Master of Geospatial Information Science & Technology

Student Handbook

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WELCOME TO THE WOLFPACK!

We are so glad you have decided to make NC State University and the Center for Geospatial Analytics your home for the next step of your educational journey.

Our program prides itself on creating an atmosphere of innovation when it comes to online learning, and our curriculum has been designed to keep you on the cutting-edge of the GIS profession.

As Associate Director of Professional Education and Director of the MGIST Program, I am dedicated to providing you with the educational support that you need to be successful. Never hesitate to contact me with questions, concerns, or if you just need to chat. My door is always open.

As we like to say, "location matters", and you have chosen one of the best locations to advance your education and career.

Sincerely,

Dr. Eric Money
esmoney@ncsu.edu

About Us

The Master of Geospatial Information Science & Technology (MGIST) is housed within the Center for Geospatial Analytics (CGA), and is a part of the College of Natural Resources. However, CGA, much like our program, is very interdisciplinary and is considered a university-wide center for research and education in the geospatial sciences.

Through a combination of geospatial theory, hands-on applications, and client-based instruction, students graduate from the program with a solid foundation to provide a wide range of geospatial expertise for local, state, national, and international organizations.

Students in the MGIST program also receive the Professional Science Master's (PSM) designation on their transcript upon graduation. The PSM program is a nationally recognized program focusing on preparing professionals with both the technical and professional skills necessary to succeed in the workplace.

Dr. Eric Money
Associate Director of Professional Education
Director of Graduate Programs (MGIST)
Center for Geospatial Analytics

Rachel Kasten,
Graduate Student Services
Center for Geospatial Analytics

Dr. Ross Meentemeyer
Director, Center for Geospatial Analytics

Student Services

Your instructors, administrators, and staff in the Center for Geospatial Analytics and College of Natural Resources are here to make sure that you are supported throughout your time in the program. If at any time you have questions, concerns, or just need to chat, we are here to help. You'll find contact information and helpful links in the panel to the right. Some specific services are highlighted below.
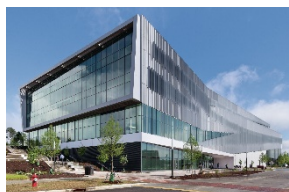
Library Resources: NC State maintains a large network of libraries across campus, with D.H. Hill on Central Campus and the James B. Hunt library on Centennial campus, being the primary student libraries. Both libraries contain dedicated space for graduate students, a wide variety of study rooms and spaces, and access to millions of articles and books.

Online students can also take advantage of special services for checking out books and obtaining articles for projects, research, or pleasure. NC State also has several dedicated GIS data librarians to help with your GIS data needs. Access to free trainings through Esri Academy and LinkedIn Learning are also available.

Distance Education Resources: DELTA, or the Digital Education Learning Technologies Applications office is your go to place for all things distance education. DELTA provides faculty and students with support for designing and using numerous technologies inside and outside the classroom to ensure a robust online experience. Some of these technologies you will encounter include:

Moodle: The learning management system, where most of your course websites will be housed.

Wolfware: The primary site where you find the list of all of your current courses and can access the corresponding Moodle sites.

Zoom: Web-based platform for video conferencing. We often use Zoom for synchronous learning

Panopto: A video production package used by faculty to create pre-recorded and live recordings of classroom lectures.

Additional Campus Resources: There are numerous resources across the university to help you throughout your time here. Student organizations, such as the Geospatial Graduate Student Organization, help you find peer networks for educational and social development; Other offices, such as the GLBT Center and Military and Veterans Center also provide numerous resources to help you navigate the university. Many of our faculty and staff have received advocate training and are dedicated to provide safe spaces for any individual that may be experiencing stress or just has the need to talk.

Everyone in the Center for Geospatial Analytics is committed to providing a welcoming and inclusive environment for all students.

You may also elect to get a Wolfpack OneCard. If you are going to be an on-campus student, you should get a OneCard. If you are an online student, you are also welcome to get a OneCard, particularly if you are close to campus. The OneCard can get you access to buildings after hours and certain library spaces, and makes check out in the library very easy (though not required to check out materials).

