Curriculum

General Education Core (6 hours):
- GEOG 100 or GEOL 102 or GEOL 111: Earth Science
- GEOG 110: World Regional Geography

GIS Foundation Courses (17 hours)
- CS 170: Introduction to Programming
- GEOG 300: Geographic Research Methods
- GEOG 316: Fundamentals of GIS
- GEOG 317: GIS
- GEOG 391: Data Analysis & Interpretation

GIS Specialty Courses (19 hours)
- GEOG 414: Fundamentals of Remote Sensing
- GEOG 417: GIS Modeling & Analysis
- GEOG 418: Internet GIS
- GEOG 419: GIS Programming
- GEOG 443: GIS Databases
- GEOG 477: Special Topics In GIS
- or GEOG 423: Urban GIS Applications

Other Required Courses (10 hours)
- GEOG 475: Independent Research in GIS
- or GEOG 495: GIS Internship
- GEOG 492: Advanced Spatial Analysis
- GEOG 499: Professional Development

Required Support Courses (15 - 16 hours)
- CE 160/161: Surveying I & Lab
- CS 180: Computer Science I
- MATH 118: College Algebra and Trigonometry
- MATH 183: Introduction to Statistics

B.Sc. in GIScience
The B.Sc. in GIScience is a professional 52-hour major designed for students seeking careers in the fast-growing industry. Students in this program will take more extensive coursework in GIS, math, and computer science. Successful completion of this degree program will allow students to meet education requirements in becoming a certified GIS professional (GISP).

Short Description
The GIS program focuses on (1) collection, input, and correction of geospatial data; (2) storage and retrieval of geospatial data; (3) manipulation and analysis of geospatial data; and (4) creating graphs, charts and maps from such data. The major in Geographic Information Science requires a minimum of 52 semester hours of GIS-related courses. The following sequence is recommended:

- Freshman: GEOG 100 (or GEOL 102 or GEOL 111), GEOG 110 and MATH 118 (MATH 116 & 117 can substitute for 118).
- Sophomore: GEOG 300, 316 and 317, CS 170, CE 160/161 and MATH 183.
- Senior: GEOG 443, 477 or 423, 475 or 495, 492, and 499.

GIS Faculty
Kevin Cary, M.Sc., GISP
Jun Yan, Ph.D.
Katie Algeo, Ph.D.
John All, Ph.D., JD
Scott Dobler, M.Sc.
Stuart Foster, Ph.D.
Pat Kambesis, M.Sc.
Debbie Kreitzer, M.Sc.
Amy Nemon, M.Sc.

For more information contact:
Jun Yan or Kevin Cary
Department of Geography & Geology
1906 College Heights Blvd 31066
Western Kentucky University
Bowling Green, KY 42101-1066
(270) 745-8952 or (270) 745-2981
Visit our website: http://www.wku.edu/gis/
For more information contact:

Jun Yan or Kevin Cary
Department of Geography & Geology
1906 College Heights Blvd 31066
Western Kentucky University
Phone: 270-745-4555
Fax: 270-745-6410
E-mail: jun.yan@wku.edu or kevin.cary@wku.edu
Degree Programs in GIS
Bachelor of Science in GIScience
Bachelor of Science in Geography
(GIS & Spatial analysis Concentration)
Master of Science in Geoscience
(GIS & Spatial analysis Concentration)

These programs focus on the skills required in a variety of technical fields. Students have the flexibility to take a suite of courses that prepares them for employment in both public and private sectors. Students who complete either B.Sc. degree can pursue the Certificate in GISystems and students who complete the M.Sc. degree can pursue the Graduate Certificate in GIScience.

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Certificates in GIS
Certificate in GISystems (14 hours)
Graduate Certificate in GIScience (13 hours)

Both certificates provide students with the practical GIS skills necessary for success in a variety of careers. Students who complete a certificate will have a solid foundation that spans the collection, management, analysis, and display of geospatial data using GIS technology. These certificates are appropriate for students who plan to use GIS as a tool in their specific disciplines and wish to be certified. Students can pursue a degree other than Geography or GIScience.

Minor in GIS
The GIS minor is appropriate for students interested in careers utilizing GIS as an analytical tool in a variety of disciplines or for students pursuing GIS as a profession in a related discipline such as geology, computer science, or computer information systems. Students with this minor will automatically be awarded a GIS Certificate.

Undergraduate GIS Courses
Geog 316: Fundamentals of GIS
Geog 317: GIS
Geog 318: GIS For Engineers
Geog 414: Fundamentals of Remote Sensing
Geog 416: Advanced Remote Sensing
Geog 417: GIS Modeling & Analysis
Geog 418: Internet GIS
Geog 419: GIS Programming
Geog 423: Urban GIS Applications
Geog 443: GIS Databases
Geog 477: Special Topics In GIS
Geog 492: Advanced Spatial Analysis
Geog 495: GIS Internships

Graduate GIS Courses
Geog 416G: Advanced Remote Sensing
Geog 417G: GIS Modeling & Analysis
Geog 419G: GIS Programming
Geos 510: Independent Research in GIS
Geos 515: Remote Sensing Applications
Geos 517: Spatial Databases
Geos 520: GIS Data Modeling
Geos 523: Urban GIS Applications
Geos 543: Advanced Spatial Databases
Geos 577: Special Topics In GIS
Geos 590: Experimental GIS Design
Geog 595: Supervised GIS Practicum

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