Special Application Process Required

Name:_____
Student ID: _____
Date Admitted Into Major:_____

Salem | STATE UNIVERSITY

COMBINED BACHELOR OF SCIENCE CARTOGRAPHY AND MASTER OF SCIENCE GEO-INFORMATION SCIENCE

GENERAL EDUCATION REQUIREMENTS

Competencies

☐	♦ Basic College Math
☐	♦ Reading Comprehension

♣General Education Categories - 34-35 credits

♦FYS	First Year Seminar				3	
♦W-I	Written Communication - Level I				3	
♦OC	Oral Communication				3	
PGR	Personal Growth & Responsibility				3	
CEA	Creative Expression & Appreciation				3	
WC	World Cultures				3	
HP	The Human Past				3	
CS	Contemporary Society				3	
SR	Scientific Reasoning:	♯ Any SR course			3-4	
		♯ SR Lab course			4	
QR	Quantitative Reasoning				3	

‡ Written Communication (Level II and Level III) and Diversity, Power Dynamics and Social Justice

W-II	Written Communication - Level II			☐
W-III	Written Communication - Level III			☐
DPDS	Diversity, Power Dynamics and Social Justice			☐

Minor/Free Electives (31 credits total)

Additional free electives beyond the credits listed may be required based on the use of support courses to satisfy the General Education Category requirements.

COURSES IN MAJOR (54 credits)

Major Core Courses (15 credits total)

GPH	115	Global Climate Change	3	
GPH GPH	105 OR 110	Introduction to Geography World Regions	3	
GPH	140	Introduction to Maps & GIS	3	
GPH	301	Introduction to Quantitative Geography	3	
GPH	302	Geographic Research	3	

Major Concentration Courses (27 credits)

GPH	245	Cartography	3	
GPH	340	GIS	3	
GPH	344	Remote Sensing	3	
GPH	446	Advanced GIS	3	
GPH GPH	343 OR 444	Air Photos Interpretation Digital Image Processing	3	
GPH	903	Geographic Information Systems	3	
GPH	909	Interpretation of Remote Sensing Imagery	3	
GPH	942	Advanced Geographic Quantitative Methods	3	
GPH	945	GIS Project Implantation	3	

Techniques Electives (6 credits)

GPH GPH	343 OR 444	Air Photos Interpretation Digital Image Processing	3	
GPH	346	GIS and Business	3	
GPH	347	GIS Applications	3	
GPH	442	Programming for GIS	3	

Geography electives (6 credits)

GPH		Geography Elective	3	
GPH		Geography Elective	3	

5th Year Courses (19 graduate credits)

Fall				
GPH	904	GIS for Research and Analysis	3	
GPH	960	Software Design and Programming in GIS	3	
GPH		Graduate Elective	3	
Spring				
GPH	952	Spatial Database Analysis and Design	3	
GPH GPH	876 OR 965	Directed Study (thesis) Seminar in GIS	4	
GPH		Graduate Elective	3	

♥ Students may choose to use support courses to satisfy general education categories but may not be required to do so. **Note:** If a course is used to satisfy two or more requirements (for example, a support course and Scientific Reasoning requirement), the credits are counted in only one place. Using a course to satisfy more than one requirement does **not** reduce the credit total required for graduation.

♣ Courses used to satisfy the general education requirements of the university must be taken from a minimum of six different academic disciplines. First Year Seminar and Level I Written Communications courses are exempt from this restriction. Courses may not be used to fulfill both major discipline and general education requirements.

♯ These Scientific Reasoning General Education Category courses do not have to be a sequence or be from the same discipline

‡ Level II, Level III Written Communications and Diversity, Power Dynamics and Social Justice Courses may be used to satisfy requirements anywhere else in a student's program of study where they may apply. The credits are counted only in one area.

♦ COMPETENCIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS | ♦ GENERAL EDUCATION CATEGORIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS

Exceptions in the timing of courses will be made for transfer students

Total credits for graduation:120 **The additional credits listed above are required for Graduate graduation** **Effective: 9/2019**