Advising: Your academic advisor is assigned at the beginning of your first semester in the program, usually at orientation. You can find your advisor's name listed in your Student Center in MyPack Portal. Our advisors are here to provide guidance on course selection, your plan of work, and any other academic questions that may arise. Meeting with your advisor is not required unless you are on academic warning or probation, but advisors will generally check in at least once per semester during the registration period, and will remove advising holds on registration, but they are available at any time you need assistance. Your current advisors are:
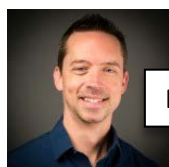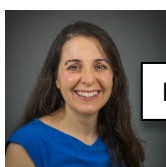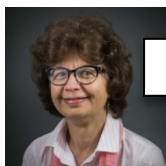
Dr. Eric Money

Dr. Laura Tateosian

Dr. Stacy Supak

Dr. Perver Baran

Dr. Stacy Nelson

Dr. Vaishnavi Thakar

The MGIST Curriculum

The Master of Geospatial Information Science and Technology curriculum consists of at least 33 credit hours, 21 of which are required core courses taught by our Lead MGIST Faculty. The additional 12 credit hours are electives and allow the student to focus on related areas of interest to supplement your GIS instruction and professional skills development. As part of the program you will complete a Capstone project and develop a Professional Portfolio.

Students are required to take at least one course per semester (Fall and Spring) for the duration of the program (unless financial aid or other considerations require half-time (5 hours) or full-time (9 hours) status). Students must have a cumulative GPA of 3.0 or greater in order to graduate. It typically takes a minimum of 4 semesters (2 academic years) to complete the appropriate sequence of courses. Students have a maximum of 6 years to complete the program.

Core Requirements (21 credit hours): All students are required to complete the following 21 credit hours. Complete course descriptions can be found in the course catalog at the link in the right panel. The following pre-requisites are in place: GIS 510 before GIS 540; GIS 540 before GIS 550; GIS 550 before GIS 590. GIS 510 also serves as a pre-req for many of our other GIS courses.

Course Name and Number	Credit Hours
GIS 501: Geospatial Professionalism	2 (8-week)
GIS 510: Fundamentals of GIST	3
GIS 530: Spatial Data Foundations	3
GIS 540: Geospatial Programming Fundamentals	3
GIS 550: Geospatial Data Structures and Web Services	3
GIS 582: Geospatial Modeling	3
GIS 590: Geospatial Master's Project	3
GIS 660: MGIST Professional Portfolio	1

Electives (12 credit hours): The following are just a sample of electives that have been approved for students. Students should consult the course catalog entry for the most up to date information on pre-reqs and availability of courses. Note that not all courses listed below are offered online. *Other courses not on this list may serve as electives after consultation with an advisor*. *At least 6 credits must be GIS prefix courses.*

Course Name and Number	Credit Hours
GIS Electives	
GIS 512: Intro to Environmental Remote Sensing	3
GIS 515: Cartographic Design	2
GIS/LAR 517: GIS in Landscape Design and Environmental Planning	3
GIS 520: Spatial Problem Solving	3
GIS 521: Hydrology with GIS	3
GIS 532: Spatial Data Science and Analysis	2 (8-week)
GIS 535: Web and Mobile GIS Protocols	3
GIS 609: Geospatial Forum	1
GIS/MEA 584: Mapping and Analysis with UAS	3
GIS 595/610: Special Topics Cover topics that are not part of our regular curriculum. These offerings change each semester and there may be multiple offerings in a given semester. Check the courses catalog for upcoming offerings	1-3
GIS 630: Independent Study Requires a faculty mentor and permission of the dept. Certain internships may also be used for course credit using this course	1-3
Environmental Electives	
MEA 511: Introduction to Meteorological Remote Sensing	3
SSC 540: GIS in Soil Science and Ag	3
SSC 545: Remote Sensing Applications in Soil Science and Ag	3
Engineering Electives	
CSC 540: Database Management Concepts and Systems	3
BAE 535: Precision Agriculture Technology	3
BAE 536: GIS Applications in Precision Ag	1
Statistics Electives	
ST 5xx: Statistics Courses Many 500 level statistics courses could be appropriate, including 501, 502, 507, 508, 511, 512, 555 and others.	3
ST 533: Applied Spatial Statistics	3
Professional Communication Electives*	
BUS 501: Strategic Management Foundations	3
BUS 554: Project Management	3
COM 521: Communication and Globalization	3
COM 527: Seminar in Organizational Conflict Management	3
COM 530: Interpersonal Communication in Science/Technology Organizations	3

*Graduate students are also eligible to earn a Certificate in Professional Communication and Managerial Skills (PCMS) by completing 4 courses. To apply for the PCMS Certificate, please visit the PCMS link for course requirements and application procedures. Typically a student wanting to complete the MGIST + PCMS will require at least 39 total credit hours.

