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|  | **SOUTH DAKOTA BOARD OF REGENTS**ACADEMIC AFFAIRS FORMS |
| Existing Courses: Minor Modifications |
|  |  |

Use this form to request minor modifications of existing unique and common courses. Consult the system course database for information about existing courses before submitting this form. If the course revision is for an approved General Education course, please see the Revision to General Education Requirements Form.

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| DSU |  | The Beacom College of Computer and Cyber Sciences |  |  |  | Click here to enter a date. |
| **Institution** |  | **Division/Department** |  | **Originator** |  | **Date** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  | Click here to enter a date. |
| **Department Chair** |  | **School/College Dean** |  | **Institutional Approval Signature** |  | **Date** |

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**Section 1. Existing Course Title and Description**

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| **Prefix & No.** | **Course Title** | **Credits** |
| CSC 479/579 | Reinforcement Learning | 3 |

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| --- | --- |
| **Effective Date:** | 8/1/2023 |

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| **This course is a (*Place an “X” in the appropriate box*):** |
|[x]  **Unique Course (see section 2)** |  |[ ]  **Common Course (see section 3)** |

**Section 2. Unique Courses: Requested Minor Modifications**

***Place an “X” in the appropriate boxes*.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Current** |  | **New** |
|[ ]  **Prefix change**  |  | to |  |

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| --- | --- | --- | --- |
|[ ]  **Course Number change**  |  | to |  |

*NOTE: You may only change a unique course number to a number not currently used in “active” status at another university. Consult the system database.*

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|[ ]  **Credit hours**  |  | to |  |

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|[x]  **Course pre-requisites**  | CSC 386 and CSC 402 | to | CSC 247 |

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|[ ]  **Course co-requisites**  |  | to |  |

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| --- | --- | --- | --- |
|[ ]  **Registration restriction**  |  | to |  |

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| --- | --- | --- | --- |
|[ ]  **Enrollment limitation**  |  | to |  |

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| --- | --- | --- | --- |
|[x]  **Repeatable for additional credit** | No | to | Yes |

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|[ ]  **Grading option**  |  | to |  |

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|[x]  **Course title change** | Applied Artificial Intelligence |

*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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|[ ]  **Cross-listing and equating with** |  |

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|[x]  **Dual-listing at 400/500 level** |

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|[x]  **Course description (that does not change course content). Complete table below:** |

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| *Existing description:* |
| This course will cover the topic of Reinforcement Learning with a focus on application and projects. Students will review the different algorithms and applicable data structures available in this field. Following the review, a wide range of scenarios where Reinforcement Learning can be applied will be explored and analyzed in order to give students the ability to identify these situations in the real world and apply their knowledge. |

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| *New description:* |
| This course is designed for students who have a solid foundation in programming and are interested in exploring the cutting-edge technologies of Artificial Intelligence (AI). The course will focus on the practical application of AI techniques to real-world problems through project-based learning. Students will work to design, implement and evaluate AI models in a variety of domains. The course will cover advanced topics in AI where students will gain hands-on experience using popular AI libraries. Additionally, ethical considerations related to the use of AI will be discussed throughout the course. |
| 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. |

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|[ ]  **Add course in x9x series** |
| *CIP Code:* |  |

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| *New CIP Code for this university?* |  |[ ]  Yes |[ ]  No |

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| *Will this university’s sections of the course be limited to S/U (pass/fail)?* |

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|  |[ ]  Yes |[ ]  No |

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|[ ]  **Delete Course (effective date):** | Click here to enter a date. |

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| **Justification for changes indicated in Section 2:** |
| The field of artificial intelligence / machine learning is evolving & changing rapidly. It is not sensible to lock a course to a specific technique or subfield. This change will allow the BS program to move forward without annual curriculum changes. It also frees up faculty to develop new course topics and directions in order to stay in touch with state-of-the-art content. To illustrate consider themes such as:- Reinforcement Learning- Natural Language Processing and Large Language Models- A.I. and Cyber Security- Generative Deep Learning- Creative A.I.- Federated Learning- Diffusion Models- Ethical A.I.- Human-Computer Interaction- …The course can be repeated for credit because of rotating topics. Schedule management and advising will ensure appropriate re-enrollment. The prerequisite will allow students to take the course in the junior and/or senior year. |

**Section 3. Common Courses: Requested Minor Modifications**

***Place an “X” in the appropriate boxes*.**

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|  |  | **Current** |  | **New** |
|[ ]  **Credit hours (within variable limits)**  |  | to |  |

|  |  |  |  |
| --- | --- | --- | --- |
|[ ]  **University specific co-requisites**  |  | to |  |

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|[ ]  **Cross-listing and equating with** |  |

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|[ ]  **Dual-listing at 400/500 level** |

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| --- |
|[ ]  **Add course in x9x series** |
| *CIP Code:* |  |

|  |  |  |
| --- | --- | --- |
| *New CIP Code for this university?* |[ ]  Yes |[ ]  No |

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| *Will this university’s sections of the course be limited to S/U (pass/fail)?* |

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|  |[ ]  Yes |[ ]  No |

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|[ ]  **x9x grading method**  |  | to |  |

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| **Justification for changes indicated in Section 3:** |
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**Section 4. Department and Course Codes (Completed by University Academic Affairs)**

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| 1. **University department code:**
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| 1. **Banner department code:**
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| 1. **Change university department code to:**
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