

Applying Assistive & Instructional Technology

EDSE 241

Fall 2026 Fully Online 3 Unit(s) 08/19/2026 to 12/07/2026 Modified 09/10/2026

Contact Information

Instructor: Emily Cooper

Email: emily.cooper@sjsu.edu

Office Hours: By appointment

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.

Grading: 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 \(pps 13 – 42\). \(https://docs.ctc.ca.gov/Document/Download/31263\)](https://docs.ctc.ca.gov/Document/Download/31263)

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 reimaged: 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> (<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> (<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

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.

Course AI Use Policy

Teacher candidates are encouraged to critically engage with Artificial Intelligence (AI) tools while recognizing their limitations. AI systems are not neutral; they are shaped by the data on which they are trained and can reflect or amplify existing social, cultural, and linguistic biases. Responsible use of AI requires thoughtful evaluation, cross-checking with reliable sources, and a commitment to equity and inclusivity in teaching practice.

Permitted Uses of AI

In this course, the responsible use of Artificial Intelligence (AI) tools (e.g., ChatGPT, Claude, Bard, etc.) is permitted to support your learning. AI can be a valuable tool for generating ideas, clarifying concepts, and summarizing information. However, it is not a substitute for your own knowledge, analysis, or application of course concepts. As future educators, your work must reflect your professional judgment, your understanding of course content, and your responsiveness to the individualized needs of students.

You may use AI to:

- Summarize readings, lectures, or other course materials as a study support.
- Brainstorm ideas or generate initial outlines to get started on assignments.
- Explore multiple perspectives on a topic to deepen your understanding.
- Check clarity of written communication (grammar, flow, readability).

Prohibited Uses of AI

You may not use AI to:

- Generate final submissions for written assignments, lesson plans, IEP goals, or case studies.
- Write analytical reflections or apply course content on your behalf.
- Replace your professional judgment in designing instruction or assessing student needs.
- Fabricate citations, references, or data.

Expectations for Authentic Work

While AI may serve as a resource for generating ideas, frameworks, and examples, it cannot replace the professional judgment, lived experience, and human understanding required to meet the unique needs of your students. All instructional decisions should be grounded in your direct knowledge of students, collaboration with colleagues, and professional expertise.

- All submitted assignments must demonstrate your personal application of course knowledge, professional skills, and understanding of student diversity and individualized needs.
- Specific student information, including names, identifying details, or confidential records, should not be submitted to or used with AI tools.
- Lesson plans, IEP goals, and instructional designs must reflect your professional reasoning and commitment to inclusive practices.
- If AI is used at any stage, you must substantively adapt, critique, and expand upon its output.

Transparency

-

If you use AI to assist your work, include a brief statement (e.g., "AI was used to summarize readings and suggest outline headings. All final analysis, applications, and instructional decisions reflect my own work.").

-

Failure to appropriately acknowledge AI use, or submitting AI-generated work as your own, may be considered academic dishonesty.

Consequences of Unauthorized AI Use

Using AI tools for prohibited tasks or failing to properly acknowledge AI assistance constitutes academic dishonesty.

Unapproved or unacknowledged use of AI will be handled in accordance with San Jose State's [Academic Integrity Policy](https://www.sjsu.edu/studentconduct/conduct-processes/academic-integrity.php) (<https://www.sjsu.edu/studentconduct/conduct-processes/academic-integrity.php>), which may result in a zero for the assignment, course failure, or referral to the Office of Student Conduct.

Permitted Uses of AI

This policy recognizes AI as a supportive tool while upholding the integrity of graduate-level scholarship and professional preparation. As teacher candidates, you are developing the knowledge, skills, and judgment to serve diverse learners; authentic engagement with course content is essential for your growth and your future students' success.