Professional Portfolio: All students are also required to produce a professional digital portfolio. The digital portfolio will present personal MGIST program accomplishments to demonstrate individual competences through knowledge, skills, and abilities of a geospatial science professional. This requirement is met through taking the course GIS 660 in the last term of the program alongside the capstone course. The link to the right will take you to guidelines for archiving your course material throughout the program leading up to preparing your Portfolio.

Capstone Experience: An integral part of the Master of Geospatial Information Science and Technology program is participation in a Capstone project during the last semester of the program. Students work directly with community and industry partners to apply the knowledge and skills they have developed in the program to real-world problems. The program works closely with each student to identify an appropriate project based on our partner's needs and the interests of the individual students. Students present their final project to their peers and the greater geospatial community during our Digital Symposium. Visit our Capstone page for more information.

Example Degree Plans: The following are just examples, your plan may be different based on individual circumstances. Summer course availability changes often. These plans do not include summer terms, but students often take electives (such as COM, ST, BUS) over the summer.

Part-Time (< 5 credit hours)

SEMESTER 1	SEMESTER 2
GIS 510 GIS 609/GIS 501	GIS 530 GIS 501/GIS 609
SEMESTER 3	**SEMESTER 4**
GIS 582 Elective	GIS 540
SEMESTER 5	**SEMESTER 6**
Elective Elective	Elective
SEMESTER 7	**SEMESTER 8**
GIS 550 Elective	GIS 590 GIS 660

Half-Time (5 credit hours)

SEMESTER 1	SEMESTER 2
GIS 510 GIS 609 GIS 501	GIS 530 GIS 582
SEMESTER 3	**SEMESTER 4**
Elective (at least 2-credit) Elective (3-credit)	GIS 540 Elective (at least 2-credit)
SEMESTER 5	**SEMESTER 6**
Elective (at least 2-credit) GIS 550	GIS 590 GIS 660

Full-Time (9 credit hours)

Assuming all 3-credit electives. A 2 credit course should be accompanied by a 1-credit course.

SEMESTER 1	SEMESTER 2
GIS 510 GIS 609 GIS 501/Elective Elective	GIS 530 GIS 540 GIS 501/Elective
SEMESTER 3	**SEMESTER 4**
GIS 550 GIS 582 Elective	GIS 590 GIS 660 Elective

Graduate School and Program Policies

The policies below mirror those found in the Graduate School Handbook. If you have any questions about the policies listed below, please reach out to your advisor or Director of Graduate Programs.

Academic Integrity: Academic Integrity is taken very seriously at the University, College, and Program level. Each student will be required to sign an Academic Integrity Pledge during Orientation or their first semester of enrollment. The same polices apply to both Distance Track and On-Campus students. Advisors and students are referred to the policy linked to the right. In addition to these polices, the MGIST program does not allow, under any circumstances:

- Sharing of homework, exams, keys, or completed assignments among students in the program, this includes computer code, maps, and protocols
- Unauthorized group work on assignments
- Bullying, inappropriate language, demeaning language towards students, instructors, or staff in a classroom, message board, or any other physical or online setting will not be tolerated.

Any student interpreted as violating any one of the stated policies will be reported to the Office of Student Conduct for proper action.

Enrollment and Registration Policies	
Adding/Dropping Courses	MyPack Portal allows you to add/drop classes. It will not let you drop a class if that is the only class you are enrolled in as that is taken as "withdrawal" from university and you will be required to initiate a withdrawal process for that semester (see below).
Enrollment Advising	Registration typically opens in the 3rd week of October and 3rd week of March. Your advisor and the program will notify you approximately 3 weeks prior as a reminder and to discuss course selection and plan of work if needed.
Advising Holds	Each student will have an advising hold placed on their account at the beginning of each semester. This hold must be removed by your academic advisor before you can enroll for a particular semester. Student's should consult with their advisors prior to the enrollment period each semester on progress and intended courses. Other holds, such as cashier holds, must be resolved by the appropriate office.
Electives	Students have a choice of many electives to meet the 33 hour requirement in the program. Courses in other departments are controlled by those departments. If a course in another department is waitlisted, has a restriction, or a pre-requisite, the

