

# **Professional Science Master's (PSM) Program in Geographic Information Science (GIS) Student Handbook for Academic Year 2016-2017**

Welcome to the Professional Science Master's Program in Geography (Geographic Information Science Concentration) at the University of Illinois, Urbana-Champaign! UIUC is an international center for GIScience research and education. It houses the CyberGIS Center for Advanced Digital and Spatial Studies that leads efforts to bridge advanced computing infrastructure with GIScience knowledge domains; the National Center for Supercomputing Applications, a foremost center for high-performance computing; and internationally-renowned faculty in fields ranging from space-time GIS to health and environmental GIS applications.

In this program, you will draw upon the University of Illinois's renowned strengths in GIS, informatics, computer science, and business administration to build a flexible, interdisciplinary expertise in GIS theory and applications. You will also acquire business knowledge and professional skills from PSM and Business Administration courses and the summer internship.

The GIS-PSM's science core is complemented by a business curriculum that includes courses related to technology management, marketing, and entrepreneurship. A cross-disciplinary seminar series offers opportunities for personal interaction with industry and government leaders. By combining business and science domains, the GIS-PSM prepares students for careers that involve not only using GIS methods and technologies, but also innovating them to improve business activities for private, non-profit and public organizations. Many common business functions rely on geographic information science and geospatial technologies, including:

- business intelligence operations
- environmental risk assessment
- logistics
- marketing analysis
- natural resource development
- site location analysis

## **Program Requirements**

Students in the GIS-PSM are typically expected to complete their degree requirements, including the summer internship, in 1 ½ years. Students earn a Master of Science degree in Geography, with a concentration in Professional Science Master's in Geographic Information Science. Full-time enrollment (12 credit hours or higher) is required in Fall and Spring semesters. Summer enrollment is required for the internship.

**Course Requirements:** The GIS-PSM degree requires successful completion of at least 42 hours of course work, 12 of which must be in 500 level courses, and at least eight of those 12 must be in Geography & GIScience (GEOG) courses. An overlapping requirement is that a total of 16 GEOG credit hours at the 400/500 level must come from the GIS core.

**Exam Requirement:** In your final semester as a GIS-PSM student, you must complete an oral evaluation administered by the GIS-PSM director and/or members of the GIS-PSM committee. The content of the evaluation will be determined by GIS-PSM faculty and will typically emphasize experience and knowledge gained from the internship experience.

## Core courses in GIS

- GEOG 412 – Geospatial Technology and Society
- GEOG 439 – Health Applications of GIS
- GEOG 440 – Business Applications of GIS
- GEOG 460 – Aerial Photo Analysis
- GEOG 468 – Biological Modeling
- GEOG 473 – Digital Cartography and Map Design
- GEOG 476 – Applied GIS to Environmental Studies
- GEOG 477 – Introduction to Remote Sensing
- GEOG 478 – Techniques of Remote Sensing
- GEOG 479 – Advanced Topics in GIS
- GEOG 480 – Principles of Geographic Information Systems
- GEOG 481 – Modeling Earth and Environmental Systems
- GEOG 489 – Programming for GIS
- GEOG 556 – Regional Science Methods
- GEOG 557 – Seminar in Regional Science
- GEOG 570 – Advanced Spatial Analysis
- GEOG 595 – Advances in GIS and Big Data

## Core courses in Business Administration

\* = *required*

- \*ACE 592 – Special Topics: Law and Regulation section (Fall 2)
- BADM 509 – Managing Organizations (Fall)
- BADM 520 – Marketing Management (Fall)
- BADM 566 – Supply Chain Management (Fall)
- BADM 567 – Process Management (Fall)
- \*BADM 589 – Project Management (Spring)
- \*BADM 595 – Business Fundamentals (Fall)
- \*FIN 500 – Introduction to Finance (Spring)
- TE 560 – Managing Advanced Technology (available Fall 2017)
- TE 567 – Venture Funded Startup

*Please note: Business courses are subject to change based on availability and advisory board recommendations.*

In general, all business classes are 2 credit hours, with the exception of the TE classes listed above, which are both 1 credit, which is why they are usually taken together. PSM Seminars and Internship may be taken for one credit-hour, but may not be applied to the business or science credit hours required for the degree. Students with no previous experience in GIS are required to take a graduate-level GIS course.

## Sample Plan of Study

After consulting with the Director of the PSM program, you will create a course of study based on your interests and career goals. Here is a sample plan of study:

### **Year 1: Fall**

#### *Science Curriculum*

GEOG 473 Digital Cartography and Map Design  
GEOG 480 Principles of GIS  
GEOG 595 GIS Professional Seminar

#### *Business Curriculum*

PSM 501 Industry Seminar I  
Two 2-credit hour courses in

- Business Fundamentals
- Management and Marketing

### **Year 1: Spring**

#### *Science Curriculum*

GEOG 439 Health Applications of GIS  
GEOG 440 Business Applications of GIS  
GEOG 479 Advanced GIS

#### *Business Curriculum*

PSM 502 Industry Seminar II  
Two 2-credit hour courses in

- Project Management
- Finance

### **Summer Internship**

### **Year 2: Fall**

#### *Science Curriculum*

GEOG 478 Techniques of Remote Sensing  
GEOG 489 Programming for GIS  
GEOG 570 Advanced Spatial Analysis

#### *Business Curriculum*

PSM 503 Industry Seminar III  
One 2-credit hour course in Science and Regulatory Policy

**Evaluation by the GIS-PSM Director and/or Members of the GIS-PSM Committee**

**December Graduation**

## Annual Evaluation

The Graduate College requires an annual evaluation of all currently enrolled graduate students. You and the GIS PSM advisor will each complete a brief evaluation form, which will help you progress toward graduation and your career goals.

