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| A round blue and white logo  Description automatically generated | **SOUTH DAKOTA BOARD OF REGENTS**  ACADEMIC AFFAIRS FORMS | |
| New Course Request | |
|  | |  |

Use this form to request a new common or unique course. Consult the system course database through for information about existing courses before submitting this form.

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| --- | --- | --- | --- | --- |
| DSU |  | **Beacom College of Computer and Cyber Sciences** | | |
| **Institution** |  | **Division/Department** | | |
| A picture containing text  Description automatically generated | | |  | 3/5/2025 |
| **Institutional Approval Signature** | | |  | **Date** |

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**Section 1. Course Title and Description**

If the course contains a lecture and laboratory component, identify both the lecture and laboratory numbers (xxx and xxxL) and credit hours associated with each. Provide the complete description as you wish it to appear in the system course database, including pre-requisites, co-requisites, and registration restrictions.

|  |  |  |
| --- | --- | --- |
| **Prefix & No.** | **Course Title** | **Credits** |
| CSC 776 | Malware Analysis | 3 |

*NOTE: The Enrollment Services Center assigns the short, abbreviated course title that appears on transcripts. The short title is limited to 30 characters (including spaces); meaningful but concise titles are encouraged due to space limitations in the student information system.*

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| --- | --- |
| **Course Description** |  |
| This course provides advanced techniques for analyzing sophisticated malware encompassing all aspects of dynamic and static analysis, including decompilation and disassembly. Other topics include anti-analysis bypasses, automation, and scripting. Students will examine recent malicious software samples of a variety of types and compose technical reports of their findings. | |

*NOTE: Course descriptions are short, concise summaries that typically do not exceed 75 words. DO: Address the content of the course and write descriptions using active verbs (e.g., explore, learn, develop, etc.). DO NOT: Repeat the title of the course, layout the syllabus, use pronouns such as “we” and “you,” or rely on specialized jargon, vague phrases, or clichés.*

**Pre-requisites or Co-requisites (add lines as needed)**

|  |  |  |
| --- | --- | --- |
| **Prefix & No.** | **Course Title** | **Pre-Req/Co-Req?** |
| CSC 732 | Assembly Language | Pre-Req |
|  |  |  |

**Registration Restrictions**

|  |
| --- |
| None |

**Section 2. Review of Course**

1. **Will this be a unique or common course (*place an “X” in the appropriate box*)?**

|  |  |
| --- | --- |
|  | **Unique Course**  *If the request is for a unique course, institutions must review the common course catalog in the system course database to determine if a comparable common course already exists. List the two closest course matches in the common course catalog and provide a brief narrative explaining why the proposed course differs from those listed. If a search of the common course catalog determines an existing common course exists, complete the Authority to Offer an Existing Course Form. Courses requested without an attempt to find comparable courses will not be reviewed.* |

|  |  |  |
| --- | --- | --- |
| **Prefix & No.** | **Course Title** | **Credits** |
| CSC 432 | Malware Analysis | 3 |
| CSC 846 | Advanced Malware Analysis | 3 |
| INFA 732 | Malware Analysis and Threat Analysis | 3 |
| *Provide explanation of differences between proposed course and existing system catalog courses below:* | | |
| Summary of Differences   * CSC 432 and INFA 732 are introductory malware analysis courses, but INFA 732 places additional focus on MITRE ATT&CK techniques and deobfuscation. * CSC 776 and CSC 846 are advanced courses, with CSC 776 emphasizing comprehensive static and dynamic analysis (including automation and scripting), while CSC 846 focuses more on reverse engineering, obfuscation, and anti-analysis techniques.   CSC 432: Malware Analysis – An introductory course covering fundamental malware analysis techniques, including both static and dynamic analysis of unknown binaries. Students learn to use industry-standard tools to analyze, debug, and reverse engineer malware while exploring detection methods and prevalent malware concepts.  CSC 776: Malware Analysis – An advanced course focusing on sophisticated malware and incorporating in-depth static and dynamic analysis, including decompilation, disassembly, automation, and scripting. The course also covers anti-analysis bypasses and examines real-world malware samples, requiring students to document findings in technical reports.  CSC 846: Advanced Malware Analysis – A highly technical course specializing in static malware analysis, focusing on reverse engineering tools, anti-reverse engineering methods, and advanced obfuscation techniques such as packers and anti-debugging processes. Students should have a strong understanding of x86 assembly and familiarity with IDA Pro.  INFA 732: Malware Analysis and Threat Analysis – A foundational course similar to CSC 432 but with additional emphasis on malware tactics, techniques, and procedures (TTPs) aligned with the MITRE ATT&CK framework. Students learn deobfuscation techniques alongside traditional analysis, debugging, and reverse engineering methods. | | |

