SYLLABUS
Spatial Dimensions of the New Jersey State Development and Redevelopment Plan

Spring 2026
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Meeting Times/Places: MTh 10:20-11:40   Office Hours: M 2-3PM – Waller Hall 104

Learning Objectives

1) Identify components of a spatial problem;

2) Develop a proposal that identifies the analytical approaches, tools, data, etc. needed to address the spatial problem;

3) Be able to execute an acceptable solution;

4) Be able to evaluate the results and assess how to improve the outcome in the future.

Learning Objectives and Assessments

1) Students develop an assessment of a multilayered problem;

2) Students develop a strategy based on an assessment of a complex problem;

3) Students develop an analysis and mapping outcome that communicates one or more solutions to the problem.

4) Students review the outputs and external comments to create a feedback loop improving the next iteration of work.
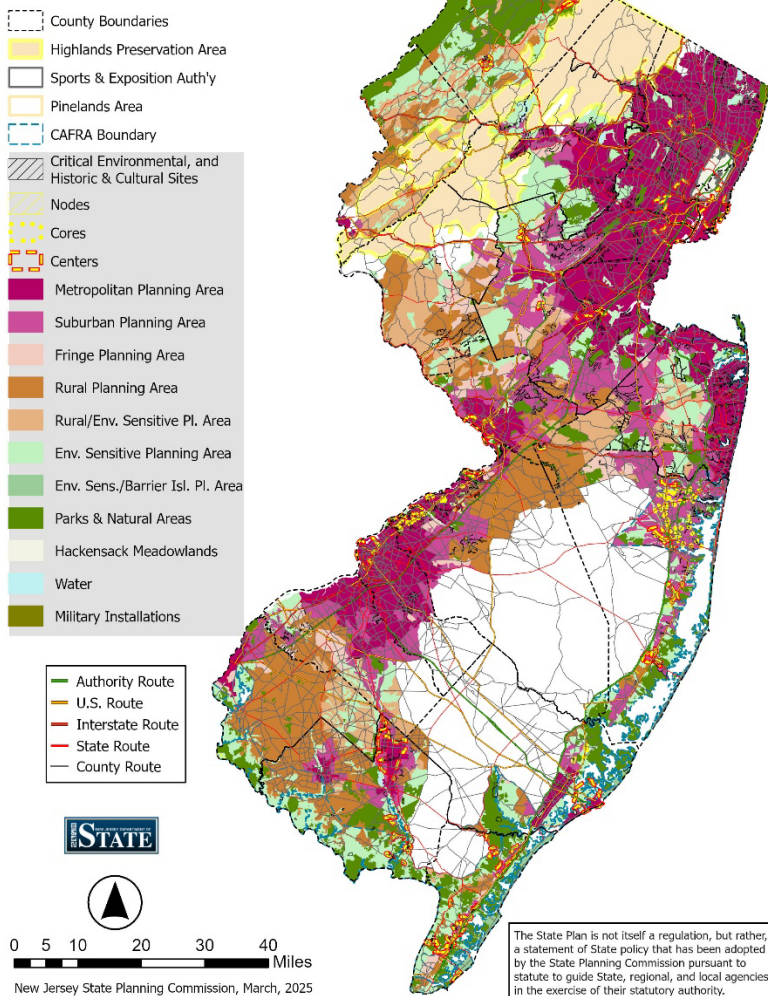
Course Description:

This class will be taught in a practicum format with an emphasis on student-driven learning through practical hands-on individual and group projects. The class will rely on experiences and knowledge from a variety of backgrounds, sophisticated spatial technologies, and exploration of new ideas as means to advance students' understanding of applications and roles for geomatics. There will be some reading, some writing, some discussion, some thinking, some mapping and plenty of doing.

To meet these objectives, students -- individually and in groups -- will identify the issues to be studied, break into teams by issue, and produce final products communicating and demonstrating new understandings of the issue. The class will use various forms of information technology (e.g., geomatics and web technology) along with field studies and data collection to develop and communicate the resulting study. The class will culminate in a public presentation of the results to a larger audience of students, faculty and staff. Warning: Along the way things might get uncomfortable. One of the most advanced skills in GIS is learning new things independently. You may be asked to tackle vague tasks and pursue skills without explicit training with that skill. But CRSSA also serves as an enormously important support structure for such risky paths.

Problem Description:

In 2026, The New Jersey State Development and Redevelopment Plan will release a newly approved version of the State Plan (the first in decades). This class will explore the spatial dimensions of the plan and compare it with data and information about New Jersey to provide fresh insights into the ways that the updated plan can shape the Garden State. This will place a heavy emphasis on the part of the State Plan that is known as the State Plan Policy Map, but should also include a larger examination of the entire plan as it exists this semester.

Map of the State Development and Redevelopment Plan

Legend:
- County Boundaries
- Highlands Preservation Area
- Sports & Exposition Auth'y
- Pinelands Area
- CAFRA Boundary
- Critical Environmental, and Historic & Cultural Sites
- Nodes
- Cores
- Centers
- Metropolitan Planning Area
- Suburban Planning Area
- Fringe Planning Area
- Rural Planning Area
- Rural/Env. Sensitive Pl. Area
- Env. Sensitive Planning Area
- Env. Sens./Barrier Isl. Pl. Area
- Parks & Natural Areas
- Hackensack Meadowlands
- Water
- Military Installations

- Authority Route
- U.S. Route
- Interstate Route
- State Route
- County Route

0 5 10   20   30   40 Miles

New Jersey State Planning Commission, March, 2025

The State Plan is not itself a regulation, but rather, a statement of State policy that has been adopted by the State Planning Commission pursuant to statute to guide State, regional, and local agencies in the exercise of their statutory authority.

