication systems and assistive technology in the classroom.
8. Implement strategies, techniques, and technology to enhance effective communication in a variety of educational environments.
9. Evaluate existing technology tools and determine if they are suitable for classroom use.

Course Materials

Crompton, H. (2018). Education reimagined: Leading systemwide change with the ISTE standards. *International Society for Technology in Education.*

Dabbagh, N., Bass, R., Bishop, M., Costelloe, S., Cummings, K., Freeman, B., Frye, M., Picciano, A. G., Porowski, A., Sparrow, J., & Wilson, S. J. (2019). Using technology to support postsecondary student learning: A practice guide for college and university administrators, advisors, and faculty. Institute of Education Sciences, What Works Clearinghouse (WWC 20090001), and National Center for Education Evaluation and Regional Assistance (NCEE), *Institute of Education Sciences, U.S. Department of Education*. https://whatworks.ed.gov.

Dexter, S., & Richardson, J. W. (2020). What does technology integration research tell us about the leadership of technology? *Journal of Research on Technology in Education, 52(1)*, 17–36.

Gonzales, M. M. (2020). School technology leadership vision and challenges: Perspectives from American school administrators. *International Journal of Educational Management, 34(4)*, 697–708.

König, J., Jäger-Biela, D. J., & Glutsch, N. (2020). Adapting to online teaching during COVID-19 school closure: Teacher education and teacher competence effects among early career teachers in Germany. *European Journal of Teacher Education, 43(4)*, 608–622.

OECD. (2020). PISA 2021 ICT Framework. https://www.oecd.org/pisa/sitedocument/PISA-2021-ICT-framework.pdf

Reich, J. (2020). Failure to disrupt: Why technology alone can't transform education. *Harvard University Press.*

Sailer, M., Murböck, J., & Fischer, F. (2021). Digital learning in schools: What does it take beyond digital technology? *Teaching and Teacher Education, 103*, Article 103346.

Tate, T., & Warschauer, M. (2022). Equity in online learning. *Educational Psychologist, 57(3)*, 192–206.

There is no textbook for this course.

Course Requirements and Assignments

Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally three hours per unit per week) for instruction, preparation/studying, or course related activities, including but not limited to internships, labs, and clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.

- Weekly Canvas Materials (10-20 Points weekly): For each topic presented in the course, students will be tasked with discussing in small or large online groups their interpretations of the readings, media, and other information provided on the topic, and completing weekly assignments/quizzes based on information from the weekly modules.

- Technology Intervention (40 Points): Students will reflect on what defines the role of technology in the classroom based on the guidance and mandates provided by legislation, technology standards, and national plans related to technology use in the classroom. Then design an intervention plan using technology to support student learning with elements of UDL. (TPE U3.7)
- Assistive Technology Presentation (50 Points): Students will review available instructional technology platforms or educational applications and demonstrate their accessibility for students with various disabilities, their alignment to principles of UDL, and how the tool addresses specific learning needs of students with various disabilities. (7.7, 7.8)
- Technology Resource Collaboration (50 Points): Students will work collaboratively in small groups to create a resource highlighting technology resources and levels of support in an assigned area that aligns to TPE standards including the areas of academics, behavior, social emotional learning and AI. Include relevant information related to age restrictions, cost of program or app, confidentiality, and ways to promote accessibility.
- Final Examination or Evaluation

  In place of a final exam, students will present their resources and provide a download of the resource to share with peers.

Grading Information

Grade	*Percentage*
A	*94 to 100%*
A-	*90 to 93%*
B+	*86 to 89 %*
B	*83 to 85%r r*
B-	*80 to 82%*
C +	*76 to 79%*
C	*73 to 75%*
C-	*70 to 72%*
D+	*66 to 69%*
D	*63 to 65%*
D-	*60 to 62%*
F	*0 to 59%*

Criteria

All assignments are due on the assigned date at the assigned time and must be submitted through CANVAS. Emailed or paper copies of assignments cannot be accepted. If an extension on an assignment is required, the department's late policy requires that students contact the instructor at least 48 hours in advance of the due date with the request. The request must include a designated date on which the student intends to submit the assignment, which should be within one week of the original due date. If an assignment is not submitted AND no contact has been made with the instructor within 5 days of the due date, the student will receive a zero.

