

GEOGRAPHIC INFORMATION SYSTEMS, CERTIFICATE IN (POST-BACCALAUREATE GRADUATE CERTIFICATE)

Program goal

The graduate Certificate in Geographic Information Systems emphasizes the core functions and applications of GIS. It provides specialized training in the operations and techniques related to the creation, analysis, modeling, visualization, interpretation and management of geographic information.

The certificate program is designed to meet the educational needs of both traditional and nontraditional students. The GIS program prepares traditional students to utilize GIS in their major areas of study. Nontraditional students can also take advantage of the certificate program to learn and/or upgrade GIS knowledge and skills that are applicable and important to their professions.

Student learning outcomes

1. Understand the fundamental principles and concepts upon which GIS technology is based
2. Understand typical sources of GIS data, including federal, state and local governments, as well as nonprofit and private sources
3. Utilize various data structures for storing geographic information in GIS database creation and management
4. Apply appropriate GIS techniques in spatial analyses and problem-solving
5. Design maps and other GIS outputs that communicate effectively

VCU Graduate Bulletin, VCU Graduate School and general academic policies and regulations for all graduate students in all graduate programs

The VCU Graduate Bulletin website documents the official admission and academic rules and regulations that govern graduate education for all graduate programs at the university. These policies are established by the graduate faculty of the university through their elected representatives to the University Graduate Council.

It is the responsibility of all graduate students, both on- and off-campus, to be familiar with the VCU Graduate Bulletin as well as the Graduate School website (<http://www.graduate.vcu.edu/>) and academic regulations in individual school and department publications and on program websites. However, in all cases, the official policies and procedures of the University Graduate Council, as published on the VCU Graduate Bulletin and Graduate School websites, take precedence over individual program policies and guidelines.

Visit the **academic regulations** section for additional information on academic regulations for graduate students. (<https://bulletin.vcu.edu/academic-regs/>)

Graduation requirements

As graduate students approach the end of their academic programs and the final semester of matriculation, they must make formal application to graduate. No degrees will be conferred until the application to graduate has been finalized.

Graduate students and program directors should refer to the following graduation requirements as published in the Graduate Bulletin for a complete list of instructions and a graduation checklist.

Visit the **academic regulations** section for additional information on graduation requirements. (<https://bulletin.vcu.edu/academic-regs/grad/graduation-info/>)

Apply online today. (<https://www.vcu.edu/admissions/apply/graduate/>)

Admission requirements

Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall	Feb 1 (early admission); Apr 1 (priority deadline); May 1 (final deadline)	
	Spring	Oct 1	

Special requirements

- Only applicants with prior GIS training, course work or work experience are considered for spring admissions. Other applicants should apply for fall admission due to course sequencing and prerequisites.
- These deadlines are designed to allow sufficient time for application review and admission processing. Applications may be submitted after the deadline; however, there is no guarantee of sufficient time for processing. Any application submitted too late for current semester processing will be considered for the following semester.

In addition to the general admission requirements of the VCU Graduate School (<https://bulletin.vcu.edu/graduate/study/admission-graduate-study/admission-requirements/>), the prerequisites and general criteria of eligibility for admission to the GIS certificate program include:

1. Completion of an official application form
2. Three letters of reference
3. Letter of intent describing interest in applying for the Certificate in Geographic Information Systems
4. An official transcript showing successful completion of baccalaureate degree or its equivalent from an accredited college or university with a minimum grade point average of 2.7 (out of 4.0) in the last 60 hours of undergraduate study

At any time, students in the GIS certificate program may apply for admission into the Master of Urban and Regional Planning, the Master of Public Administration or the Master of Science in Criminal Justice degree programs. If accepted into a master's program, students may then transfer credits earned in the GIS certificate program toward partial fulfillment of the master's degree.

Degree requirements

The Certificate in Geographic Information Systems can be completed in one academic year. In addition to general VCU Graduate School graduation requirements (<https://bulletin.vcu.edu/academic-regs/grad/graduation-info/>), students must complete 12 graduate credit hours of GIS course work that includes two required and two elective courses with a minimum grade-point average of 3.0 (out of 4.0).

Curriculum requirements

Course	Title	Hours
Required courses		
URSP 621	Introduction to Geographic Information Systems (offered in fall semester)	3
or URSP 521	Introduction to Geographic Information Systems	
URSP 625	Spatial Database Management and GIS Modeling (offered in spring semester)	3
Electives		
Select two of the following: ¹		6
URSP 523	GIS for Land Use and Transportation Planning	
URSP 591	Special Topics in Urban and Regional Studies and Planning ²	
URSP 622	Community Socioeconomic Analysis Using GIS	
URSP 627	GIS Applications in Urban Design	
URSP 629	Quantitative Geospatial Data Analysis	
URSP 691	Topics in Urban and Regional Planning ²	
Total Hours		12

The minimum number of graduate credit hours required for this certificate is 12.

¹

Other GIS-related courses may be approved by the program chair or certificate program coordinator.

²

URSP 591 or URSP 691 may be selected when the topic is related to GIS.

All credits earned in the certificate program are transferable to the Master of Science in Criminal Justice, the Master of Public Administration or the Master of Urban and Regional Planning programs. However, students must apply to the certificate and master's degree programs separately.

Sample plan of study

The following schedule is suggested as a means of completing the certificate program:

Fall semester	Hours
URSP 621 Introduction to Geographic Information Systems	3
One GIS-related elective (see list above) or other approved course	3
Term Hours:	6
Spring semester	

URSP 625	Spatial Database Management and GIS Modeling	3
One GIS-related elective (see list above) or other approved course		3
Term Hours:		6
Total Hours:		12

The minimum number of graduate credit hours required for this certificate is 12.

Other GIS-related courses may be approved by the program chair or certificate program coordinator.

Students who complete the requirements for this program will receive a Certificate in Geographic Information Systems.

Contact

Xueming (Jimmy) Chen, Ph.D.
Professor and program chair
xchen2@vcu.edu
(804) 828-1254

Additional contacts

Benjamin Teresa, Ph.D.
Assistant professor and assistant program chair
bfteresa@vcu.edu
(804) 828-8297

Wilder School recruitment
wsrecruit@vcu.edu
(804) 827-0364

Program website: wilder.vcu.edu/academic/urban/grad.html (<http://wilder.vcu.edu/academic/urban/grad.html>)