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| S:\Communications\Logos and photos\SDBORLogos\final_sdbor_webreadyBW_trans.gif | **SOUTH DAKOTA BOARD OF REGENTS**  ACADEMIC AFFAIRS FORMS |
| 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.*

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| --- | --- | --- |
| C:\Users\slaughts\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Dr. McKay Signature.jpg |  | 11/3/2017 |
| Vice President of Academic Affairs or  President of the University |  | Date |

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|  |

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

|  |  |  |  |
| --- | --- | --- | --- |
|  | Total credits required within the discipline |  | Total credits of supportive course work |
|  |  |  |  |
|  | Total credits of elective course work |  | Total credits required for program |
|  |  |  |  |
|  | Program name |  | Existing specialization |
|  |  |  |  |
|  | CIP Code |  | Other (explain below) |

1. **Effective date of change: Fall 2018**
2. **Program Degree Level (*place an “X” in the appropriate box*):**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Associate |  | Bachelor’s |  | Master’s |  | Doctoral |  |

1. **Category (*place an “X” in the appropriate box*):**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Certificate |  | Specialization |  | Minor |  | Major |  |

1. **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) |
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| --- | --- |
| **Proposed new name:** | M.S. Computer Science |
|  | *Reminder: Name changes may require updating related articulation agreements, site approvals, etc.* |

1. **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.** |
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| 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 | | |  |

1. **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 programing 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 though mandatory comprehensive exams. Students that do not choice the cyber specialization take 15 credits of electives 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 reginal and national (What does the word applied mean on a transcript or resume?) We feel the word “applied” over-simplifies 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.