Your commitment as a student to learning is evidenced by your enrollment at San José State University. The [Academic Integrity Policy S26-10](https://www.sjsu.edu/studentconduct/docs/S26-10%20Academic%20Integrity%20Policy.pdf) (<https://www.sjsu.edu/studentconduct/docs/S26-10%20Academic%20Integrity%20Policy.pdf>) requires you to be honest in all your academic course work, which includes following the course restrictions on AI use and citing any AI use that was used if permitted. Faculty members are required to report all infractions, regardless of severity, to the office of Student Conduct and Ethical Development. Visit the [Student Conduct and Ethical Development](https://www.sjsu.edu/studentconduct/) (<https://www.sjsu.edu/studentconduct/>) website for more information.

Criteria

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) (<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) (<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

Course Calendar

Week	Date	Topic	
1	8/19-8/30	Introduction Course overview	Presentation sign-up due 8/30 Introduction activities due 8/30
2	8/31-9/6	Culturally Responsive Teaching and Equitable practices using technology ISTE Standards Introduction to Assistive Technology	Introduction to AT Lecture on ISTE Standards Student Learning Outcomes - define assistive tech and it's benefits - understand the purpose of ISTE standards Assistive Technology IRIS Module Students complete the assessment 1. Describe the relationship between assistive technology and learning 2. There are two interdependent aspects of assistive technology Complete Jade's Case study (https://www.irisproject.org/iris/case-studies/jade)
3	9/7-9/13	Technology in Special Education Overview Review Standards Equity [U 3.7] Digital Inclusion & Digital Citizenship Students' Access to the Internet & Digital Devices at Home (NCES) (https://nces.ed.gov/blogs/nces/post/students-access-to-the-internet-and-digital-devices-at-home) Closing the Digital Learning Gap (https://digitalpromise.org/2019/01/09/closing-the-digital-learning-gap/)	Students will: - understand the difference between digital equity and digital inclusion - learn how to promote digital equity in the classroom - define digital citizenship. Students will answer questions [U 3.7] 1. How can teachers promote digital equity in the classroom? Provide specific examples of strategies. 2. Imagine a student is excluded from a digital tool or platform. How can you use your knowledge of digital equity to create a more inclusive online learning experience? 3. What are the key characteristics of digital citizenship? 4. How can you promote digital citizenship in the classroom? When selecting digital tools and resources, how can you ensure they are accessible to all learners?

4	9/14-9/20	[U 3.6] Universal Design for Learning Differentiating Instruction Cast-UDL Guidelines (https://udlguidelines.cast.org/) Dr. Katie Novak (https://youtu.be/3tVa3rSZPh4?si=BP8qXXSVxGJWbsSI)	Technology Intervention Plan assign 1. Identify a student and/or a student such as reading fluency or decoding Common Core Standards Resources 2. Do the research. Using the Univ standard and student you chose. Int 3. Summarize in your own words the 4. Using the ITSE standards (https:// intervention process. 5. Review the UDL Guidelines (http:// utm_source=castsite&utm_medium ensure you are incorporating elemer 6. Describe the intervention, the tec your small/large group (use the rese
---	-----------	---	--

5	9/21-9/27	[U 3.8] Technology laws and regulations, Technology learning standards ISTE for Educators (https://iste.org/standards/educators) Cybersecurity Digital Footprint Student Privacy	Students will respond to the follow Define and explain Technology Law Cybersecurity 1. What cybersecurity practices should Digital Footprint 2. How can a student's digital footprint Student Privacy 3. Why is protecting student privacy i Application Scen 4. A teacher wants students to create Explain your reasoning. International Technology Standard 5. Complete the Self-Assessment of 1 goals for yourself related to two di
6	9/28-10/4	Assistive Technology and Communication Mandated Considerations for AAC technology for students with ESN IEP Procedures for AAC	Complete Canvas readings and activ 1. What are the mandated consideration communication needs even when a s 2. Describe the steps an IEP team should 3. A student with ESN has recently been implementation? 4. Once an AAC device or system has been and discussed during IEP meetings? Presentations on AT in communication

