



SOUTH DAKOTA BOARD OF REGENTS
ACADEMIC AFFAIRS FORMS
New Course Request

USD	Arts & Sciences/Computer Science
Institution	Division/Department
<i>Elizabeth M. Freeburg</i>	11/19/2020
Institutional Approval Signature	Date

Section 1. Course Title and Description

Prefix & No.	Course Title	Credits
CSC 473/573	Applied Statistical Modeling	3

Course Description
The course is designed to prepare students to analyze big data by implementing statistical models. Statistical models include tools such as generalized linear models, regression models, time-series prediction models, and bootstrapping. The course provides open-ended problem-solving techniques for multiple projects, such as spam detection, weather prediction, and risk management.

Pre-requisites or Co-requisites

Prefix & No.	Course Title	Pre-Req/Co-Req?
CSC 350	Algorithms & Data Structure	Pre-Req.

Registration Restrictions N/A

Section 2. Review of Course

2.1. 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 448/548	Machine Learning	3
CSC 772	Programming for Data Analytics	

Provide explanation of differences between proposed course and existing system catalog courses below:

CSC 448/548 provides global ideas on machine learning which includes genetic algorithms, case-based reasoning, decision trees, and Bayesian methods. CSC 772 mainly offers programming skills on data analytics. The proposed course is limited to applied problems by considering major topics, such as generalized linear and time-series data models. It takes multiple applications into account for statistical modeling purpose.

Section 3. Other Course Information

3.1. Are there instructional staffing impacts?

No. Schedule Management, explain below:

This course will be taught with current faculty. CSC-473/573 will be part of the regular faculty teaching load on the course rotation. No new hiring will be necessary.

- 3.2. **Existing program(s) in which course will be offered (i.e., any current or pending majors, minors, certificates, etc.):** B.A./B.S./M.S. specializations and certificates in Artificial Intelligence.
- 3.3. **Proposed instructional method by university (as defined by [AAC Guideline 5.4](#)):**
If requesting an instructional method that is exempt from the [Section Size Guidelines](#), please provide a brief description of how the course is appropriate for the instructional method, as defined in AAC Guidelines. D Discussion/Recitation
- 3.4. **Proposed delivery method by university (as defined by [AAC Guideline 5.5](#)):** U01: Face-to-face Term Based Instruction, U15 Internet Asynchronous, and U18 Online Synchronous
- 3.5. **Term change will be effective (enter catalog year):** 2021-22
- 3.6. **Can students repeat the course for additional credit?**
 Yes, total credit limit: _____ No
- 3.7. **Will grade for this course be limited to S/U (pass/fail)?**
 Yes No
- 3.8. **Will section enrollment be capped?**
 Yes, max per section: 30 No
- 3.9. **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 in Colleague and the [Course Inventory Report](#)?**
 Yes No
- 3.10. **Is this prefix approved for your university?**
 Yes No

Section 4. Department and Course Codes (Completed by University Academic Affairs)

- 4.1. **University Department Code:** UCSC
- 4.2. **Proposed [CIP Code](#):** 11.0102

Is this a new CIP code for the university? Yes No