



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

New Course Request

SDSU **Jerome J. Lohr College of Engineering / McComish**
Institution **Department of Electrical Engineering and Computer Science**
Dennis D. Hedge **Division/Department** **10/22/2024**
Institutional Approval Signature **Date**

Section 1. Course Title and Description

Prefix & No.	Course Title	Credits
CSC 201	Introduction to Modern Computing	2

Course Description

Students will learn the foundational concepts and terminologies of Data Science, Artificial Intelligence (AI), Machine Learning (ML), and Cloud Computing and the basics of data manipulation, analysis and visualization. Students will explore key algorithms and techniques in ML and AI and how the technologies are used in real world applications including the ethical aspects and societal impacts of Data Science, AI and ML.

Pre-requisites or Co-requisites

Prefix & No.	Course Title	Pre-Req/Co-Req?
CSC 150	Computer Science	Pre-req

Registration Restrictions

None

Section 2. Review of Course

2.1. Will this be a unique or common course?

Unique Course

Prefix & No.	Course Title	Credits
CSC 111-111L	Introduction to Computer Programming and Lab	2, 0
CSC 155-155L	Introduction to Computer Science and Programming and Lab	4, 0

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

CSC 111-111L Introduction to Computer Programming & Lab and CSC 155-155L Introduction to Computer Science and Programming & Lab are introductory courses for computer programming in general and not directed to higher level programming techniques. The proposed course, CSC 201, is for students who have completed a programming course and are interested in learning more about applications of computer science. The emphasis won't be on learning programming languages but on what can be done with an understanding of programming.

Section 3. Other Course Information

3.1. Are there instructional staffing impacts?

No. Schedule Management, explain below: This course will be team taught by faculty from the Electrical Engineering, Computer Science, and Data Science programs. The new course will be offered during the fall. Each faculty member will teach about a quarter of the 2 credit course.

3.2. Existing program(s) in which course will be offered: Data Science (B.S.), Healthcare Systems Engineering (B.S.)

3.3. Proposed instructional method by university (as defined by AAC Guideline 5.4): R - Lecture

3.4. Proposed delivery method by university (as defined by AAC Guideline 5.5): 001 - Face to Face

3.5. Term change will be effective: Fall 2025

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: 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: Electrical Engineering and Computer Science

4.2. Banner Department Code: SEEC

4.3. Proposed CIP Code: 11.0201

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

NEW COURSE REQUEST Supporting Justification for On-Campus Review

<u>Chulwoo Pack</u>	<u>Chulwoo Pack</u>	<u>Sept 18, 2024</u>
Request Originator	Signature	Date
<u>Sungyong Jung</u>	<u>Sungyong Jung</u>	<u>Sept 18, 2024</u>
Department Chair	Signature	Date
<u>Sanjeev Kumar</u>	<u>Sanjeev Kumar</u>	<u>Sept 18, 2024</u>
School/College Dean	Signature	Date

1. Provide specific reasons for the proposal of this course and explain how the changes enhance the curriculum.

CSC 201 will be the required introductory course for the Healthcare Systems Engineering major. Students will learn the foundational concepts and terminologies of Data Science, Artificial Intelligence (AI), Machine Learning (ML), and Cloud Computing and the basics of data manipulation, analysis and visualization. It will enhance the curriculum by providing an early access applications course in computer science.

2. Note whether this course is: Required Elective

3. In addition to the major/program in which this course is offered, what other majors/programs will be affected by this course?

None

4. If this will be a dual listed course, indicate how the distinction between the two levels will be made.

N/A

5. Desired section size 20

6. Provide qualifications of faculty who will teach this course. List name(s), rank(s), and degree(s).

Chulwoo Pack, Assistant Professor, Ph.D.; Jun Huang, Assistant Professor, Ph.D.; Xijin Ge, Professor, Ph.D.; Kaiqun Fu, Assistant Professor, Ph.D.

7. Note whether adequate facilities are available and list any special equipment needed for the course.
No special equipment is needed.

8. Note whether adequate library and media support are available for the course.

Library resources are presently available for the covered topics.

9. Will the new course duplicate courses currently being offered on this campus? Yes No

10. If this course may be offered for variable credit, explain how the amount of credit at each offering is to be determined.

N/A