



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

Substantive Program Modification Program

UNIVERSITY:	SDSU
CURRENT PROGRAM TITLE:	Geographic Information Sciences (B.S.) [S.BS.GSI]
CIP CODE:	45.0702
UNIVERSITY DEPARTMENT:	Geography
UNIVERSITY DIVISION:	Natural Sciences

University Approval

To the Board of Regents and the Executive Director: I certify that I have read this proposal, that I believe it to be accurate, and that it has been evaluated and approved as provided by university policy.

 Dennis D. Hedge
 Vice President of Academic Affairs or
 President of the University

 5/8/18
 Date

1. This modification addresses a change in:

- | | |
|---|---|
| <input type="checkbox"/> Total credits required within the discipline | <input type="checkbox"/> Total credits of supportive course work |
| <input type="checkbox"/> Total credits of elective course work | <input type="checkbox"/> Total credits required for program |
| <input type="checkbox"/> Program name | <input type="checkbox"/> Existing specialization |
| <input type="checkbox"/> CIP Code | <input checked="" type="checkbox"/> Other: Restructure of College and Department Requirements |

2. Effective date of change: 2018-2019 Academic Year

3. Program Degree Level:

Associate Bachelor's Master's Doctoral

4. Category:

Certificate Specialization Minor Major

5. If a name change is proposed, the change will occur:

- On the effective date for all students
- On the effective date for students new to the program (enrolled students will graduate from existing program)

Proposed new name: _____

6. Primary Aspects of the Modification:

Existing Curriculum

Proposed Curriculum (highlight changes)

Pref.	Num.	Title	Cr. Hrs	Pref.	Num.	Title	Cr. Hrs
		Systems General Education Requirements	30 21			Systems General Education Requirements	30 21
		SGR 1 – Written Communication ENGL 101 – Composition I ENGL 201 – Composition II	6			SGR 1 – Written Communication ENGL 101 – Composition I ENGL 201 – Composition II	6
		SGR 2 – Oral Communication SPCM 101 – Fundamentals of Speech	3			SGR 2 – Oral Communication SPCM 101 – Fundamentals of Speech	3
		SGR 3 – Social Sciences/Diversity GEOG 200 Intro to Human Geography (Major Core)	6 3			SGR 3 – Social Sciences/Diversity GEOG 200 Intro to Human Geography (Major Core)	6 3
		SGR 4 – Humanities and Arts/Diversity	6			SGR 4 – Humanities and Arts/Diversity	6

Existing Curriculum

Proposed Curriculum (**highlight changes**)

SGR 5 – Mathematics				3	SGR 5 – Mathematics				3
SGR 6 – Natural Sciences				6	SGR 6 – Natural Sciences				6
GEOG 131-131L Physical Geography: Weather and Climate (Major Core)				0	GEOG 131-131L Physical Geography: Weather and Climate (Major Core)				0
GEOG 132-132L Physical Geography: Natural Landscapes (Major Core)					GEOG 132-132L Physical Geography: Natural Landscapes (Major Core)				
A&S College Requirements <i>Additional required credits of coursework beyond SGRs, Major, and Support Courses</i>				13+ 5	Department Requirements <i>Additional required credits of coursework beyond SGRs, Major, and Support Courses</i>				13+ 5
Natural Sciences (10+) Satisfying coursework must include - at least two classes with laboratory components - at least two different prefixes (MATH and STATS courses do not count toward the Science requirement.) (8 credits of GEOG 131-131L and 132-132L count towards this goal. 2 additional credits from another Prefix required.)				10 2	Natural Sciences (10+) Satisfying coursework must include - at least two classes with laboratory components - at least two different prefixes (MATH and STATS courses do not count toward the Science requirement.) (8 credits of GEOG 131-131L and 132-132L count towards this goal. 2 additional credits from another Prefix required.)				10 2
A&S	111	Introduction to Global Citizenship and Diversity		3	AHSS	111	Introduction to Global Citizenship and Diversity		3
One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.				-	One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.				-
Capstone course within major GEOG 447 Geography of the Future				--	Capstone course within major GEOG 447 Geography of the Future				--
Upper Division Credits (300-400 level coursework inside and outside of the major)				33	Upper Division Credits (300-400 level coursework inside and outside of the major)				33
Major Requirements				41	Major Requirements				41
GEOG	131-131L	Physical Geography: Weather and Climate (SGR 6)		4	GEOG	131-131L	Physical Geography: Weather and Climate (SGR 6)		4
GEOG	132-132L	Physical Geography: Natural Landscapes (SGR 6)		4	GEOG	132-132L	Physical Geography: Natural Landscapes (SGR 6)		4
GEOG	200	Intro. to Human Geography (SGR 3)		3	GEOG	200	Intro. to Human Geography (SGR 3)		3
GEOG	210	World Regional Geography		3	GEOG	210	World Regional Geography		3
					GEOG	372-372L	Introduction to GIS		3
GEOG	382-382L	Quantitative Research Methods in Geography and Lab		3	GEOG	382-382L	Quantitative Research Methods in Geography and Lab		3
GEOG	447	Geography of the Future		3	GEOG	447	Geography of the Future		3
MATH	120	Trigonometry		3	MATH	120	Trigonometry		3
<i>Choose six of the following courses (18 credits):</i>				18	<i>Choose six of the following courses (18 credits):</i>				18
GEOG	270	Introduction to Small Unmanned Aircraft Systems and Lab		3	GEOG	270	Introduction to Small Unmanned Aircraft Systems and Lab		3
GEOG	372-372L	Introduction to GIS		3	GEOG	372-372L	Introduction to GIS		3
GEOG	383-383L	Cartography and Lab		3	GEOG	383-383L	Cartography and Lab		3
GEOG	473	GIS: Data Creation and Integration		3	GEOG	473	GIS: Data Creation and Integration		3
GEOG	474	GIS: Vector and Raster Modeling		3	GEOG	474	GIS: Vector and Raster Modeling		3
GEOG	475	GIS Applications		3	GEOG	475	GIS Applications		3
					GEOG	476-476L	Web GIS and Lab		3
GEOG	483-483L	Air Photo Interpretation and Lab		3	GEOG	483-483L	Aerial Remote Sensing and Lab		3
GEOG	484-484L	Remote Sensing and Lab		3	GEOG	484-484L	Remote Sensing and Lab		3
Electives (Taken as needed to complete any additional degree requirements)				53	Electives (Taken as needed to complete any additional degree requirements)				53
For those seeking careers in GISc programming, these additional courses are suggested: CEE 106-106L - Elementary Surveying & Lab (4) CEE 304 - Land Surveying (3)					For those seeking technical careers in GISc, these additional courses are suggested: CEE 106-106L - Elementary Surveying & Lab (4) CEE 304 - Land Surveying (3)				

