Institutional Effectiveness
2024-2025

Program: Computer Science Education Certificate
College and Department: College of Education & Human Sciences, Curriculum & Instruction
Contact: Jeremy Wendt, Chairperson
Mission:

The mission of the Department of Curriculum & Instruction is to enhance education and policy for the well-being of society through the creation, communication and application of new knowledge; preparation of scholars, researchers, educators and other professionals to meet the needs of our increasingly diverse, global, technological society; and outreach initiatives engaged with matters related to the local community, state, nation, and world.

Mission Brief: Learn from the past. Impact the present. Focus on the future.

Vision: Evidence-based, student-focused, future-oriented education for life-long learners.

Attach Curriculum Map (Educational Programs Only):
Attached Files: See Appendix 1

Student Learning Outcome 1: Collaborative Experiences

Define Outcome:
Candidates for the CSED certificate will have field experiences and collaborative experiences with K-12 schools, university faculty and students, and corporate collaborators.

Assessment Methods:
In alignment with the learning objectives and outcomes, student final projects and project summaries will be evaluated by a rubric.

Criteria for Success (Thresholds for Assessment Methods):
Candidates will meet or exceed rubric requirements set by faculty for the final project. Each student will complete at least one collaborative experience before submitting their final project.

Link to 'Tech Tomorrow' Strategic Plan:
1.E Stackable Credentials,2.A Technology Infused Programs,4.B Programs, Certificates, and Training

Results and Analysis:
Certificate candidates have met or exceeded requirements through their interactions with K-12 schools, university faculty, and industry partners and successful completion of rubric criteria. For example, faculty and students worked with robotics clubs based out of local schools.

Use of Results to Improve Outcomes:
Several new partners were added this year for students to complete collaborative projects. Additional local schools and industry partners were integrated into the program to give more authentic experiences for candidates. For example, faculty and students worked with robotics clubs based out of local schools.

For this academic year cycle, faculty observed that student interactions and experiences were more authentic due to the hands-on nature of the program experiences. Ideally, students can expand the scope of their projects to have more interactions with stakeholders.

Student Learning Outcome 2: Licensure Exam

Define Outcome:
Candidates for the Computer Science Education certificate will meet or exceed state standard requirements for the K-12 Computer Science Education licensure endorsement.

Assessment Methods:
Candidates will complete the certificate as a stand-alone credential or embedded into a degree program. The assessment method utilized:

State of Tennessee licensure endorsement completion

Criteria for Success (Thresholds for Assessment Methods):
PRAXIS II Scores/Endorsements granted - Candidates in licensure programs must meet or exceed required scores on Praxis II exams for her or his program. These scores are reported to TTU directly from ETS. Performance at a level above or comparable to the state mean on the Praxis II Examination will be defined as TTU candidates having a mean score above or equal to the state mean. Praxis II scores are generally reported a year behind due to a delay with state reporting.

Link to 'Tech Tomorrow' Strategic Plan:
2.A Technology Infused Programs,4.B Programs, Certificates, and Training

Results and Analysis:

Computer Science Praxis Results				
	TTU		State	
Test Year	N	Pass Rate	N	Pass Rate
2020-21	1	100%	3	-
2021-22	0	-	3	-
2022-23	6	100%	10	90%
2023-24	2	100%	6	100%

For the 2024-2025 academic year, available results were on the Computer Science Praxis section. Two students completed the Praxis sub-test with both meeting or exceeding the state mean. Thus, 100% of students met the state requirement. This aligns with the department's goal of meeting or exceeding the passing rates of the state average.

Summative Evaluation:
Several new partners were added this year for students to complete collaborative projects. Additional local schools and industry partners were integrated into the program to give more authentic experiences for candidates. For example, faculty and students worked with robotics clubs based out of local schools.

Faculty in CSED have observed that student interactions and experiences were more authentic due to the hands-on nature of the program experiences. In the next year, students can expand the scope of their projects to have more interactions with stakeholders.

List of Appendices:
Appendix 1: Computer Science Education Certificate Curriculum Map

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COURSE NUMBER	**COURSE NAME**	**SLO1:** COLLABORATIVE EXPERIENCES	**SLO2:** EXPAND COLLABORATION
CSED 6000	Digital Literacy and Computing		
CUED 6010	Programming Fundamentals & Computational Thinking		
CUED 6020	Computer Science Concepts for Teachers	X	X
CUED 6030	CS Instructional Methods	X	X