SOUTH DAKOTA BOARD OF REGENTS
ACADEMIC AFFAIRS FORMS

New Course Request

SDSU	Natural Sciences / Geography
Institution	**Division/Department**
Dennis D. Hedge	1/23/2019
Institutional Approval Signature	**Date**

Section 1. Course Title and Description

Prefix & No.	Course Title	Credits
GEOG 477	Spatial Databases	3
GEOG 477L	Spatial Databases Lab	0
GEOG 577	Spatial Databases	3
GEOG 577L	Spatial Databases Lab	0

GEOG 477-577 Course Description

Spatial databases play a significant role in GIS. This course covers the basic theories, principles, and protocols of spatial databases. Learn how to design a spatial database and manage GIS data in the database.

GEOG 477L-577L Course Description

Develop relevant skills to design and implement a spatial database.

GEOG 477 Pre-requisites or Co-requisites

Prefix & No.	Course Title	Pre-Req/Co-Req?
GEOG 372	Introduction to Geographic Information Systems	Pre-Req
GEOG 477L	Spatial Databases Lab	Co-Req

GEOG 577 Pre-requisites or Co-requisites

Prefix & No.	Course Title	Pre-Req/Co-Req?
GEOG 577L	Spatial Databases Lab	Co-Req

Registration Restrictions

None

Section 2. Review of Course

2.1. Was the course first offered as an experimental course? ☐ Yes ☒ No

2.2. Will this be a unique or common course?

☒ **Unique Course**

Prefix & No.	Course Title	Credits
GEOG 474-574	GIS: Vector & Raster Modeling	3
GEOG 473-573	GIS Data Creation & Integration	3

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

GEOG 474-574 primarily focuses on advanced GIS modeling methods and how to use them in real-world GIS applications. GEOG 473-573 focuses on how to compile, manage, and analyze GIS data for a specific application. These two courses do not cover the theories and principles of spatial databases and how to design and implement a spatial database. In the age of big data, spatial databases will be needed to manage, process, and analyze big geospatial data. This course aims to introduce the principles of spatial database design and development, which can help students better manage and analyze big geospatial data and become more competitive on the job market.

Section 3. Other Course Information

3.1. Are there instructional staffing impacts?

☒ No. Schedule Management, explain below: This course is an area of specialty for a new faculty member and be added into his normal teaching rotation. It will be taught once a year or every three semesters.

3.2. Existing program(s) in which course will be offered: Geography (B.S./M.S.), Geographic Information Sciences-Specialization (M.S.), Geographic Information Sciences (B.S.)

3.3. Proposed instructional method by university: GEOG 477-577: R – Lecture; GEOG 477L-577L: L - Laboratory

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

3.5. Term change will be effective: Fall 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: 25   ☐ 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: SGEOG

4.2. Proposed CIP Code: 45.0702

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

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NEW COURSE REQUEST
Supporting Justification for On-Campus Review

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Dapeng Li	Dapeng Li	12/6/2018
Request Originator	**Signature**	**Date**

Robert Watrel	Robert Watrel	12/6/2018
Department Chair	**Signature**	**Date**

Matt Miller	Matt Miller	12/6/2018
School/College Dean	**Signature**	**Date**

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

Spatial databases play a significant role in the field of Geographic Information Science and have been widely used in various government agencies and companies. In the age of big data, spatial databases will be needed to manage, process, and analyze big geospatial data. This course aims to introduce the principles of spatial database design and development, which can help students better manage and analyze big geospatial data and become more competitive on the job market.

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.
    Requirements for graduate students will entail higher rigor in exams, exercises and longer final project.

5. Desired section size   25

6. Provide qualifications of faculty who will teach this course. List name(s), rank(s), and degree(s).
    Dapeng Li, Assistant Professor, Ph.D.

7. Note whether adequate facilities are available and list any special equipment needed for the course.
    Resources are adequate.

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