

GIS Certificate Program¹

University of Cincinnati

A Joint Program of the Joint Center for GIS and Spatial Analysis (GISSA)

I. Contact information

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II. Introduction

Geographic information science is a rapidly developing field, which has been widely accepted by many other disciplines. Geographic information systems (GIS) also have become the backbone of information systems of many government agencies and private companies. The GIS industry has been growing at a double-digit rate for many years. This certificate program offers training in this exciting discipline and technology. It is designed to meet the needs of both novice and experienced GIS professionals and combines the theory and technology of GIS in its curriculum. Students who graduate from this program will have a solid understanding of the theoretical basis of GIS and rich hands-on experience with GIS software packages.

The GIS Certificate Program is supported by the Joint Center of Geographic Information Systems and Spatial Analysis (GISSA), which consists of the Department of Geography, the School of Planning, and other participating units of the University of Cincinnati.

The GIS Certificate Program is open to both matriculated and non-matriculated students at the University of Cincinnati. Students can start the program in any of the four quarters: summer, fall, winter and spring. The certificate can be granted retroactively; the deadline for application is two years after completion of all required courses. However, students are strongly encouraged to contact an advisor and apply early in the process.

III. List of faculty that will teach in the program

Faculty of the GIS Certificate Program includes professors who teach one or more of the courses required by the program. The current faculty members are:

Richard Beck	Geography	556-3422	richard.beck@uc.edu
Robert Frohn	Geography	556-2849	robert.frohn@uc.edu
Kenneth Hinkel	Geography	556-3430	kenneth.hinkel@uc.edu
Lin Liu	Geography	556-3429	lin.liu@uc.edu
David Shuey	Adjunct		
Andrew Swift	Adjunct		
Xinhao Wang	Planning	556-0479	xinhao.wang@uc.edu

Many of the faculty members have over 15 years of experience in GIS. Some are ESRI authorized instructors, who have access to ESRI's training materials and are authorized to issuing ESRI GIS certificates to students.

¹ Approved in 2005. Updated on February 4, 2008.

IV. Staff and structure

No new hire and no new courses are needed for this certificate program. The certificate will be awarded by either the Department of Geography or the School of Planning through GISSA upon application and satisfactory completion of the required courses.

Dr. Lin Liu and Xinhao Wang will be the major advisors of students in the GIS certificate program.

V. Facilities

Classes are offered through state-of-the-art GIS facilities housed at the McMicken College of Arts and Sciences and the College of Design, Architecture, Art and Planning (DAAP), including two GIS Labs in Geography and two Computer Labs in DAAP. Over 70 computers are installed with advanced GIS, cartography and remote sensing software packages, including ArcGIS, ArcView and other ESRI GIS products, MapViewer, Imagine and Envi, are available for students in this program. The program has access to unlimited licenses of all ESRI developed GIS software products.

No new facilities are required because the required courses for the GIS certificate program are currently offered in the Department of Geography or the School of Planning.

VI. Curriculum/courses

The GIS certificate program is designed to provide students with systematic education on the theories, methodologies and applications of GIS, rich hands-on training experience with leading GIS software packages, and enhanced problem-solving capabilities. There levels of courses are designed to help students achieve these goals. Courses at the introductory level focus on the basic theories and methodologies. Intermediate level courses focus on how to apply existing technologies to solve problems. Advanced level courses aim to develop new techniques to solve real world problems.

To obtain a GIS certificate, a student must complete five required courses from the following list: two at the introductory level, two at the intermediate level and one at the advanced level, with a minimum grade of C in each course. The certificate will be awarded upon application and satisfactory completion of the required courses.

Introductory Level (I)

Two introductory courses are required:

1. One out of the following courses:
 - Geography 574: Introduction to Computer Cartography
 - Geography 576: Introduction to Remote Sensing
2. One out of the following courses:
 - Geography 580: Introduction to GIS
 - Planning 580/780: Introduction to GIS

Intermediate Level (II)

Two intermediate level courses are required out of the following courses:

Geography 581: GIS Modeling and Environmental Applications
 Geography 582: GIS Urban-Economic Applications
 Planning 581/781: GIS Planning Applications

Prerequisite of these courses: Introduction to GIS.

Advanced Level (III)

One advanced course is required out of the following courses:

Geography 693: Advanced GIS
 Planning 582/782: GIS Project Management and Formulation

Prerequisite of these courses: any of the intermediate level courses.

Lower level courses may be replaced by upper level courses upon approval of the advisor. All of the above courses are currently offered in the Department of Geography or the School of Planning. Course descriptions are available at <http://www.geography.uc.edu> and <http://ucplanning.uc.edu/>.

The following table lists a typical schedule of the required courses during an academic year. Introduction to GIS is usually offered every quarter, including the summer quarter. However, the rest of the required courses are typically offered once a year.

Quarter	Courses
Summer Quarter	Level I.2: Geography 580, Planning 580/780
Fall Quarter	Level I.1: Geography 576 Level I.2: Geography 580, Planning 580/780
Winter Quarter	Level I.1: Geography 574 Level I.2: Geography 580, Planning 580/780 Level II: Geography 581, 582 Level II: Planning 581/781
Spring Quarter	Level I.2: Geography 580 Level III: Geography 693 Level III: Planning 582/782

A student who wishes to obtain the GIS certificate in one academic year should take Level I courses in fall quarter, Level II courses in winter quarter, and Level III courses in spring quarter.

VII. Budget

No new budget is needed for this GIS certificate program.

The cost of courses in this program is in accordance with the university's general tuition rate. Please visit <http://www.uc.edu> for the current tuition rate.

VIII. Other Information

N/A