



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

New Course Request

SDSU	Jerome J. Lohr College of Engineering / Department of Mechanical Engineering
Institution	Division/Department
Dennis D. Hedge	10/22/2024
Institutional Approval Signature	Date

Section 1. Course Title and Description

Prefix & No.	Course Title	Credits
GE 478	Healthcare Systems Engineering Capstone I	3

Course Description

A systems approach to design, covering need analysis, design phases, design processes, economics, optimization, and success criteria. Students will work on an independent project which must be different than any previous design they have attempted.

Pre-requisites or Co-requisites

Prefix & No.	Course Title	Pre-Req/Co-Req?
None		

Registration Restrictions

Senior Standing and Healthcare Systems Engineering majors only

Section 2. Review of Course

2.1. Will this be a unique or common course?

Unique Course

Prefix & No.	Course Title	Credits
ME 478	Mechanical Systems Design I	3
ME 479	Mechanical Systems Design II	3

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

ME 478 and ME 479 Mechanical Systems Design I and II are capstone design courses for mechanical engineering majors. GE 478 and GE 479 Healthcare Systems Engineering Capstone I and II will serve as capstone courses dedicated to the design of projects in Healthcare Systems Engineering.

Section 3. Other Course Information

3.1. Are there instructional staffing impacts?

No. Schedule Management, explain below: Faculty workload will be available for this course. The course will be offered during the fall semester. The course format utilizes a faculty coordinator and faculty mentors for each design team. Teams are assigned by the faculty coordinator and mentored by the faculty mentor.

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

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

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: Mechanical Engineering

4.2. Banner Department Code: SMEC

4.3. Proposed CIP Code: 14.2701

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

**NEW COURSE REQUEST
Supporting Justification for On-Campus Review**

<u>Todd Letcher</u> Request Originator	<u>Todd Letcher</u> Signature	<u>Sept. 18, 2024</u> Date
<u>Yucheng Liu</u> Department Chair	<u>Yucheng Liu</u> Signature	<u>Sept. 18, 2024</u> Date
<u>Sanjeev Kumar</u> School/College Dean	<u>Sanjeev Kumar</u> Signature	<u>Sept. 18, 2024</u> Date

1. Provide specific reasons for the proposal of this course and explain how the changes enhance the curriculum.
GE 478 is a required course in the Healthcare Systems Engineering program and would be the culminating engineering experience for the students. GE 478 and GE 479 Healthcare Systems Engineering Capstone I and II will serve as capstone courses dedicated to the design of projects in Healthcare Systems Engineering.
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).
Coordinator of course: Todd Letcher, Associate Professor, Ph.D.
Additional faculty who may serve as team mentors depending on the project would include:
Stephen Gent, Professor, Ph.D.; Saikat Basu, Assistant Professor, Ph.D.; 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.
Facilities are adequate.
8. Note whether adequate library and media support are available for the course.
Library resources and media support are adequate.
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