Advanced Environmental Geomatics – Spring 2026

Semester Schedule
Advanced Geomatics is intended to respond to the topic as it unfolds while still challenging the students and teaching them advanced skills and understanding. As such, the schedule below may need to be adjusted as the semester moved forward.

Week	Week # of	Topics
1	J19 (22)	Introduction
2	J26	Understanding the problem; Mapping the State Plan
3	F2	Basic spatial dimensions of the plan; A1 - Overlay the primary elements of the State Plan on foundational data
4	F9	Change analysis
5	F16	A2 - How has the plan changed?
6	F23	A3 - Break up State Plan into different pieces and Isolate, Compare and rank
7	M2	Georeferencing maps; A4 - Compare with non-GIS data
8	M9	PPGIS/VGI; Story Maps and data collection; A5a – Public response to the State Plan
9.	M16	**SPRING BREAK**
10	M23	Explore New Advanced Tools and Techniques; A5b – Public response to the State Plan
11	M30	Form Final Project Teams
12	A6	Work; A6 – Predicting the future within the State Plan
13	A13	Work; Geodesign
14	A20	Work; Big data and institutional GIS
15	A27	The Future of GIScience, Presentation Practice
16	M4	**Public Presentations of Final Projects**

Due Dates
Except for circumstances truly beyond the student's control, all assignments are due at the dates and times specified throughout the semester. Projects and assignments that are incomplete on the due date should still be submitted on the date it is due to receive at least partial credit. Any work submitted late will be penalized a letter grade for each day past due. Working beyond a due date is both unrealistic in a professional planning setting and unfair to your classmates in this course.

Assignment of Grades

While the assignment of grades has to vary with each project, the following guidelines provide an understanding of appropriate grading in a project-based course:
A – Outstanding –This not only means fulfilling the requirements, but impressing and going beyond the initial expectations of the project. The student has demonstrated a superior grasp of the subject matter coupled with a high degree of creative or logical expression, and strong ability to present these ideas in an organized and analytical manner.

B – Very Good – The student has demonstrated a solid grasp of the material with an ability to organize and examine the material in an organized, critical, and constructive manner. The projects and in-class performance reveal a solid understanding of the issues and related theories or literature.

C – Acceptable –The student has shown a moderate ability to grasp concepts and theories for the class, producing work that, while basically adequate, is not in any way exceptional. This performance in class display a basic familiarity with the relevant literature and techniques.

D – Unacceptable – The work demonstrates a minimal understanding of the fundamental nature of the material or the assignment with a performance that does not adequately examine the course material critically or constructively. Students cannot graduate from the Landscape Architecture program with 2 D's in required 550 classes.

F – Failure – The student has demonstrated a lack of understanding or familiarity with course concepts and materials. Their performance has been inadequate. Failure is often the result of limited effort and poor attendance which may indicate that the student is not in the proper field of study.

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Class Structure

The class grades will be based on a breakdown that looks something like this:

> **5% -- Participation and small exercises**
>
> **60% -- State Plan Assignments –** Series of roughly 6 State Plan assignments
>
> **35% - Final Project –** Put together the things we have learned in a final project that

Similar to the schedule, these may need to be adjusted slightly to more accurately reflect the changing path that the class follows over the semester.

Technology

This class is not meant not be about advanced skills in a particular software package, but instead an advanced education in the context of all of GISCience. While some of the exercises will use a particular software package, the class projects can benefit from any available packages that fit the specific needs of that assignment or project, including open source alternatives and new less-tested software.

Because of the expense involved in advanced technologies, students will have access to the computers and licensed software at the Grant F. Walton Center for Remote Sensing and Spatial Analysis. It is imperative that students respect the lab and honors its rules. Revocation of lab access privileges would severely hinder a student's ability to complete the class. Furthermore, as the most senior class using the teaching lab, Advanced Geomatics students are encouraged to help monitor the space, keep it presentable and report potential issues before they become full-fledged problems.

Academic Integrity

The intentional copying of another student's work or a portion of work and representation of the work as your own work is in direct violation of the University Integrity Policy:

Plagiarism: the representation of the words or ideas of another as one's own in any academic work. It is a violation of academic integrity for a student to aid others in violating academic integrity. A student who knowingly or negligently facilitates a violation of academic integrity is as culpable as the student who receives the impermissible aid, even if the former student does not benefit from the violation.

As a result, any copying and/or "sharing" of exercises, homework assignments, and projects will be treated as Level 2 violations and subject to the sanctions as outline in the Integrity Policy:

1. A failing grade on the assignment.
2. A failing grade for the course.
3. Disciplinary warning or probation.

Repeat violations will be treated as separable Level Three violations and referred to the AIF of the school for adjudication. Please refer to the complete Integrity Policy at: http://academicintegrity.rutgers.edu/integrity.shtml.

Use of Artificial Intelligence is not allowed for homework or projects without a) prior permission of the instructor and b) explicit credit acknowledge the contribution's source.

Rutgers makes available Counseling through the Student Wellness Services http://ubhc.rutgers.edu/swp/
Access helpful mental health information and resources for yourself or a friend in a mental health crisis.

Counseling, ADAP & Psychiatric Services (CAPS)
(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901 www.rhscaps.rutgers.edu/
CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

Violence Prevention & Victim Assistance (VPVA)
(848) 932-1181
3 Bartlett Street, New Brunswick, NJ 08901 www.vpva.rutgers.edu/
The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932- 1181.

Disability Services
(848) 445-6800
Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 https://ods.rutgers.edu/
Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: https://ods.rutgers.edu/students/documentation-guidelines. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: https://ods.rutgers.edu/students/registration-form.

Scarlet Listeners (732)
247-5555
http://www.scarletlisteners.com/
Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.