

# GEOGRAPHIC INFORMATION SCIENCE AND TECHNOLOGY CONCENTRATION

## Geography, Bachelor of Science with a Concentration in Geographic Information Science and Technology Requirements

Code	Title	Credits
<b>GENERAL EDUCATION REQUIREMENTS - 34 Hours Required</b>		
Minimum of "C-" required		
<b>Fundamental Skills</b>		<b>15</b>
<b>Writing – 6 hrs.</b>		
ENGL 1150	ENGLISH COMPOSITION I	
ENGL 1160	COLLEGE RESEARCH AND INFORMATION LITERACY	
<b>Oral Communication – 3 hrs.</b>		
CMST 1110	PUBLIC SPEAKING FUNDS	
or CMST 2120	ARGUMENTATION AND DEBATE	
<b>Quantitative Literacy – 3 hrs.</b>		
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	
or MATH 1130	QUANTITATIVE LITERACY	
or MATH 1140	QUANTITATIVE REASONING FOR HEALTHCARE PROFESSIONALS	
or MATH 1300	COLLEGE ALGEBRA WITH SUPPORT	
<b>Data Literacy – 3 hrs.</b>		
Select one from the following:		
STAT 1100	DATA LITERACY AND VISUALIZATION	
STAT 1530	ELEMENTARY STATISTICS	
Until Fall 2028, students can satisfy this requirement with an approved data literacy course, or any approved natural or social science general education course.		
<b>Breadth of Knowledge</b>		<b>13</b>
Social Science – 3 hrs.		
Humanities – 3 hrs.		
Natural & Physical Science (must complete a lab) – 4 hrs.		
Arts – 3 hrs.		
<b>Individual and Social Responsibility</b>		<b>6</b>
Cultural Knowledge – 3 hrs.		
Civic Knowledge and Engagement – 3 hrs.		
<b>MAJOR REQUIREMENTS</b>		
**Course will satisfy UNO's General Education requirement		
^Course requires pre-requisite(s)		
<b>Geography Major with a Concentration in Geographic Information Science and Technology - 39-55 Hours Required</b>		
<b>Required Coursework</b>		<b>24</b>
GEOG 1000	WORLD REGIONAL GEOGRAPHY (**)	
GEOG 1020	INTRODUCTION TO HUMAN GEOGRAPHY (**)	

GEOG 1030	OUR DYNAMIC PLANET: INTRODUCTION TO PHYSICAL GEOGRAPHY (**)	
GEOG 1050	HUMAN-ENVIRONMENT GEOGRAPHY (** ^)	
GEOG 3530	CARTOGRAPHY AND DATA VISUALIZATION	
GEOG 4620	GEOGRAPHICAL FIELD STUDIES (Can also apply to the upper-level Global or North American category, depending on the field study destination) <sup>1</sup>	
STAT 1530	ELEMENTARY STATISTICS (** ^)	
<b>1 Geographical Field Studies Requirement</b>		
Optional method of completing GEOG 4620: Students who have completed study abroad, or military service for more than six months outside the USA can complete the course without going on the multiple day field trip. Contact the department for the details regarding this alternative method.		
<b>GEOGRAPHIC INFORMATION SCIENCE AND TECHNOLOGY CONCENTRATION</b>		
Required coursework:		
<b>Select 9 credit hours of computer science coursework in consultation with an advisor.</b>		<b>9</b>
<b>Select one of the following Mathematics options:</b>		<b>3-7</b>
MATH 1300	COLLEGE ALGEBRA WITH SUPPORT (^)	
or MATH 1320	COLLEGE ALGEBRA	
AND		
MATH 1330	TRIGONOMETRY (^)	
or one of the following:		
MATH 1340	ALGEBRA AND TRIGONOMETRY FOR CALCULUS (^)	
MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES (^)	
MATH 1950	CALCULUS I (^)	
<b>Additionally, select one of the following*</b>		<b>3-4</b>
GEOG 4020	SPATIAL ANALYSIS IN GEOGRAPHY (^)	
GEOG 4030	COMPUTER MAPPING AND VISUALIZATION (^)	
GEOG 4050	GEOGRAPHIC INFORMATION SYSTEMS I (^)	
GEOG 4660	GEOGRAPHIC INFORMATION SYSTEMS II (^)	
*Can double-count with Geospatial Science requirement below		
<b>GEOGRAPHY DIVERSITY REQUIREMENTS</b>		
Select a minimum of one course from each of the groups of Geography Diversity courses below:		
<b>Choose at least one course in Physical Geography</b>		<b>3-4</b>
GEOG 3440	NEBRASKA NATURAL RESOURCES MANAGEMENT (^)	
GEOG 3510 & GEOG 3514	METEOROLOGY and INTRODUCTION TO METEOROLOGY LABORATORY (** ^)	
GEOG 4010	CONSERVATION OF NATURAL RESOURCES	
GEOG/GEOL 4040	GEOARCHAEOLOGY	
GEOG/BIO/GEOL 4100	BIOGEOGRAPHY (^)	
GEOG/GEOL 4200	WATER QUALITY	
GEOG/GEOL 4260	PROCESS GEOMORPHOLOGY	
GEOG 4320	CLIMATOLOGY	

