

B.S. IN GEOGRAPHY - GISCIENCE CONCENTRATION

Curriculum

Code	Title	Credits
GENERAL EDUCATION REQUIREMENTS (https://catalog.wcupa.edu/undergraduate/general-education-requirements/)		
Academic Foundations		
	First Year Experience requirement	4
	English Composition requirement	6-7
	Mathematics requirement	3-4
	Interdisciplinary requirement ¹	3
	Diverse Communities requirement ¹	3
	Ethics requirement ²	3
Distributed Disciplinary Foundations		
	Science requirement ³	6-8
	Behavioral & Social Science requirement ⁴	6
	Humanities requirement	6
	Arts requirement	3
ADDITIONAL BACCALAUREATE REQUIREMENTS (https://catalog.wcupa.edu/undergraduate/general-education-requirements/)		
University Requirements		
	Writing Emphasis requirement ⁵	9
	GEO 400 Senior Seminar In Geography	
	Speaking Emphasis requirement ⁶	9
	GEO 400 Senior Seminar In Geography	
Degree Requirements		
	Capstone requirement	1-15
MAJOR REQUIREMENTS (https://www.wcupa.edu/business-publicManagement/geographyPlanning/)		
Core Courses		
GEO 102	Physical Geography	3
GEO 103	Human Geography	3
GEO 225	Introduction to Maps and Remote Sensing	3
GEO 230	Environmental Conservation and Sustainability	3
GEO 324	Intro to Geographic Information Systems	3
GEO 326	Quantitative Analysis in Geography and Planning	3
GEO 385	Field Methods in Geography	3
GEO 400	Senior Seminar In Geography	3
GIScience Concentration		
GEO 328	Computer Cartography	3
GEO 424	Geographic Information Systems Application	3
GEO 427	Geodatabase System	3
GEO 316	GIS for Climate Monitoring, Hazards, and Emergency Management	3
or GEO 401	Internet Mapping	
or GEO 403	Geodesign for Smart Cities	
Geography (or Planning) Electives		
	Choose 8 courses from the list of electives (or through advisement)	24

GEO 200	Global Cities	
GEO 204	Introduction to Urban Studies	
GEO 213	GIS for Social Justice	
GEO 235	Geography of Agriculture, Food & Sustainability	
GEO 307	Fundamentals of Unmanned Aerial Systems and Image Analysis	
GEO 310	Population Geography	
GEO 312	Urban Geography	
GEO 316	GIS for Climate Monitoring, Hazards, and Emergency Management	
GEO 318	Economic Geography	
GEO 332	Environmental Crises	
GEO 325	Intro Business GIS	
GEO 333	Sustainable Cities	
GEO 334	Sustainable Living	
GEO 341	Landscape Ecology	
GEO 352	Environmental Geopolitics	
GEO 401	Internet Mapping	
GEO 403	Geodesign for Smart Cities	
GEO 415	Internship in Geography and Planning	
GEO 425	Business GIS Applications	
PLN 214	Introduction to Planning	
PLN 316	Planning for Resilient Communities and Natural Disasters	
PLN 320	Land Use Planning	
PLN 322	Land Development Controls	
PLN 331	Transportation Planning	
PLN 337	Land Conservation	
PLN 354	Housing and Planning in America	
Capstone Requirement		
GEO 404	Senior Project in Geography ⁷	3
Total Minimum Credits Required ⁸		120

¹ GEO 204 is a recommended general education course: fulfills Interdisciplinary and Diverse Communities General Education requirements. Transfer and change-of-major students may use other courses with advisor consent.

² GEO 213 is a recommended Ethics General Education course. Transfer and change-of-major students may use other courses with advisor consent.

³ Recommended sciences: BIO 110, ESS 128, or SCI 100

⁴ Geography majors take PLN 214 as a recommended Behavioral/Social Science General Education course. Transfer and change-of-major students may use other courses with advisor consent.

⁵ Geography majors must take GEO 400 (Writing Emphasis course). GEO 310 is a recommended Writing Emphasis course. PLN 301 and ENG 368/ENG 371 are recommended Writing Emphasis electives.

⁶ Geography majors must take GEO 400 (Speaking Emphasis course). GEO 332 and GEO 333 are also recommended.

⁷ This course fulfills the Capstone requirement.

⁸ Note: The number of available general electives will depend on the use of "recommended" general education GEO/PLN courses. Strategic use of general education courses allows for the addition of minors and/or sub-baccalaureate certificates.

Accelerated B.S. in Geography - GIScience Concentration to M.S. in Geography Program

Any geography major in the GIScience Track with junior-standing (a minimum of 60 completed credits) and a 3.0 cumulative GPA or higher may substitute up to 12 graduate credits to satisfy the B.S. program.

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Elective Courses

Select from the courses below:

GEO 502	Topical Seminar in Geography	3
GEO 506	Seminar in Physical Geography	3
GEO 507	Internet Applications of Geographic Information Systems	3
GEO 521	Suburbanization and Land Development	3
GEO 524	Population Processes	3
GEO 526	Metropolitan Systems and Problems	3
GEO 531	Transportation Planning	3
GEO 538	Environmental Modeling with Geographic Information Systems	3
GEO 577	Geodatabases	3
PLN 527	Planning Law and Organization	3
PLN 528	Economic Development Planning	3
PLN 536	Environmental Planning	3
PLN 554	Housing and Planning in America	3

Potential Graduate Course Substitutions

These courses may be substituted for similar undergraduate courses.

GEO 534 can replace GEO 324
GEO 507 can replace GEO 401
GEO 509 can replace GEO 326
GEO 538 can replace GEO 338
GEO 556 can replace GEO 425
GEO 577 can replace GEO 427
GEO 584 can replace GEO 424
GEO 585 can replace GEO 385