



SOUTH DAKOTA BOARD OF REGENTS
ACADEMIC AFFAIRS FORMS
Substantive Program Modification Form

UNIVERSITY:	USD
CURRENT PROGRAM TITLE:	Computer Science, M.S.
CIP CODE:	11.0101
UNIVERSITY DEPARTMENT:	Computer Science
BANNER DEPARTMENT CODE:	UCSC
UNIVERSITY DIVISION:	Arts & Sciences
BANNER DIVISION CODE:	UAS

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.

Elizabeth M. Freeburg

3/19/2020

 Vice President of Academic Affairs or
 President of the University

 Date

1. This modification addresses a change in (place an "X" in the appropriate box):

- | | |
|---|--|
| <input type="checkbox"/> Total credits required within the discipline | <input 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 checked="" type="checkbox"/> Other (explain below)
Create Specialization |

2. Effective date of change: 8/24/2021

3. Program Degree Level (place an "X" in the appropriate box):

- Associate Bachelor's Master's Ed. Specialist Doctoral

4. Category (place an "X" in the appropriate box):

- Certificate Specialization Minor Major

5. If a name change is proposed, the change will occur (place an "X" in the appropriate box):

- 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: M.S. Computer Science, Artificial Intelligence Specialization

Reminder: Name changes may require updating related articulation agreements, site approvals, etc.

6. Primary Aspects of the Modification (add lines or adjust cell size as needed):

Existing Curriculum

Proposed Curriculum (highlight changes)

