



**SOUTH DAKOTA BOARD OF REGENTS
ACADEMIC AFFAIRS FORMS**

Substantive Program Modification Form

UNIVERSITY:	SDSU
CURRENT PROGRAM DEGREE:	Bachelor of Science (B.S.)
CURRENT PROGRAM MAJOR/MINOR:	Computer Science
CURRENT SPECIALIZATION:	N/A
CIP CODE:	11.0101
UNIVERSITY DEPARTMENT:	McComish Department of Electrical Engineering and Computer Science
BANNER DEPARTMENT CODE:	SEEC
UNIVERSITY COLLEGE:	Jerome J Lohr College of Engineering
BANNER COLLEGE CODE:	3E

University Approval

To the Board of Regents and the Executive Director: I certify that I have read this proposal, that I believe it to be accurate, and that it has been evaluated and approved as provided by university policy.

Dennis D. Hedge

Vice President of Academic Affairs or
President of the University

4/16/2025

Date

1. This modification addresses a change in:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Total credits required within the discipline | <input checked="" type="checkbox"/> Total credits of supportive course work |
| <input type="checkbox"/> Total credits of elective course work | <input type="checkbox"/> Total credits required for program |
| <input type="checkbox"/> Program name | <input type="checkbox"/> Existing specialization |
| <input type="checkbox"/> CIP Code | <input type="checkbox"/> Other (explain below) |
| <input type="checkbox"/> Modification requiring Board of Regents approval | |

Must have prior approval from Executive Director or designee

2. Effective date of change: 2025-2026 Academic Year

3. Program Degree Level:

Associate Bachelor's Master's Doctoral

4. Category:

Certificate Specialization Minor Major

5. If a name change is proposed, the change will occur:

- On the effective date for all students
- On the effective date for students new to the program (enrolled students will graduate from existing program)

Proposed new name:

6. Is the program being modified associated with a current articulation agreement? Yes No

- a. If yes, will the articulation agreement need to be updated with the partner institution following the approve of the program change? Please explain:**

7. Primary Aspects of the Modification:

Existing Curriculum

Proposed Curriculum (highlight changes)

Prof.	Num.	Title	Cr. Hrs	Prof.	Num.	Title	Cr. Hrs
Systems General Education Requirements			33	Systems General Education Requirements			33
Systems General Education Requirements – Electives			18	Systems General Education Requirements – Electives			18
		SGR #1 Written Communication	3			SGR #1 Written Communication	3
		SGR #1 Written Communication	3			SGR #1 Written Communication	3
		SGR #2 Oral Communication	3			SGR #2 Oral Communication	3
		SGR #3 Social Sciences	3			SGR #3 Social Sciences	3
		SGR #4 Arts and Humanities	3			SGR #4 Arts and Humanities	3
		SGR #4 Arts and Humanities	3			SGR #4 Arts and Humanities	3
Systems General Education Requirements – Required			15	Systems General Education Requirements – Required			15
INFO	102	Social & Ethical Aspects of Informatics (SGR #3)	3	INFO	102	Social & Ethical Aspects of Informatics (SGR #3)	3
MATH	123	Calculus I (SGR #5)	4	MATH	123	Calculus I (SGR #5)	4
		Select one of the following (SGR #6)	8			Select one of the following (SGR #6)	8
		<ul style="list-style-type: none"> • PHYS 111 Introduction to Physics I and Lab (4, 0), PHYS 113 Introduction to Physics II and Lab (4, 0) • PHYS 207-207L Fundamentals of Physics I and Lab (3, 1), PHYS 209-209L Fundamentals of Physics II and Lab (3, 1) • CHEM 112 General Chemistry I and Lab (3, 1), CHEM 114 General Chemistry II and Lab (3, 1) • BIOL 151 General Biology I and Lab (4, 0), BIOL 153 General Biology II and Lab (4, 0) 				<ul style="list-style-type: none"> • PHYS 111 Introduction to Physics I and Lab (3, 1), PHYS 113 Introduction to Physics II and Lab (3, 1) • PHYS 207-207L Fundamentals of Physics I and Lab (3, 1), PHYS 209-209L Fundamentals of Physics II and Lab (3, 1) • CHEM 112 General Chemistry I and Lab (3, 1), CHEM 114 General Chemistry II and Lab (3, 1) • BIOL 151 General Biology I and Lab (3, 1), BIOL 153 General Biology II and Lab (3, 1) 	
Major Requirements			66	Major Requirements			71
CSC	100L	Introduction to Computer Science Lab	1	CSC	100L	Introduction to Computer Science Lab	1
CSC	150	Computer Science I	3	CSC	150	Computer Science I	3
				CSC	201	Introduction to Modern Computing	2
CSC	244	Digital Systems	3	CSC	244	Digital Systems	3
CSC	244L	Digital Systems Lab	1	CSC	244L	Digital Systems Lab	1
CSC	250	Computer Science II	3	CSC	250	Computer Science II	3
CSC	300	Data Structures	3	CSC	300	Data Structures	3
CSC	303	Ethical and Security Issues in Computer Science	3	CSC	303	Ethical and Security Issues in Computer Science	3
CSC	314	Assembly Language	3	CSC	314	Assembly Language	3
CSC	317	Computer Organization and Architecture	3	CSC	317	Computer Organization and Architecture	3
CSC	346	Object Oriented Programming	3	CSC	346	Object Oriented Programming	3
CSC	354	Introduction to Systems Programming	3	CSC	354	Introduction to Systems Programming	3
CSC	445	Introduction to Theory of Computation	3	CSC	445	Introduction to Theory of Computation	3
CSC	446	Compiler Construction	3	CSC	446	Compiler Construction	3
				CSC	474	Computer Networks	3
CSC	456	Operating Systems	3	CSC	456	Operating Systems	3
CSC	461	Programming Languages	3	CSC	461	Programming Languages	3
CSC	484	Database Management Systems	3	CSC	484	Database Management Systems	3
CSC	464	Senior Design I	2	CSC	464	Senior Design I	3
CSC	465	Senior Design II	2	CSC	465	Senior Design II	3

