SCIENTIFIC DATA ANALYTICS, CERTIFICATE (0496)

Program Coordinator

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Technological advances have produced increasingly large datasets across a diverse range of scientific domains including biology, psychological science, and geography. As a result, students in scientific disciplines need focused coursework in data analytics. This certificate will serve that need and document that students have acquired this expertise.

Program Admission

Graduate Studies Admission

Please refer to the admission section (http://catalog.wku.edu/graduate/admission/) of this catalog for Graduate Studies admission requirements.

Program Requirements (12 hours)

Code	Title	Hours
Required Courses		
CS 555	Data Science	3
STAT 549	Statistical Methods I [1]	3
Select 6 hours from the following discipline specific courses with large datasets [2]		6
AGRI 491G	Data Analysis and Interpretation	
AGRI 590	Experimental Design	
BIOL 582	Biometry	
BIOL 599	Thesis Research/Writing	
CS 443G	Database Management Systems	
CS 543	Advanced Database Systems	
CS 565	Data Mining Techniques and Tools	
GEOS 520	Geoscience Statistical Methods	
GEOS 523	Geoprocessing & GIS Applications	
GEOS 575	GIS Analysis and Modeling	
GEOS 576	GIS Programming	
GEOS 577	Special Topics in Geographic Information Systems	
GEOS 515	Remote Sensing Applications	
GEOS 517	Spatial Databases	
GEOS 590	Experimental Design and Data Analysis	
GEOS 595	Geoscience Practicum	
GEOS 599	Thesis Writing and Research	
PHYS 475G	Topics/Physics	
PHYS 599	Thesis Research / Writing	
PHYS 675	Advanced Topics in Physics	
PSYS 512	Analysis of Variance	
PSYS 513	Correlation and Regression Analysis	
PSYS 518	Statistics and Psychometric Theory	
PSYS 590	Readings of Research Psychology	
PSYS 599	Thesis Research/Writing	
STAT 550	Statistical Methods II	
Total Hours		**12**

[1] Or graduate statistics course from the discipline specific course list below.

[2] Required courses cannot satisfy this requirement. At least two additional courses; thesis or topic courses must involve large datasets.