

GEOGRAPHIC INFORMATION SCIENCE AND TECHNOLOGY - 5-YEAR BACHELOR OF SCIENCE AND MASTER OF SCIENCE IN GEOGRAPHY

This 5-year program combines our bachelor of science in Geographic Information Science and Technology with our thesis-based master of science in geography, providing a fast track to an advanced degree. Intended for the highly motivated, exceptional students with an interest in research, this accelerated program provides students with rigorous and modern-day skills in GIS, combined with specialized expertise in human geography, physical geography, and human-environment interactions. In addition to preparing students to succeed in private industry, the public sector, education, and many other opportunities available to geographers, the thesis-based master of science degree also provides for career options in research, including doctoral programs in geography and many other related disciplines.

Application and Eligibility

- Applications to the combined program will be submitted by June 15 after the completion of the student's junior year, after 90 hours of coursework are completed. Applications submitted after that time will be evaluated on a case-by-case basis.
- Students must identify a faculty member from Geography who is willing to serve as the advisor and chair of the thesis committee.
- The bachelor's and master's degrees will be conferred concurrently after completion of 150 hours, and satisfying their master's requirements which include successfully defending their thesis.
- Students not admitted to or wishing to discontinue the graduate portion of the 5-year program will earn their bachelor of science degree in GIST after successfully completing 120 hours of coursework.

Program Requirements

First Year

Fall		Semester Credit Hours
GEOG 203	Planet Earth	3
GEOG 213	Planet Earth Lab	1
GEOG 215	Geospatial Cornerstone	1
MATH 140	Mathematics for Business and Social Sciences	3
Life and physical sciences ¹		4
Select from the following:		
ATMO 201 & ATMO 202	Weather and Climate and Weather and Climate Laboratory	
GEOL 101 & GEOL 102	Principles of Geology and Principles of Geology Laboratory	
BIOL 101	Botany	
BIOL 111	Introductory Biology I	
CHEM 119	Fundamentals of Chemistry I	

PHYS 201	College Physics	
Communication (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication)		3
Semester Credit Hours		15
Spring		
GEOG 201	Introduction to Human Geography	3
MATH 142	Business Calculus	3
POLS 206	American National Government	3
Life and physical sciences ¹		4
Select from the following:		
OCNG 251 & OCNG 252	The Blue Planet - Our Oceans and The Blue Planet - Our Oceans Laboratory	
GEOL 106	Historical Geology	
BIOL 107	Zoology	
BIOL 112	Introductory Biology II	
CHEM 120	Fundamentals of Chemistry II	
PHYS 202	College Physics	
Communication (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication)		3

Semester Credit Hours

16

Second Year

Fall

GEOG 232	Cartography and Visualization	3
CSCE 110 or CSCE 111	Programming I or Introduction to Computer Science Concepts and Programming	4
POLS 207	State and Local Government	3
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		3
Social and behavioral sciences (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences)		3

Semester Credit Hours

16

Spring

GEOG 352/ GEOL 352	GNSS in the Geosciences	3
STAT 303	Statistical Methods	3
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		3
Language, philosophy and culture (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture)		3
Human or physical geography elective ²		3
General elective ³		3

Semester Credit Hours

18

Third Year

Fall

GEOG 361	Remote Sensing in Geosciences	4
GEOG 390	Principles of Geographic Information Systems	4

Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts)	3
GIST techniques elective ⁴	4
General elective ³	3
Semester Credit Hours	18
Spring	
GEOG 312 Data Analysis in Geography	3
GEOG 450 Field Geography	3
GIST techniques elective ⁴	4
General elective ³	6
Semester Credit Hours	16
Fourth Year	
Fall	
GEOG 610 Geographical Methods and Theory	3
Advanced GIST elective ⁵	4
Graduate elective ⁶	3
General elective ³	6
Semester Credit Hours	16
Spring	
GEOG 476 GIS Practicum	3
GEOG 611 Geographical Research Design	3
GEOG 691 Research	2
Graduate elective ⁶	3
General elective ³	6
Semester Credit Hours	17
Fifth Year	
Fall	
Graduate elective ⁶	9
Semester Credit Hours	9
Spring	
GEOG 691 Research	6
Graduate elective ⁶	3
Semester Credit Hours	9
Total Semester Credit Hours	150

⁴ Select from GEOG 391, GEOG 392, GEOG 398, GEOG 461, GEOG 475, GEOG 477, GEOG 478, GEOG 479.

⁵ Select from GEOG 461, GEOG 475, GEOG 479. A course used to fulfill this requirement cannot also be counted as fulfilling a GIST techniques elective.

⁶ Select from any 600-level geography course except GEOG 651, GEOG 659, GEOG 660, GEOG 676, GEOG 678, GEOG 691. Up to 2 hours of graduate electives may be used towards the undergraduate degree's general electives.

Two courses in the degree plan must be Writing Intensive courses designated by the department in the schedule of classes. Also, International and Cultural Diversity Elective (3 hours) and Cultural Discourse (3 hours) must be incorporated into the degree.

The program includes a total of 152 hours, which up to 2 hours may be applied toward both the Bachelor of Science in Geographic Information Science and Technology and the Master of Science in Geography (thesis option).

¹ 8 hours required. Department requires that you take two in the same discipline to meet this requirement.

² Select from GEOG 301, GEOG 304, GEOG 305, GEOG 306, GEOG 309, GEOG 311, GEOG 320, GEOG 323, GEOG 324, GEOG 325, GEOG 327, GEOG 330, GEOG 331, GEOG 335, GEOG 355, GEOG 360, GEOG 370/ MARS 370, GEOG 380, GEOG 400, GEOG 401, GEOG 404, GEOG 406, GEOG 420, GEOG 430, GEOG 434, GEOG 435, GEOG 440, GEOG 442/ GEOS 442, GEOG 467.

³ Select any courses from 100-499 not used elsewhere. (Except AERS 100-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/aers/>); ASCC 100-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/ascc/>); ENGL 103; KINE 198, KINE 199; MATH 102; MATH 142, MATH 150, MATH 151, MATH 168, MATH 171; MLSC 100-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/mlsc/>); NVSC 100-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/nvsc/>); SOMS 100-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/stat/>); STAT 211, STAT 302, STAT 303).