7	10/5-10/11	Technology and Reading (decoding, phonemic awareness, fluency, comprehension) (TPE 7.7) Read: [TPE U 4.8] https://www.readingrockets.org/topics/assistive-technology/articles/responsibly-incorporating-technology-literacy-instruction (https://www.readingrockets.org/topics/assistive-technology/articles/responsibly-incorporating-technology-literacy-instruction) Watch: Using Multimedia to support Literacy Instruction video (https://www.youtube.com/watch?v=R_6matTZ9V8) Improving Fluency with Technology (https://www.youtube.com/watch?v=8IfPkIK6Ae0)	Complete Canvas readings and activ Continue working on communication Discussion board assignment due 10/11 Introduction to Creating Digital and Multimedia Read the following: Digital Storytelling: Extending the Power of Digital Storytelling How to Incorporate Digital Storytelling into Your Classroom Using Multimedia to Support Reading Instruction Post a response on the discussion board Practice creating digital and multimedia presentations With a partner working in a similar group (https://docs.google.com/document) Next, describe how you would teach (https://docs.google.com/document)
8	10/12-10/18	Technology and Math (problem solving, word problems, fluency)	Presentations on AT in Math. Student presentations due 10/18 1. How can assistive technology support math learning? 2. A student has difficulty with computation. How can you help the student access the curriculum? 3. What factors should an IEP team consider when selecting assistive technology? 4. Choose an assistive technology tool that addresses barriers to learning and promotes student success.
9	10/19-10/25	Reading Presentations Technology for science and social studies (VR, encyclopedia/research resources)	Presentations on AT in reading. Student presentations due 10/25 Complete Canvas readings and activities • Each student creates a multimedia presentation for their small group. Discussion board assignment due 10/25

10	10/26-11/1	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 (https://dwwlibrary.wested.org/resources/1195) Ed Tech for Writing (https://salve.libguides.com/educationaltechnology/writing) Keyboarding for young children (https://www.readandspell.com/us/teaching-kids-to-type) Read and Respond to discussion board - Putting it All Together: Using Assistive Technology to Promote Literacy Development (https://eieiservices.com/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 due 11/1 CANVAS Activity: Develop an activity using the created rubric. CANVAS Activity: With a partner, select a technology and discuss its use. This assignment will be assessed by
----	------------	---	---

11	11/2-11/8	Science Presentations Technology to support behavior (behavior reinforcement, behavior contracts, data collection)	Presentations on AT in science. Student 1. How can assistive technology be used? 2. A student frequently becomes frustrated. What supports can be effective? 3. What role should the IEP team play in this? 4. Many challenging behaviors occur with student engagement and independence.
12	11/9-11/15	Behavior Support Presentations Artificial Intelligence (AI) & Special Education, ChatGPT AI demonstrations	Presentations on AT in behavior. Student 1. How can artificial intelligence (AI) be used? 2. What are the potential benefits and limitations? 3. A student with a learning disability struggles with skill development. How can AI be used? 4. When incorporating AI-based assistive technology, what considerations should be taken into account?

13	11/16-11/22	AI/ChatGPT Presentations Accommodations using technology Chatbots	Create a chatbot to support student Identify the purpose: Determine who Use accessible language: Ensure the Incorporate supports: Include features Promote independence: Design the
14	11/23-11/29	No Class	
15	11/30-12/6	Writing Presentations Technology for data collection and progress monitoring	AI demo on data collection 1. How can AI-powered assistive technology 2. What are the potential benefits and challenges 3. A teacher uses an AI tool to organize 4. How do FERPA, IDEA, and district policies 5. When selecting an AI-supported data
Final	12/18	Final Exam-Tech Resource Collaboration	Resource Presentations 1. Research best practices for using technology 2. Determine what types of assistive technology 3. Find apps, extensions or other technology 4. Review areas that should be addressed 5. Create an infographic complete with