COMPUTER SCIENCE EDUCATION, MS

Department of Computer Science, College of Information Science & Technology; Department of Teacher Education, College of Education, Health, and Human Sciences

Vision Statement

This degree program is intended for those with a passion for the teaching and learning of computational thinking, computer science, and information technology skills. By developing both content knowledge and pedagogical skills related to the computing disciplines, this program is ideal for educators looking to empower young people to become the creators of next generation technologies.

In completing program coursework, certified Nebraska teachers will also meet requirements for the IT supplemental endorsement. Teachers from other states should consult with with their corresponding state officials to consider local credentialing applicability.

Program Contact Information

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Program Website (http://www.unomaha.edu/college-of-information-science-and-technology/computer-science-education/graduate/ms-csed.php)

Other Program Related Information

Students who hold current Nebraska teaching certification are eligible for the IT Supplemental Endorsement upon successfully completing the 15 hour core courses.

Grades of 'C' or lower cannot be used when applying for the State of Nebraska IT Supplemental Endorsement.

Student Learning Outcomes

Upon completion of the MS in computer science education, students will be able to:

- Demonstrate the ability to create basic computational artifacts.
- Demonstrate practical knowledge and skills with computing systems.
- Explain how computing permeates today's society, including security, privacy, and ethical considerations.
- Apply appropriate pedagogical content knowledge in the teaching of computing topics.
- Describe relevant and recent research findings in computer science education including how they might be applied in the classroom.

Admissions

General Application Requirements and Admission Criteria (http://catalog.unomaha.edu/graduate/admission/)

Program-Specific Requirements

Application Deadlines (Spring 2024, Summer 2024, and Fall 2024)

- Fall: July 1
- Spring: December 1
- Summer: April 1

Other Requirements

- **English Language Proficiency:** Applicants are required to have a command of oral and written English. Those who do not hold a baccalaureate or other advanced degree from the United States, **OR** a baccalaureate or other advanced degree from a predetermined country on the waiver list (https://www.unomaha.edu/graduate-studies/prospective-students/Proof%20of%20English%20Proficiency-%20International.pdf), must meet minimum language proficiency score requirement in order to be considered for graduate admission.
  - Internet-based TOEFL: 80, IELTS: 6.5, PTE: 53, Duolingo: 110
- **Statement of Purpose** addressing the following:
  - Describe your academic and professional journey. Discuss your background personal and professional experiences, and your current educational context. Be sure to explain your motivation for pursuing this program at this point in your career.
  - In order to advise you on initial coursework, please describe any prior formal or informal training you have completed in computing, computer science, and information technology. This includes, but is not limited to programming/coding, web design, systems administration, computing networking, databases, and computer applications.
  - Discuss your post-master's degree plans. How will the MS in computer science education contribute to your future endeavors related to P-12 students, educators, administrators or other community stakeholders.
- **Resume:** Professional resume or curriculum vitae
- Copy of your current teacher certification (if applicable)
- International students who do not intend to teach in the United States may be eligible for admission.

Degree Requirements

Code	Title	Credits
Required Core Courses		**15**
TED 8006	SPECIAL METHODS IN THE CONTENT AREA	3
CSTE 8020	EXPLORING COMPUTER SCIENCE FOR TEACHERS	3
or CSTE 8030	COMPUTER SCIENCE PRINCIPLES FOR TEACHERS	
CSTE 8040	OBJECT ORIENTED PROGRAMMING FOR TEACHERS	3
CSCI 8366	FOUNDATIONS OF CYBERSECURITY	3
or CYBR 8366	FOUNDATIONS OF CYBERSECURITY	
CSCI 8836	INTRODUCTION SOFTWARE ENGINEERING	3
or CSCI 8256	HUMAN COMPUTER INTERACTION	
or CSCI 8266	USER EXPERIENCE DESIGN	
Required Extension Courses		**6**
CSCI 8010	FOUNDATIONS OF COMPUTER SCIENCE	3
TED 8050	DATA-DRIVEN DECISION MAKING FOR EDUCATORS	3
or TED 8860	INVENTION & INNOVATION IN ENGINEERING EDUCATION	
Electives		**3-6**

The following courses are considered standing electives that have already been approved for all students. Students may request a course not listed here be counted as an elective in writing to the GPC. Such requests should be made prior to enrolling in the course.

All graduate courses offered by the College of IS&T not counted elsewhere in the plan of study, including BMI, CIST, CSCI, CSTE, CYBR, ISQA, and ITIN 8xxx	
CSTE 8920	SPECIAL TOPICS IN CS EDUCATION
MTCH 8040	TOPICS IN MATHEMATICAL COMPUTING
STEM/TED 8420	TRENDS AND TEACHING STRATEGIES IN SCIENCE EDUCATION
STEM/TED 8430	SCHOOL CURRICULUM PLANNING
STEM/BIOL 8450	BIOLOGY EDUCATION RESEARCH METHODS
STEM/TED 8840	ENGINEERING EDUCATION EXTERNSHIP
TED 8540	DIGITAL CITIZENSHIP
TED 8550	TECHNOLOGY FOR CREATIVE AND CRITICAL THINKING
TED 8050 or TED 8860 can also be used as electives if not used as extension coursework.	
Exit Requirement	**3-6**
Thesis Option [1]	**6**
CSTE 8990	THESIS
Project Option [2]	**6**
CSTE 8960	THESIS EQUIVALENT PROJECT IN CS EDUCATION
Capstone [3]	**3**
CSTE 8910	CAPSTONE IN CS EDUCATION
Total Credits	**30**

[1] Thesis credits must be completed over two or more academic terms.
[2] Project credits must be completed over two or more academic terms.
[3] The Capstone course may only be taken upon completion of at least 21 credit hours in the program.