What is GISc?
GISc (Geographic Information Science) is a fast growing computer technology field involving mapping and analysis of spatial data. GISc enables us to assess and manage existing conditions, and to predict future conditions, ranging from monitoring disease occurrences, to endangered species preservation, to managing water supplies, to tracking real estate values, to crime solving.

The Importance of GISc in Today’s World
GISc is projected by the US Department of Labor to be one of the fastest-growing fields, and it is difficult to imagine a field that has not already been impacted by GISc. An understanding of GISc is vital for anyone using information that is geographically-based. This includes epidemiologists, ecologists, natural resource managers, law enforcers, environmental analysts, anthropologists, archaeologists, political scientists, sociologists, urban planners, hazard risk assessors, public administrators, geologists, economists, marketing professionals, and transportation planners.

GISc is used today in fields as diverse as criminal justice, marketing, economic development, public health administration, environmental management, urban planning, real estate, government, and education. GISc is an expanding field with excellent career opportunities, and GISc professionals are in high demand in many fields. People with GISc skills can also be more valuable as managers and analysts in their own fields. GISc has become instrumental in the decision-making process.

The MS-GISc Program at Lehman College
The Master’s of Science degree in Geographic Information Science (MS-GISc) at Lehman College is the first program of its kind within the CUNY system. The MS-GISc is a 40-credit program with two tracks: the Professional Experience and Applied Research (PEAR) option, which seeks to prepare students for careers in GISc and the spatial sciences, and the Traditional Master’s Degree option, which is appropriate for students intending to continue on to doctoral studies or assume positions in research institutes.

Students may concentrate in one of three areas: Environmental and Health Spatial Sciences; GISc Technology; or Urban Sustainability. All concentrations have a strong commitment to community and civic service, emphasizing full engagement with solving real-world problems, while promoting ethical uses of GISc technologies. Our objective is to create a learning environment that is socially conscious, environmentally aware, and focused on equity, while also developing and using the best, most innovative technical and methodological approaches.

The curriculum of the MS-GISc program is comprised of three key elements: 4 core courses (14 credits), 5-6 electives (18 credits), and an 8-credit capstone research experience, with options for either a traditional Master’s Thesis, or a combination of an applied research project and professional experience through an internship (PEAR option). A total of 40 credits is required to complete the degree.

Lehman College has developed an Internship Program in GISc, allowing qualified students to earn credits while working in GISc positions. In preparation for careers in governmental agencies, the private sector consulting firms, not-for-profit organizations, and research institutes, students have ample opportunities for field work experiences. Both through structured coursework and organized trips, locally, regionally, and internationally.

Required Core Courses (14 credits):
- Credits/Hours:
  - GEP 505 Principles of GISc 3/4
  - GEP 621 Remote Sensing 4/6
  - GEP 630 Geostatistics and Spatial Analytical Concepts 3/4
  - GEP 605 Special Topics in GISc (Environmental Modeling) 4/6

Electives (18 credits) to be selected amongst the following:
- Credits/Hours:
  - GEP 602 Biogeography and GISc 4/5
  - GEP 606 Raster Analysis 3/4
  - GEP 610 Spatial Analysis of Urban Health 3/4
  - GEP 620 Demography & Population Geography with GISc 3/4
  - GEP 631 Advanced Remote Sensing 4/6
  - GEP 632 Environmental Health and GISc 3/4
  - GEP 635 Natural Hazards and Risk Analysis 4/5
  - GEP 640 Urban Geography and GISc 3/4
  - GEP 641 Advanced Image Processing 4/6
  - GEP 645 Water Resources Hydrology and GIS 4/5
  - GEP 650 Regional Geography & Applied Mapping 4/5
  - GEP 660 Geovisualization and Analytical Cartography 4/6
  - GEP 662 Introduction to Programming for GISc 3/4
  - GEP 664 Spatial Database Management 3/4
  - GEP 675 Data Integration and Data Acquisition Methods 3/4
  - GEP 680 Emerging Issues and Methods in GISc 3/4
  - GEP 689 Methods Seminar in GISc 3/4
  - GEP 691 Independent Study in GISc 2, 3, or 4 credits

Of the 18 elective credits required for the degree, up to 9 credits of courses may be taken in a cognate discipline, such as Public Health, Urban Planning, or Environmental Engineering, with permission of the program advisor, and depending upon the student’s career goals.

Capstone Experience Coursework (8 credits):
- An 8-credit capstone experience, either the Thesis Option or the Professional Experience and Applied Research (PEAR) Option.

Traditional Master’s Thesis Option:
- GEP 695 Thesis Research in GISc 8 credits

PEAR Option:
- GEP 690 Workshop in GISc Research 4/4
- GEP 670 Internship in GISc/Professional Experience 4/4
The Department of Earth, Environmental, and Geospatial Sciences

Masters of Science in GISc

The Department of Earth, Environmental, and Geospatial Sciences

Lehman is an independent liberal arts college of The City University of New York offering nearly 100 undergraduate and graduate degree programs. Located on a historic tree-lined campus in the northwest Bronx, the College is a cultural and recreational center for the region, with its Center for the Performing Arts, Lehman College art Gallery, and The APEX, a major center for sports and health education. Lehman’s campus is easily accessible by public transportation and major roads from Manhattan and other boroughs as well as Westchester and Rockland Counties.

The City University of New York, Lehman College

Department of Earth, Environmental, and Geospatial Sciences

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