GEOG/GEOL 4330	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION	
GEOG 4340	WATER RESOURCES	
GEOG/ENVN 4350	GLOBAL CLIMATE CHANGE	
GEOG/ENVN/GEOL/BIOL 4610	ENVIRONMENTAL MONITORING AND ASSESSMENT	
GEOG/GEOL 4640	CRITICAL ZONE SCIENCE	
<b>Choose at least one course in Human Geography</b>		<b>3</b>
GEOG 3020	HEALTH & MEDICAL GEOGRAPHY	
GEOG/ECON 3130	ECONOMIC GEOGRAPHY	
GEOG 3440	NEBRASKA NATURAL RESOURCES MANAGEMENT (^)	
GEOG 4010	CONSERVATION OF NATURAL RESOURCES	
GEOG 4120	URBAN GEOGRAPHY	
GEOG 4130	POLITICAL GEOGRAPHY	
GEOG/WGST/ENTR 4150	GEOGRAPHY, GENDER AND ENTREPRENEURSHIP (^)	
GEOG 4160	URBAN SUSTAINABILITY (^)	
GEOG 4170	ADVANCED CULTURAL GEOGRAPHY	
GEOG/WGST 4210	GEOGRAPHIES OF SEXUALITIES	
GEOG 4550	GEOGRAPHY OF THE WORLD ECONOMY	
GEOG/BIOL/ENVN 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (^)	
<b>Choose at least one course in Global Perspectives</b>		<b>3</b>
GEOG 3000	TRAVEL STUDY IN GEOGRAPHY	
GEOG/BLST 3030	GEOGRAPHY OF AFRICA (^)	
GEOG 3050	GEOGRAPHY IN FILM (^)	
GEOG/LLS 3070	GEOGRAPHY OF LATIN AMERICA (^)	
GEOG 3080	EAST & SOUTHEAST ASIA (^)	
GEOG 3230	GEOGRAPHY OF EUROPE (^)	
GEOG 3240	GEOGRAPHY OF RUSSIA AND ITS NEIGHBORS (^)	
<b>Choose at least one course in North American Perspectives</b>		<b>3</b>
GEOG 3330	UNITED STATES & CANADA (^)	
GEOG 4230	GREAT PLAINS & NEBRASKA	
GEOG 4530	HISTORICAL GEOGRAPHY OF THE UNITED STATES (^)	
<b>Choose at least one course in Geospatial Science</b>		<b>3</b>
GEOG 2620	AERIAL PHOTOGRAPHIC INTERPRETATION	
GEOG 4020	SPATIAL ANALYSIS IN GEOGRAPHY	
GEOG 4030	COMPUTER MAPPING AND VISUALIZATION (^)	
GEOG 4050	GEOGRAPHIC INFORMATION SYSTEMS I (^)	
GEOG 4630	ENVIRONMENTAL REMOTE SENSING (^)	
GEOG 4660	GEOGRAPHIC INFORMATION SYSTEMS II (^)	
<b>College Breadth (choose one option)</b>		<b>15-30+</b>
Option 1: Complete any UNO minor or undergraduate certificate - 15+ hours		
Option 2: Additional General Education Requirements - 18+ hours		
Additional quantitative literacy - 3 hours		
Additional Social Science Gen. Ed. from another Discipline - 3 hours		

Additional Humanities Gen. Ed. from another Discipline - 3 hours	
HIST 1000 and HIST 1010 - 6 hours	
Additional Nat. and Physical Science w/ or without Lab - 3-5 hours	
Option 3: CAS comprehensive major (50+ hours) OR any second UNO major (30+ hours)	
<b>Bachelor of Science Cognate Requirement</b>	<b>15</b>
In consultation with a departmental advisor, students select 15 credits of complementary coursework, with at least 6 credits from approved computer science courses.	
<b>ELECTIVES</b>	
Elective hours as required to reach a total of 120 hours	