CEE 434-534 – Hydrology (3) CSC 105 - Introduction to Computers (COM) (3) CSC 150 - Computer Science I (COM) (3) CSC 205 - Advanced Computer Applications (COM) (3) CSC 474-574 - Computer Networks (3) GE 121 - Engineering Design Graphics I (1) GEOG 384-384L - Advanced Cartography & Lab (3) GEOG 485-485L - Quantitative Remote Sensing & Lab (3) MATH 115 - Precalculus * (COM) (5)		CEE 434-534 – Hydrology (3) CSC 105 - Introduction to Computers (COM) (3) CSC 150 - Computer Science I (COM) (3) CSC 205 - Advanced Computer Applications (COM) (3) CSC 474-574 - Computer Networks (3) GE 121 - Engineering Design Graphics I (1) GEOG 384-384L - Advanced Cartography & Lab (3) GEOG 485-485L - Quantitative Remote Sensing & Lab (3) INFO 101 - Introduction to Informatics (3) MATH 115 - Precalculus * (COM) (5) MATH 120 - Trigonometry (COM) (3)	
Summary of Credits Geographic Information Sciences (B.S.)			
System General Education Requirements <i>Additional required credits of coursework beyond Major and Support Courses</i>	30 21	System General Education Requirements <i>Additional required credits of coursework beyond Major and Support Courses</i>	30 21
A&S College Requirements <i>Additional required credits of coursework beyond SGRs, Major, and Support Courses</i>	13+ 5+	A&S College Requirements <i>Additional required credits of coursework beyond SGRs, Major, and Support Courses</i>	13+ 5+
		Department Requirements <i>Additional required credits of coursework beyond SGRs, Major, and Support Courses</i>	13+ 5+
Majors Requirements	41	Majors Requirements	41
Electives (Taken as needed to complete any additional degree requirements)	53	Electives (Taken as needed to complete any additional degree requirements)	53
Total number of hours required for major	41	Total number of hours required for major	41
Total number of hours required for degree	120	Total number of hours required for degree	120

7. Explanation of the Change:

The Department of Geography will move from the College of Arts & Sciences to the College of Natural Sciences effective July 1, 2018. The College of Arts & Sciences requirements have been realigned as department requirements within the program. Additional changes to the program include:

- The College of Arts & Sciences has been restructured and renamed the College of Arts, Humanities, and Social Sciences. The A&S prefix has also been replaced with the AHSS prefix to make it easier to identify the coursework.
- CEE 304 Land Survey was removed from the electives list because it is no longer taught by Civil Engineering.
- GEOG 372-372L Introduction to GIS was moved from the elective requirements (*Choose six of the following courses (18 credits)*) to Major Requirements. It was felt that since this was a GISc major that the intro GIS course should be in the required courses.
- GEOG 476-476L Web GIS was added to the list of six courses required for the Geographic Information Sciences major. Web GIS has enjoyed great popularity in the internet era. This course covers the basic theories, principles, and protocols of Web GIS.
- INFO 101 Introduction to Informatics was added to the Electives list because it provides basic informatics and computer programming skills that will be useful to majors in GISc.
- MATH 120 Trigonometry was moved from Major Requirements to Electives. The discipline has changed over the last 15 years that it does not merit to be a Major Requirement anymore.