SOUTH DAKOTA BOARD OF REGENTS
ACADEMIC AFFAIRS FORMS

New Course Request

SDSU	**Jerome J Lohr College of Engineering / Mechanical Engineering**
Institution	**Division/Department**
Dennis D. Hedge	4/24/2024
Institutional Approval Signature	**Date**

Section 1. Course Title and Description

Prefix & No.	Course Title	Credits
ME 377	Thermodynamics and Fluid Mechanics Lab	1

Course Description

This course covers thermodynamics and fluid mechanics measurements. Students will explore experimental techniques and instrumentation as well as hands-on activities that demonstrate basic fluid and thermal science principles. Proper technical communication will be emphasized.

Pre-requisites or Co-requisites

Prefix & No.	Course Title	Pre-Req/Co-Req?
ME 311	Thermodynamics I	Co-req
EM 331	Fluid Mechanics	Co-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
CEE 331	Fluid Mechanics Lab	1
ME 419L	Thermal-Fluid Systems Design Lab	1

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

The proposed course would provide hands-on experience in the measurement of thermodynamics and fluid properties. CEE 331 is a course that covers civil engineering-based measurements on fluids and does not cover any thermodynamics measurements. CEE 331 covers fluids in piping systems found in municipal areas as well as open channel flow. These flows do not represent the type of fluid flows found in mechanical engineering applications. ME 419L focuses on the design of systems and not the measurement of basic properties which is the focus of ME 377.

Section 3. Other Course Information

3.1. Are there instructional staffing impacts?

☒ No. Schedule Management, explain below: Faculty and teaching assistants are available to provide instruction for the mechanical engineering laboratories. ME 377 will be offered in the fall and spring.

3.2. Existing program(s) in which course will be offered: Mechanical 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 2024

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: 14.1901

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

NEW COURSE REQUEST
Supporting Justification for On-Campus Review

Yucheng Liu	Yucheng Liu	4/3/2024
Request Originator	**Signature**	**Date**
Yucheng Liu	Yucheng Liu	4/3/2024
Department Chair	**Signature**	**Date**
Suzette Burckhard	Suzette Burckhard	4/10/2024
School/College Dean	**Signature**	**Date**

1. Provide specific reasons for the proposal of this course and explain how the changes enhance the curriculum.
   Accreditation of engineering programs requires evidence of providing instruction on basic principles that contribute to engineering design. In the present curriculum, students have limited hands-on experience in measuring thermal and fluid properties. This course would fill that gap.
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: 16
6. Provide qualifications of faculty who will teach this course. List name(s), rank(s), and degree(s).
   Joscelyne Larson, Instructor, M.S.
7. Note whether adequate facilities are available and list any special equipment needed for the course.
   Adequate facilities are available.
8. Note whether adequate library and media support are available for the course.
   Library resources are available for this course.
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