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|  | **Common Course** | | | | *Indicate universities that are proposing this common course:* | | | | | | | | |
|  |  | | | |  | | | | | | | | |
|  |  | BHSU |  | DSU | |  | NSU |  | SDSMT |  | SDSU |  | USD |

**Section 3. Other Course Information**

1. **Are there instructional staffing impacts?**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **No**. Replacement of |  | | |
|  |  | (course prefix, course number, name of course, credits) | | |
|  |  | \*Attach course deletion form | | |
|  |  |  | | |
| Effective date of deletion: | | | Click here to enter a date. |  |

|  |  |
| --- | --- |
|  | **No**. Schedule Management, explain below:  DSU will add this course into the rotation with current and newly hired faculty with this expertise. |

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|  | **Yes**. Specify below: |

1. **Existing program(s) in which course will be offered (i.e., any current or pending majors, minors, certificates, etc.)**:   
     
   Required in the MS in Cyber Operations and may be elective in the MS Computer Science.
2. **Proposed instructional method by university *(as defined by*** [*AAC Guideline 5.4*](https://www.sdbor.edu/administrative-offices/academics/academic-affairs-guidelines/Documents/5_Guidelines/5_4_Guideline.pdf)***)*:**

*If requesting an instructional method that is exempt from the* [Section Size Guidelines](https://www.sdbor.edu/administrative-offices/academics/academic-affairs-guidelines/Documents/5_Guidelines/5_7_Guideline.pdf)*, please provide a brief description of how the course is appropriate for the instructional method, as defined in AAC Guidelines.*

Lecture

1. **Proposed delivery method by university *(as defined by*** [*AAC Guideline 5.5*](https://www.sdbor.edu/administrative-offices/academics/academic-affairs-guidelines/Documents/5_Guidelines/5_5_Guideline.pdf)***)*:** D01 Face to Face to face D01; D15 Asynchronous; D18 Synchronous
2. **Term change will be effective**: Spring 2026
3. **Can students repeat the course for additional credit?**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Yes, total credit limit: |  |  |  | No |

1. **Will grade for this course be limited to S/U (pass/fail)?**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Yes |  | No |

1. **Will section enrollment be capped?**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Yes, max per section: | 25 |  |  | No |

1. **Will this course equate (i.e., be considered the same course for degree completion) with any other unique or common courses in the common course system database?**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Yes |  | No |
| *If yes, indicate the course(s) to which the course will equate (add lines as needed):* | | | |
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| **Prefix & No.** | **Course Title** |
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1. **Is this prefix approved for your university?**

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|  | Yes |  | No |
| *If no, provide a brief justification below:* | | | |
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**Section 4. Department and Course Codes (Completed by University Academic Affairs)**

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| 1. **University Department:** | The Beacom College of Computer and Cyber Sciences |

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| 1. **Banner Department Code:** | DCSI |

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| 1. **Proposed** [**CIP Code**](http://nces.ed.gov/ipeds/cipcode/default.aspx?y=55)**:** | 11.0701 | | | | |
|  |  | | | | |
| *Is this a new CIP code for the university?* | |  | Yes |  | No |