Pref.	Num.	Title	Cr. Hrs.	Pref.	Num.	Title	Cr. Hrs.
Master of Science, Computer Science Plan A (thesis): Total 30 credit hours*				Master of Science, Computer Science Plan A (thesis): Total 30 credit hours			
Major Area Core Coursework				Major Area Core Coursework			
CSC	798	THESIS	6	CSC	798	THESIS	6
Select 18 credit hours from the following core courses:				Select 18 credit hours from the following core courses:			
CSC	705	DESIGN AND ANALYSIS OF COMPUTER ALGORITHMS	3	CSC	705	DESIGN AND ANALYSIS OF COMPUTER ALGORITHMS	3
CSC	721	DISTRIBUTED SYSTEMS	3	CSC	721	DISTRIBUTED SYSTEMS	3
CSC	722	MACHINE LEARNING FUNDAMENTALS	3	CSC	722	MACHINE LEARNING FUNDAMENTALS	3
CSC	725	OPERATING SYSTEMS & ARCHITECTURE	3	CSC	725	OPERATING SYSTEMS & ARCHITECTURE	3
CSC	731	COMPILER CONSTRUCTION	3	CSC	731	COMPILER CONSTRUCTION	3
CSC	751	PROGRAMMING SCIENCE	3	CSC	751	PROGRAMMING SCIENCE	3
CSC	752	COMPUTER VISION	3	CSC	752	COMPUTER VISION	3
CSC	761	ADV ARTIFICIAL INTELLIGENCE	3	CSC	761	ADV ARTIFICIAL INTELLIGENCE	3
CSC	762	ADVANCED COMPUTER NETWORKS AND SECURITY	3	CSC	762	ADVANCED COMPUTER NETWORKS AND SECURITY	3
CSC	765	SOFTWARE DESIGN AND DEVELOPMENT	3	CSC	765	SOFTWARE DESIGN AND DEVELOPMENT	3
CSC	785	INFORMATION STORAGE AND RETRIEVAL	3	CSC	785	INFORMATION STORAGE AND RETRIEVAL	3
CSC	790	GRADUATE SEMINAR	3	CSC	790	GRADUATE SEMINAR	3
CSC	791	INDEPENDENT STUDY	3	CSC	791	INDEPENDENT STUDY	3
CSC	792	TOPICS	3	CSC	792	TOPICS	3
CSC	7XX	Any graduate coursework in Computer Science with departmental approval	3	CSC	7XX	Any graduate coursework in Computer Science with departmental approval	3
Select 6 hours of electives			6	Select 6 hours of electives			6
			Subtotal: 30				Subtotal: 30
Master of Science, Computer Science Plan B (non-thesis): Total 30 credit hours*				Master of Science, Computer Science Plan B (non-thesis): Total 30 credit hours			
Major Area Core Coursework				Major Area Core Coursework			
Select 18 credit hours from the following core courses:				Select 18 credit hours from the following core courses:			
CSC	705	DESIGN AND ANALYSIS OF COMPUTER ALGORITHMS	3	CSC	705	DESIGN AND ANALYSIS OF COMPUTER ALGORITHMS	3
CSC	721	DISTRIBUTED SYSTEMS	3	CSC	721	DISTRIBUTED SYSTEMS	3
CSC	722	MACHINE LEARNING FUNDAMENTALS	3	CSC	722	MACHINE LEARNING FUNDAMENTALS	3
CSC	725	OPERATING SYSTEMS & ARCHITECTURE	3	CSC	725	OPERATING SYSTEMS & ARCHITECTURE	3
CSC	731	COMPILER CONSTRUCTION	3	CSC	731	COMPILER CONSTRUCTION	3
CSC	751	PROGRAMMING SCIENCE	3	CSC	751	PROGRAMMING SCIENCE	3
CSC	752	COMPUTER VISION	3	CSC	752	COMPUTER VISION	3
CSC	761	ADV ARTIFICIAL INTELLIGENCE	3	CSC	761	ADV ARTIFICIAL INTELLIGENCE	3
CSC	762	ADVANCED COMPUTER NETWORKS AND SECURITY	3	CSC	762	ADVANCED COMPUTER NETWORKS AND SECURITY	3
CSC	765	SOFTWARE DESIGN AND DEVELOPMENT	3	CSC	765	SOFTWARE DESIGN AND DEVELOPMENT	3
CSC	785	INFORMATION STORAGE AND RETRIEVAL	3	CSC	785	INFORMATION STORAGE AND RETRIEVAL	3
CSC	790	GRADUATE SEMINAR	3	CSC	790	GRADUATE SEMINAR	3
CSC	791	INDEPENDENT STUDY	3	CSC	791	INDEPENDENT STUDY	3
CSC	792	TOPICS	3	CSC	792	TOPICS	3
CSC	7XX	Any graduate coursework in Computer Science with departmental approval	3	CSC	7XX	Any graduate coursework in Computer Science with departmental approval	3
Select 12 hours of electives			12	Select 12 hours of electives			12
			Subtotal: 30				Subtotal: 30
Elective Work: Plan A takes 6 credit hours; Plan B takes 15 credit hours from the following:				Elective Work: Plan A takes 6 credit hours; Plan B takes 12 credit hours from the following:			
CSC	501	RICH INTERNET APPLICATIONS	3	CSC	501	RICH INTERNET APPLICATIONS	3
CSC	505	ANALYTICS PROGRAMMING FUNDAMENTALS	3	CSC	505	ANALYTICS PROGRAMMING FUNDAMENTALS	3
CSC	511	SIMULATION	3	CSC	511	SIMULATION	3
CSC	525	HIGH PERFORMANCE COMPUTING	3	CSC	525	HIGH PERFORMANCE COMPUTING	3
CSC	535	HUMAN FACTORS IN COMPUTER SYSTEMS	3	CSC	535	HUMAN FACTORS IN COMPUTER SYSTEMS	3
CSC	545	INTRODUCTION TO THEORY OF COMPUTATION	3	CSC	545	INTRODUCTION TO THEORY OF COMPUTATION	3
CSC	547	ARTIFICIAL INTELLIGENCE	3	CSC	547	ARTIFICIAL INTELLIGENCE	3
CSC	555	ALGORITHMS	4	CSC	555	ALGORITHMS	4
CSC	556	OPERATING SYSTEMS	3	CSC	556	OPERATING SYSTEMS	3
CSC	561	PROGRAMMING LANGUAGES	3	CSC	561	PROGRAMMING LANGUAGES	3
CSC	570	SOFTWARE ENGINEERING	3	CSC	570	SOFTWARE ENGINEERING	3
CSC	571	NUMERICAL ANALYSIS I	3	CSC	571	NUMERICAL ANALYSIS I	3
CSC	575	OPERATIONS RESEARCH	3	CSC	575	OPERATIONS RESEARCH	3
CSC	581	SYSTEMS ANALYSIS	3	CSC	581	SYSTEMS ANALYSIS	3

<p>Only courses taken at the student's home institution are eligible for dual credit. No transferred courses from other institutions will be allowed to count toward the accelerated master's degree. To fulfill the undergraduate required courses, graduate courses on the same topic areas must be taken.</p>		<p>Only courses taken at the student's home institution are eligible for dual credit. No transferred courses from other institutions will be allowed to count toward the accelerated master's degree. To fulfill the undergraduate required courses, graduate courses on the same topic areas must be taken.</p>	
<p>No credit will be granted on the Program of Study for a core course with a grade of 'C' or lower.</p>		<p>No credit will be granted on the Program of Study for a core course with a grade of 'C' or lower.</p>	

7. Explanation of the Change:

The Department of Computer Science proposes the addition of a specialization in Artificial Intelligence (submitted with this request). The M.S. specialization will utilize new and existing coursework within the current Computer Science graduate curriculum. Artificial Intelligence is one of the most vital and fast-growing fields within Computer Science, with impact in every stratum of society. As such, providing expanded programs in Artificial Intelligence will help prepare current and future USD students to meet workforce needs in the state, region, and beyond.