Existing Curriculum

Proposed Curriculum (highlight changes)

Prof.	Num.	Title	Cr. Hrs	Prof.	Num.	Title	Cr. Hrs
CSC	3/4XX	Technical Electives *A minimum of 9 of the 12 technical credits must be in approved CSC or SE courses. *3 of the 12 credits may come from a departmental approved support area.	12	CSC OR SE	3/4XX	Technical Electives *A minimum of 9 of the 12 technical credits must be in approved CSC or SE courses. *3 of the 12 credits may come from a departmental approved support area.	24
SE	305	Foundations of Software Engineering	3	SE	305	Foundations of Software Engineering	3
SE	306	Software Project Management and Testing	3	SE	306	Software Project Management and Testing	3
Supporting Coursework			21	Supporting Coursework			16
GE	101	Introduction to Engineering and Technical Professions	1	GE	101	Introduction to Engineering and Technical Professions	1
MATH	125	Calculus II	4	MATH	125	Calculus II	4
MATH	250	Introduction to Linear Algebra and Proofs	3	MATH	250	Introduction to Linear Algebra and Proofs	3
				MATH	270	Computational Linear Algebra	3
MATH	316	Discrete Mathematics	3	MATH	316	Discrete Mathematics	3
MATH	374	Scientific Computation I	3	MATH	374	Scientific Computation I	3
STAT	281	Introduction to Statistics	3	STAT	281	Introduction to Statistics	3
		Natural Science (Different course than SGR #6) • PHYS 111 Introduction to Physics I and Lab (4, 0) • PHYS 207-207L Fundamentals of Physics I and Lab (3, 1) • CHEM 112 General Chemistry I and Lab (3, 1) • BIOL 151 General Biology I and Lab (4, 0)	4			Natural Science (Different course than SGR #6) • PHYS 111 Introduction to Physics I and Lab (4, 0) • PHYS 207-207L Fundamentals of Physics I and Lab (3, 1) • CHEM 112 General Chemistry I and Lab (3, 1) • BIOL 151 General Biology I and Lab (4, 0)	4
Electives			0	Electives			0
Summary of Credits in Computer Science (B.S.)							
System General Education Requirement			33	System General Education Requirement			33
Major Requirements			66	Major Requirements			71
Supporting Coursework			21	Supporting Coursework			16
Electives			0	Electives			0
Total number of hours required for major			102	Total number of hours required for major			102
Total number of hours required for degree			120	Total number of hours required for degree			120

8. Explanation of the Change:

The McComish Department of Electrical Engineering and Computer Science has reviewed the Computer Science program and proposed the following changes to: (1) balance lower-level and modern higher-level courses, incorporating emerging areas in computing, and (2) reduce core requirements, giving students more flexibility to select technical electives based on their interests.

The goal of updating the curriculum is to improve the student experience and deepen content knowledge. The changes will provide students with more opportunities to learn about modern computing trends and allow them to explore topics ranging from low-level to high-level computing concepts.

The content presently covered in CSC 100L Introduction to Computer Science Lab and GE 101 Introduction to Engineering and Technology Professions will be covered in CSC 201 Introduction to Modern Computing, which will focus on emerging technologies like AI, Machine Learning, Data Science and Cloud Computing. The addition of CSC 474 Computer Networks as a core requirement will strengthen the curriculum and align it with ABET criteria.

The requirement for an additional Natural Sciences course (PHYS 111 Introduction to Physics I and Lab, PHYS 207-207L Fundamentals of Physics I and Lab, CHEM 112 General Chemistry I and Lab, or BIOL 151 General Biology I and Lab) will be removed. There is no longer a requirement for an additional Natural Science course for accreditation purposes. This change, along with moving some required courses to electives, will free up 12 credits. These credits will be redirected to technical electives, allowing students to tailor their degree to different computer science career paths. Students will now have more flexibility to explore a wider range of topics or focus on specific areas of interest.

The number of credits for the senior design project, CSC 464 and CSC 465, will be increased to accommodate the added requirements for weekly, biweekly, and monthly agile project management deliverables, which require more time than in previous years.

These proposed curriculum changes will modernize the program by incorporating emerging computing trends while maintaining a focus on hardware-oriented courses. Moving hardware-related courses to technical electives ensures that students who want to explore these topics can still do so, while giving others more flexibility to focus on their areas of interest. This balance will enhance the program's ability to attract a wide range of students and prepare graduates with both foundational and cutting-edge skills and alignment with industry needs.