



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

Institutional Substantive Program Modification Requests

Institution: Dakota State University **Date:** 07/06/2018

Institutional representatives should provide direct links to PDF documents for each of the program modification requests represented below. All requests should be posted on the campus Curriculum and Instruction website one week prior to the Academic Affairs Council meeting where the program modification request is being considered.

<i>Program Title</i>	<i>Approval</i>
Applied Computer Science (MS)	PT

Program modifications referenced above for approval have been reviewed by the Academic Affairs Council and the System Vice President for Academic Affairs and may be advanced forward for entry in Colleague. For those program modifications listed above that did not receive approval, additional clarification or justification will be necessary and should be re-routed through the review process on a separate “Institutional Substantive Program Modification Requests” form once all issues have been resolved.

Paul Turner
Signature: System Vice President for Academic Affairs

8/2/2018
Date



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Substantive Program Modification Form

Use this form to request minor changes in existing programs (majors, minors, certificates, or specializations).

UNIVERSITY:	DSU
CURRENT PROGRAM TITLE:	MS in Applied Computer Science
CIP CODE:	
UNIVERSITY DEPARTMENT:	The Beacom College of Computer and Cyber Sciences
UNIVERSITY DIVISION:	

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.

Vice President of Academic Affairs or
President of the University

11/3/2017

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 checked="" type="checkbox"/> Program name | <input type="checkbox"/> Existing specialization |
| <input type="checkbox"/> CIP Code | <input type="checkbox"/> Other (explain below) |

2. Effective date of change: Fall 2018

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

- Associate Bachelor's Master's 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

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):

<i>Existing Curriculum</i>				<i>Proposed Curriculum (highlight changes)</i>			
Pref.	Num.	Title	Cr. Hrs.	Pref.	Num.	Title	Cr. Hrs.
Total number of hours required for major, minor, or specialization				Total number of hours required for major, minor, or specialization			
Total number of hours required for degree				Total number of hours required for degree			

7. Explanation of the Change:

First, the 15-credit required core curriculum for the program places it squarely in the mainstream of master programs in the field of Computer Science. The core includes traditional fundamental theory courses such as Theory of Computation and Design and Analysis of Computer Algorithms. It also includes courses in Parallel programming and Programming Language along with Machine Learning. The 15-credit specialization in Cyber Operations is nationally recognized and includes course anchored in core computer science principles. The program currently has an articulation agreement with the National Cryptological School (NSC) to allow those students to complete the security specialization and to take the computer science core to earn their degree. All candidates must meet fundamental knowledge requirements in computer science and are required to take undergraduate computer science courses to meet any deficiencies to be accepted into the program. It is expected that all graduates of the program have a strong in-depth understanding of the core tenants of computer science and are assessed through mandatory comprehensive exams. Students that do not choose the cyber specialization take 15 credits of elective courses in computer science, cybersecurity, cryptography, forensics, network security among others. In all aspects, this program is Computer Science.

In assessing feedback from stakeholders, having “applied” in the title is confusing to students (Is it a lesser or more simplistic program?) and to employers both regional and national (What

does the word applied mean on a transcript or resume?) We feel the word “applied” oversimplifies and mischaracterizes our program. Yes, with the nationally recognized cyber security focused specialization we are MUCH MORE than a traditional computer science program, but the word applied does not do justice to the complexity of the programs, the talent of our faculty, and the success of our graduates in the field. All students, NCS directed or traditional have successfully demonstrated advanced knowledge in the field of Computer Science through core computer science coursework, completion of advanced coursework in computer science and related areas, and completion of comprehensive written exams. We feel that this should be clearly and unambiguously reflected on their transcript and to prospective employers.