## Academic Integrity

The University of Illinois and the Graduate College each have very specific guidelines that must be followed to ensure you maintain academic integrity and professional conduct as a student here, which can be viewed here:

- University of Illinois Student Code on Academic Integrity:  
[http://studentcode.illinois.edu/article1\\_part4\\_1-401.html](http://studentcode.illinois.edu/article1_part4_1-401.html)
- Graduate College Handbook – Academic Integrity and Intellectual Property:  
<http://www.grad.illinois.edu/gradhandbook/1/chapter3>

## Computer Policy

The Department of Geography and GIS does not provide personal computers; however, you will have access to shared desktop computers and a printer, located in the GIS PSM student office. You may keep a personally-owned computer in your office, but in general, these personal computers will not be maintained or supported by the department, school, or college. If you use a personal computer, it must have up-to-date antivirus software and be compatible with existing university-wide computer networks. Computers with improperly licensed software are not permitted or supported. The Department is not responsible for lost or stolen personal computers, or other belongings from departmental classrooms or offices.

An ATLAS (Applied Technologies for Learning in the Arts and Sciences) staff member can help with your departmental computing needs. Problems or questions can be submitted online at: <http://www.atlas.illinois.edu/support/desktop>

## Deadlines

**You are responsible for your own registration, and for ensuring the accuracy of your schedule.** You can always check your registration online, and print your schedule as needed. If you find any errors, please correct them immediately. Corrections should be completed before the course add/drop deadline, as posted on the Graduate College website: [illinois.edu/calendar/list/3284](http://illinois.edu/calendar/list/3284)

Each week, the Graduate College will send **GradLinks**, an email that contains announcements about deadlines, workshops, and other information for graduate students. These email announcements, and all departmental emails are sent to your University of Illinois email address (@illinois.edu).

## E-mail Policy

Following Graduate College policy, you must use your assigned @illinois.edu email address for all University-related communication, and Geography & GIScience faculty and staff will only send e-mails to that address.

## Financial Aid

Illinois PSM students may not hold assistantships or other tuition and fee waiver-generating appointments. Only statutory waivers are allowed. Tuition scholarships are accepted.

**It is expected that all graduate students will read and follow all guidelines set by the Department of Geography and Geographic Information Science, the Graduate College, and the University of Illinois at Urbana-Champaign.**

## Helpful Links to University of Illinois and Graduate College Information

Geography and Geographic Information Science	<a href="http://geog.illinois.edu/">http://geog.illinois.edu/</a>
University of Illinois Campus Map	<a href="http://illinois.edu/map/view">http://illinois.edu/map/view</a>
Courses, Schedules, and Requirements	<a href="http://catalog.illinois.edu/">http://catalog.illinois.edu/</a>
Check your schedule and financial responsibly	<a href="https://my.illinois.edu/uPortal/render.userLayoutRootNode.uP">https://my.illinois.edu/uPortal/render.userLayoutRootNode.uP</a>
Financial Assistance	<a href="http://www.grad.illinois.edu/prospective/financial">http://www.grad.illinois.edu/prospective/financial</a>
Graduate Student Forms	<a href="http://www.grad.illinois.edu/forms/">http://www.grad.illinois.edu/forms/</a>
Graduate College Handbook/academic conflict	<a href="http://www.grad.illinois.edu/gradhandbook/2/chapter9/academic-conflict">http://www.grad.illinois.edu/gradhandbook/2/chapter9/academic-conflict</a>
Graduate College	<a href="http://www.grad.illinois.edu/">http://www.grad.illinois.edu/</a>
Graduate College Academic Calendar	<a href="http://www.grad.illinois.edu/general/calendar/current">http://www.grad.illinois.edu/general/calendar/current</a>
Graduate College Handbook	<a href="http://www.grad.illinois.edu/gradhandbook">http://www.grad.illinois.edu/gradhandbook</a>
University Housing	<a href="http://www.housing.illinois.edu">http://www.housing.illinois.edu</a>
International Student and Scholar Services (ISSS)	<a href="http://iss.illinois.edu/">http://iss.illinois.edu/</a>
Registration Checklist	<a href="https://my.illinois.edu/uPortal/render.userLayoutRootNode.uP">https://my.illinois.edu/uPortal/render.userLayoutRootNode.uP</a>
Student Health Insurance	<a href="https://www.uhcsr.com/illinois">https://www.uhcsr.com/illinois</a>
Student Code	<a href="http://admin.illinois.edu/policy/code/index.html">http://admin.illinois.edu/policy/code/index.html</a>
Tuition and Fee Rates	<a href="http://www.registrar.illinois.edu/financial/tuition.html">http://www.registrar.illinois.edu/financial/tuition.html</a>
University Student Financial Services & Cashier Operations	<a href="http://www.usfsco.uillinois.edu">http://www.usfsco.uillinois.edu</a>