SYLLABUS
A Wild and/or Scenic Raritan?

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Meeting Times/Places: MTh 10:20-11:40 Office Hours: T 11am Waller Hall

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:

Being so close to Rutgers, the Raritan River has been studied in many ways. As they have arisen, each question has required its own data and approach. So it should be no surprise that as the communities throughout the Raritan River Basin are faced with a new question, it is requiring doing new things with old data and seeking out new data.

The National Park Service has indicated a willingness to consider the Raritan River for status in its Wild and Scenic River system. A fundamental issue is helping to bring the many stories of the Raritan River Basin to the forefront. The area has a underappreciated ecological richness, remarkable layers of histories and hidden scenic spots that will surprise many. As new attention is brought to the area, high-quality maps with strong narratives can shape the ways new audiences understand the river and its watersheds.

Another need is the development of technical materials that support conversations and, potentially, decisions about the river's status. For example, one requirement for Wild and Scenic is the careful consideration of Outstandingly Remarkable Values (ORVs) along the river. "Each designated wild and scenic river requires the protection of ORVs. An ORV must be a river-related value that is rare, unique, or an exemplary feature at a regional or national scale. ORVs may include scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values." The class will work to identify and map ORVs to explore the implications all throughout the basin.

Finally, as the class hears from stakeholders and other interest parties, they will identify spatial data and analyses that are needed. As an advanced class, we can use our analytical and technical skills to inform the work that will continue well after the end of the semester.

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	J15	Introduction
2	J22	Understanding the problem; Hear from stakeholders
3	J29	Identify missing data and map goals
4	F5	Advanced cartography tools and techniques

5	F12	**Individual maps;** Narratives in maps
6	F19	Map development Analysis and synthesis
7	F26	Cartography guests
8	M4	**Sharing Raritan WMA Maps;** propose group and individual projects
9	**M11**	**SPRING BREAK**
10	M18	Teamwork lecture/exercise;
11	M25	Project reviews; Finalize proposals and strategies for inquiry
12	A1	Work; Guest
13	A8	Work; Geodesign
14	A15	Work; Big data and institutional GIS
15	A22	Practice; The Future of GIScience
16	A29	**Public Presentations of Results**

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.

Class Structure

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

5% -- Participation and homework

20% -- Presentation - Assessment of existing open source options

20% -- Poster - An analysis and mapping outcome that communicates about geospatial issues

20% -- Project Proposal - A strategy based on an assessment of a complex problem

35% - Final Project – Complete an inquiry into open source issues including recommendations for next steps

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.

Student Wellness

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/
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http://www.scarletlisteners.com/
Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.