



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

**New Course Request**

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

**Section 1. Course Title and Description**

Prefix & No.	Course Title	Credits
GE 479	Healthcare Systems Engineering Capstone II	3

**Course Description**

A second semester continuation of HSE Capstone I. A systems approach to design, covering need analysis, design phases, design processes, economics, optimization, and success criteria. Students will design, build, and test 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?
GE 478	Healthcare Systems Engineering Capstone I	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
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 spring 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**

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

- Provide specific reasons for the proposal of this course and explain how the changes enhance the curriculum.  
GE 479 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.
- Note whether this course is:  Required  Elective
- In addition to the major/program in which this course is offered, what other majors/programs will be affected by this course?  
None
- If this will be a dual listed course, indicate how the distinction between the two levels will be made.  
N/A
- Desired section size 20
- 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.
- Note whether adequate facilities are available and list any special equipment needed for the course.  
Facilities are adequate.
- Note whether adequate library and media support are available for the course.  
Library resources and media support are adequate.
- Will the new course duplicate courses currently being offered on this campus?  Yes  No
- If this course may be offered for variable credit, explain how the amount of credit at each offering is to be determined.  
N/A