SOUTH DAKOTA BOARD OF REGENTS
ACADEMIC AFFAIRS FORMS

New Course Request

SDSU	**Jerome J. Lohr College of Engineering/Civil & Environmental Engineering**
Institution	**Division/Department**
Dennis D. Hedge	3/26/2018
Institutional Approval Signature	**Date**

Section 1. Course Title and Description

Prefix & No.	Course Title	Credits
CEE 436	Advanced Hydraulic Engineering	3
CEE 536	Advanced Hydraulic Engineering	3

Course Description

Advanced topics related to hydraulic engineering including: dimensional analysis, turbulence in open-channel flows, mechanics of sediment transport, coastal hydraulics and stream channel mechanics, hydraulic structures, unsteady flows, numerical and physical modeling.

CEE 436 & CEE 536 Pre-requisites or Co-requisites

Prefix & No.	Course Title	Pre-Req/Co-Req?
EM 331	Fluid Mechanics	Pre-req

Registration Restrictions

None

Section 2. Review of Course

2.1. Was the course first offered as an experimental course?

☐ Yes *(if yes, provide the course information below)* ☒ No

2.2. Will this be a unique or common course?

☒ **Unique Course**

Prefix & No.	Course Title	Credits
CEE 432	Hydraulic Engineering	3
CEE 738-738L	Advanced Hydraulics & Lab	3, 0

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

CEE 432 is an introductory course in hydraulic engineering and is required for all undergraduate students in the civil engineering program. The proposed course will cover advanced topics (e.g., hydraulics of bridge waterways, high-velocity flow in open channels, bridge scour) and computational tools (e.g., two-dimensional flow modeling) not covered in CEE 432. The proposed course has been offered multiple times to undergraduate seniors who took the course as a technical elective, and also to graduate students in their first or second year. CEE 738 is intended for graduate students only and this course has not been taught for many years. The proposed course will be a better fit to our students.

☐ **Common Course** *Indicate universities that are proposing this common course:*

☐ BHSU ☐ DSU ☐ NSU ☐ SDSMT ☐ SDSU ☐ USD

Section 3. Other Course Information

3.1. Are there instructional staffing impacts?

☒ **No**. Replacement of CEE 738-738L Advanced Hydraulics & Lab (3, 0)
(course prefix, course number, name of course, credits)
Effective date of deletion: 5/7/2018

☒ **No**. Schedule Management, explain below: Faculty workload is available. This course has been offered as a special topic in odd numbered year spring semesters for the last 10 years.

3.2. Existing program(s) in which course will be offered: Civil Engineering (B.S., M.S., Ph.D.)

3.3. Proposed instructional method by university: R - Lecture

3.4. Proposed delivery method by university: 001 - Face-to-Face Term Based Instruction

3.5. Term change will be effective: Spring 2019

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 Code: SCEE

4.2. Proposed CIP Code: 14.0801

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

NEW COURSE REQUEST
Supporting Justification for On-Campus Review

Francis Ting	Francis Ting	1/18/2018
Request Originator	**Signature**	**Date**
Nadim Wehbe	Nadim Wehbe	1/18/2018
Department Chair	**Signature**	**Date**
Lewis Brown	Lewis Brown	1/25/2018
School/College Dean	**Signature**	**Date**

1. Provide specific reasons for the proposal of this course and explain how the changes enhance the curriculum.
   The proposed course will cover advanced topics (e.g., hydraulics of bridge waterways, high-velocity flow in open channels, bridge scour) and computational tools (e.g., two-dimensional flow modeling) not covered in CEE 432. This course will benefit undergraduate students who want to take the course as a technical elective as well as first- and second-year graduate students who are studying and conducting research in the water resources area.
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?
   Proposed course should be useful to students in the Civil, Mechanical, and Agricultural Engineering Departments who have an interest in an immediate level course in hydraulic engineering.
4. If this will be a dual listed course, indicate how the distinction between the two levels will be made.
   Graduate students are required to complete additional homework assignments and will be assessed using a separate grading policy from the undergraduate students.
5. Desired section size 10
6. Provide qualifications of faculty who will teach this course. List name(s), rank(s), and degree(s).
   Francis Ting, Professor, Ph.D.
7. Note whether adequate facilities are available and list any special equipment needed for the course.
   Yes. The hydraulic laboratory at SDSU is a modern research facility and is available for teaching this course.
8. Note whether adequate library and media support are available for the course.
   Yes
9. Will the new course duplicate courses currently being offered on this campus?
   ☐ Yes ☒ No
   If yes, provide justification.
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