	student should contact the instructor directly to inquire about course content and permission to enroll in the course. For courses with these types of restrictions, the respective department will manually enroll you in the course if they grant you permission to take it.
Interinstitutional Courses	Students should always consult an advisor before taking a course at another institution to make sure it meets the requirements of our program. Students are allowed to take courses at several local universities towards an elective. **Distance courses are not allowed** (see link to the right)
S/U Courses	S/U courses (or pass/fail) are 600-level courses. • MGIST students are only allowed up to 6 credit hours of S/U graded courses • Grades of U will not count towards degree requirement • S/U courses are not factored into the GPA • 500/700 Level course cannot be taken for S/U Credit Only
Minors/Certificates	• MGIST students are not allowed to complete a minor, but are eligible to enroll in other certificate programs on campus. • A maximum of 6 credit hours can be double counted between the MGIST and other certificate programs
Auditing	• **Courses outside the program** - students can generally audit a course from another department as long as the advisor and dept. agree. The student would need special permission to take the course again for credit after the audit. • Graduate students get one free audit (non-distance courses). Audited courses do not count towards the required credit hours in the program. • Be advised, you generally still have to pay for a course that is audited and you must participate in the course as outlined in the syllabus to receive a grade of 'Au' for the course. • If a student is only enrolled in one course and it is an audit, they must be enrolled in at least 1 additional credit hour to meet the continuous enrollment requirement. • **Courses within the GIS program** - students enrolled in one of our GIS programs cannot audit any core GIS course.
Plan of Work Requirement	• Draft plans of work should be completed with the consultation of your advisor during the first semester • After completing 12-15 hours in the program, plan of work should be submitted

	via MyPack Portal for approval by the advisor, DGP, and graduate school. • See guidelines at the link to the right

Transfer Credit Policies*	
Graduate Credits Earned at Other Universities	• Course was classified as a graduate course • Completed while student was classified as a graduate or post-baccalaureate • Course was not taken as part of a previous completed master's degree program at another institution • The grade was B or better • The college/university is properly accredited
Credits Earned While an Undergraduate at NC State	• Course must have been at the 400 level or higher • Grade of B or better • It was not counted towards the undergraduate requirements (must perform a (listed as 99-non-degree-course on audit) • Recommended by the DGP at the time of enrollment in the Graduate School
Credits Earned While Enrolled in Previous Graduate Program at NC State	• 500 level or higher • Grade of B or better
Credits Earned While in PBS (Non-degree) Status	• 500 level or higher • Grade of B or better
Course Waivers/Substitutions	• Core courses in the MGIST program cannot be waived or substituted. • Credit hour requirement cannot be waived. All 33 credit hours must be completed through a combination of coursework and any allowable transfer credit

*Note: A maximum of 12 credit hours from all transfer sources is allowed in the MGIST program, but typically we restrict this to 6-9 credit hours.

Academic Progress Policies	
Continuation Enrollment and Time to Degree	• Students must maintain continuous enrollment while in the program, which means registering for at least 1 credit hour each Fall/Spring term. Otherwise, a Leave of Absence is required • Students have 6 years to complete the MGIST requirements • **IMPORTANT: The 6 year clock starts with your earliest transfer credit**
Leave of Absence	• If you foresee needing to miss a semester, you can request a Leave of Absence • Students are allowed 2 semesters of Leave

	• Your 'time to degree' does not stop during a Leave of Absence • Leave should be requested BEFORE the start of the semester
Withdrawal	• Withdrawal means dropping all courses you are currently enrolled in for the semester, once the semester has started • If you withdraw before 'census day' in a term, you will also need a Leave of Absence • Withdrawals should be for exceptional (family, health, job, etc.) and documented hardship • Withdrawal can be initiated in MyPack Portal
Grade Requirements/Repeating Courses	• Any grade below C- cannot count towards degree requirements • **Repeating Courses**: Students are required to repeat any core course where the grade was below C-; If it is an elective course, that course can be repeated or a different elective chosen • Students should not register for any other courses in the semester they are re-taking a previous course (unless required by financial aid) • Students CANNOT take the next course in the requisite sequence until the pre-req is passed • If a student drops a course while re-taking it, or fails the course twice, the student MUST meet with the DGP before being allowed to register for next semester • **IMPORTANT: Both grades of a re-taken course remain a part of the cumulative GPA calculation.**
GPA Requirements	• Cumulative GPA of 3.0 or greater required for graduation • **Academic Warning**: Transcript notation when you have completed less than 18 credit hours and your GPA drops below 3.0 • **Academic Probation**: Transcript notation when you have completed more than 18 credit hours and GPA drops between 2.667-2.999 • **Academic Termination:** Termination from Graduate Program automatically if completed 30 credit hours or more and GPA is less than 3.0 OR if completed between 18-29 credit hours and GPA drops below 2.667
Graduation	• Students must 'apply to graduate' in the semester they plan to complete the degree

HELPFUL LINKS

Withdrawal Process

Applying to Graduate

NC State
Center for Geospatial Analytics

geospatial.ncsu.edu