University Policies

Per University Policy S16-9 (PDF) (http://www.sjsu.edu/senate/docs/S16-9.pdf), relevant university policy concerning all courses, such as student responsibilities, academic integrity, accommodations, dropping and adding, consent for recording of class, etc. and available student services (e.g. learning assistance, counseling, and other resources) are listed on the Syllabus Information (https://www.sjsu.edu/curriculum/courses/syllabus-info.php) web page. Make sure to visit this page to review and be aware of these university policies and resources.

Course Schedule

Week		Topic	Assignments
1		Introduction Course overview	Presentation Sign up Introduction activities
2		Culturally Responsive Teaching and Equitable practices using technology	Complete Canvas readings and activities. Discussion board assignment
3		Technology in Special Education Overview Review Standards	Complete Canvas readings and activities. Standards assignment

4		Universal Design for Learning/ Differentiating Instruction Cast-UDL Guidelines Dr. Katie Novak	Complete Canvas readings and activities. Complete Discussion board assignment Technology Intervention Plan assigned
5		Technology laws and regulations, Technology learning standards	Complete Canvas readings and activities. Define technology laws and how they apply to special education and teaching Intervention plan
6		Assistive Technology and Communication TPE Standards/IEP Procedures	Complete Canvas readings and activities. Assistive Technology in communication intervention assignment

7		Technology and Reading (decoding, phonemic awareness, fluency, comprehension) (TPE 7.7) Read: https://www.readingrockets.org/topics/assistive-technology/articles/responsibly-incorporating-technology-literacy-instruction Watch: Using Multimedia to support Literacy Instruction video Improving Fluency with Technology	Complete Canvas readings and activities. Continue working on communication intervention assignment Discussion board assignment Introduction to Creating Digital and Multimedia Texts: Read the following: Digital Storytelling: Extending the Potential for Struggling Writers How to Incorporate Digital Storytelling to Empower Student Voice Using Multimedia to Support Reading Instruction Post a response on the discussion board *Describe three take-aways from these readings that have sparked your interest in using this technology to support literacy development of your learners.* Practice creating digital and multimedia texts: With a partner working in a similar grade level, create a digital text with your partner to practice these skills. Submit your digital story. Use this guide to help you.

			Next, describe how you would teach your students to create a digital story using the digital story checklist for first graders (linked here). You may want to adapt the checklist for older learners.
8		Communication Presentations Technology and Math (problem solving, word problems, fluency)	Complete Canvas readings and activities. Discussion board assignment
9		Reading Presentations Technology for science and social studies (VR, encyclopedia/research resources)	Complete Canvas readings and activities. • Each student creates a multimedia text to share in their small group and provides feedback to others (7.7) *Candidates are assessed on this assignment using a teacher created rubric. Candidates also receive peer feedback in their small group.* Discussion board assignment

10		Math Presentations Technology for writing (voice to text, dictionary, story starters, support for handwriting) (7.8) *Lecture is drawn from these readings:* *Using Writing Effectively* *Ed Tech for Writing* *Keyboarding for young children* *Read and Respond to discussion board - Putting it All Together: Using Assistive Technology to Promote Literacy Development* • *Post to the discussion board two types of assistive technology you are interested in using for a student with reading difficulties in your fieldwork setting. Be sure to include why you think the technology will benefit the student and promote overall literacy development across reading, writing, listening, and speaking. Respond to at least two classmates' posts.*	Complete Canvas readings and activities. Discussion board assignment CANVAS Activity: Develop an activity plan for teaching keyboarding skills to young learners. Discuss how you will integrate this in your fieldwork setting and Lesson Cycle Five. This assignment will be assessed with a teacher created rubric. CANVAS Activity: With a partner, select one of the case study students and develop an assistive technology plan that supports literacy development across reading, writing, listening, and speaking in discipline-specific ways. This assignment will be assessed by the instructor with written feedback provided (ECSE TPE 7.14)
11		Science Presentations Technology to support behavior (behavior reinforcement, behavior contracts, data collection)	Complete Canvas readings and activities. Discussion board assignment

12		Behavior Support Presentations Artificial Intelligence (AI) & Special Education, ChatGPT	Complete Canvas readings and activities. Discussion board assignment
13		AI/ChatGPT Presentations Accommodations using technology	Complete Canvas readings and activities. Resource Group Assigned due
14		No Class	
15		Writing Presentations Technology for data collection and progress monitoring	Complete Canvas readings and activities. Discussion board assignment
Final		Final Exam-Special education resource presentations	Resource Presentations