BACHELOR OF SCIENCE IN GEOGRAPHIC INFORMATION SCIENCE (ONLINE)

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The Bachelor of Science in Geographic Information Science Online Degree is offered entirely online for students to gain expertise with geospatial technologies and related computer science and data analysis and apply those skills and knowledge to a content area.   GIS, remote sensing, GPS, programming, spatial analysis, web publishing and mapping, data handling and analytics, are the components of the program as well as utilizing those skills and technologies to address and solve real-world problems.

COURSE	TITLE	S.H.
FIRST YEAR REQUIREMENT - STUENT SUCCESS SEMINAR		
YSU 1500	Success Seminar	1-2
or YSU 1500S	Youngstown State University Success Seminar	
or HONR 1500	Intro to Honors	
GENERAL EDUCATION		
ENGL 1550	Writing 1	3-4
or ENGL 1549	Writing 1 with Support	
ENGL 1551	Writing 2	3
Mathematics (met in major)		
Arts and Humanities: 2 Courses		6
Natural Science + Lab 2 Courses		7
Social Science 2 Courses		6
General Education Electives 3 Courses		9
Required Math and Computer Science		
MATH 1510	College Algebra	4
MATH 1511	Trigonometry	3
CSIS 2610 & 2610L	Programming and Problem-Solving and Programming and Problem-Solving Lab	4
STAT 2625	Statistical Literacy and Critical Reasoning	4
GIS Required Course		
GIS 2610	Map Use and Interpretation	3
GIS 2611	Geospatial Foundations	3
GIS 3701	Introduction to Geographic Information Science	3
GIS 3702	Introduction to Remote Sensing	3
GIS 4801	Advanced Geographic Information Science	3
GIS 4802	Advanced Remote Sensing	3
Required Additional Courses:		
CSIS 3700 & 3700L	Data Structures and Objects and Data Structures and Objects Lab	4
CSIS 3701	Advanced Object-oriented Programming	3
DATX 5803	Data Visualization	3
ENGL 3743	Introduction to Public, Professional and Technical Writing	3
PHIL 2625	Introduction to Professional Ethics	3
Choose one Database Course:		**3**
CSIS 3722	Development of Databases	
DATX 5801	Data Management	
Electives: 15 s.h. total. 12 hours must come from GIS and / or STEM designation courses		**15**
GIS 3712	Thematic Map Design and Symbolization	
GIS 3781	Geographic Information Sciences Application for the Social Sciences	
GIS 3782	GIS Applications for the Natural Sciences	
GIS 3783	Geographic Information Science Applications to Urban and Regional Studies	
GIS 4840	Special Topics in GIS	
GIS 5812	GPS and GIS	
GIS 5820	Directed Research in GIS	
STEM 4890	STEM Internship (a Geospatial-based internship)	
CRJS 3710	Social Statistics	
DATX 5805	Predictive Modeling Algorithms	
DATX 5895	Selected Topics in Data Analytics	
ECON 3788	Advanced Business Analytics	
STAT 4817	Applied Statistics	
Minor		**18**
Total Semester Hours		**120-122**

Year 1		
Fall		**S.H.**
YSU 1500	Success Seminar	1
ENGL 1550	Writing 1	3
MATH 1510	College Algebra	4
Natural Science Gen Ed 1 of 2 + Lab		4
Gen Ed Arts Requirement 1 of 2		3
	Semester Hours	**15**
Spring		
CSIS 2610	Programming and Problem-Solving	3
CSIS 2610L	Programming and Problem-Solving Lab	1
MATH 1511	Trigonometry	3
GIS 2611	Geospatial Foundations	3
ENGL 1551	Writing 2	3
Gen Ed Elective 1 of 3		3
	Semester Hours	**16**
Year 2		
Fall		
GIS 2610	Map Use and Interpretation	3
STAT 2625	Statistical Literacy and Critical Reasoning	4
Gen Ed Elective 2 of 3		3
Gen Ed Arts requirement 2 of 2		3
Gen Ed Social Science requirement 1 of 2		3
	Semester Hours	**16**
Spring		
GIS 3701	Introduction to Geographic Information Science	3
CSIS 3700	Data Structures and Objects	3
CSIS 3700L	Data Structures and Objects Lab	1
CSIS 3701	Advanced Object-oriented Programming	3
Gen Ed Nat Sci elective 2 of 2		3
	Semester Hours	**13**
Year 3		
Fall		
CSIS 3722	Development of Databases	3
GIS 3702	Introduction to Remote Sensing	3

Code	Title	Semester Hours
ENGL 3743	Introduction to Public, Professional and Technical Writing	3
Minor Class 1 of 6		3
GIS Elective 1 of 4		3
	Semester Hours	**15**
Spring		
GIS 4801	Advanced Geographic Information Science	3
DATX 5803	Data Visualization	3
PHIL 2625	Introduction to Professional Ethics	3
GIS Elective 2 of 4		3
Minor Class 2 of 6		3
	Semester Hours	**15**
Year 4		
Fall		
GIS Elective 3 of 4		3
Minor Class 3 of 6		3
Minor Class 4 of 6		3
Other Elective 1 of 1		3
Gen Ed Social Science Elective 2 of 2		3
	Semester Hours	**15**
Spring		
GIS 4802	Advanced Remote Sensing	3
Minor Class 5 of 6		3
Minor Class 6 of 6		3
GIS Elective 4 of 4		3
Gen Ed Elective 3 of 3		3
	Semester Hours	**15**
	Total Semester Hours	**120**

Understand the fundamental principles and capabilities of geographic information science, including geospatial technologies, spatial data handling, and remote sensing.

Demonstrate proficiency in the use of geographic information science methods to effectively map, analyze, visualize, query, and manipulate spatial and non-spatial data.

Utilize geospatial and computer-based analytical methods to solve location-based problems and properly evaluate the results.