GENERAL INFORMATION

PROFESSOR INFORMATION

Instructor: Prof. Genevieve Reid
Office: SIPA, room 314
Office Hours: Tu 12:30 PM -1:30 PM or by appointment (zoom meeting or in my office)
Zoom link provided on canvas
Phone: (305) 348-0352
Email: greid@fiu.edu
Course Time Zone: Eastern Standard Time (EST). Course due dates are according to this time zone.

COURSE DESCRIPTION AND PURPOSE

Critical GIScience includes a range of research on geographic information systems (GIS) and new geospatial technologies that focus on the social implications of and social biases inherent in the science, technology, and their deployments. This course is designed as a seminar to discuss the theoretical and practical questions arising from the socially constructed nature of geographical information and GIS and their social impacts.

Geospatial technologies are widely used in various disciplines and the public and private sectors. It is an ever-growing multibillion-dollar global business. To be proficient in GIS and new geospatial technologies, one needs to understand the technology but also the science behind the technology. This seminar explores the interconnected relationship between society and GIS/new geospatial technologies and interrogates the implications and impacts of such a relationship. With the recent evolution of geospatial technologies (geoweb, big data, web mapping tools, volunteered geographic information, etc.), critical GIScience includes the study of many aspects of changes since early GIS technologies and explores their impacts on society, such as the issue of potential loss of privacy.

The course is designed as a seminar, with weekly readings, presentations, and a final literature review paper on a topic chosen by the student. The course covers the history and evolution of critical GIScience, participatory approaches to GIS, feminist GIScience, and Indigenous GIScience.

COURSE OBJECTIVES

The objective of this course is to present the theoretical foundations of the field of critical GIScience. The course focuses on GIS and geospatial technologies, the social-theoretical critiques of these, and alternate approaches within the field. Students will develop their capability of critically assessing geospatial technologies and their use.

Upon completing this course, students will be able to:
• remember definitions of key concepts in GIScience
• understand theoretical foundations of the field of GIScience
• understand social critiques of GIS and geospatial technologies uses
• apply critical theory to the role and place of geospatial information within social fabrics
• analyze how space and society can be represented
• critically evaluate GIS theory and applications
• evaluate their learning process in the course
• create their critical investigation of GIScience studies

IMPORTANT INFORMATION

POLICIES

Please review the FIU's Policies webpage. The policies webpage contains essential information regarding guidelines relevant to all courses at FIU, as well as additional information about acceptable netiquette for online courses. For additional information, please visit FIU's Policy and Procedure Library.

As a member of the FIU community you are expected to be knowledgeable about the behavioral expectations set forth in the FIU Student Conduct and Honor Code.

ACCESSIBILITY AND ACCOMMODATION

The Disability Resource Center collaborates with students, faculty, staff, and community members to create diverse learning environments that are usable, equitable, inclusive, and sustainable. The DRC provides FIU students with disabilities the necessary support to successfully complete their education and participate in activities available to all students. If you have a diagnosed disability and plan to utilize academic accommodations, please contact the Center at 305-348-3532 or visit them at the Graham Center GC 190.

For additional assistance please contact FIU's Disability Resource Center.

Web Accessibility Statements for Partners and Vendors

• Canvas
• Microsoft
• Adobe
• Google
• YouTube
• LinkedIn
• ProctorU
• HonorLock
• Turnitin
• OpenStax
• Zoom
• Respondus LockDown Browser

Please visit our ADA Compliance webpage for additional information about accessibility involving the tools used in this course.

ACADEMIC MISCONDUCT STATEMENT
Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas, and community service. All students should respect the right of others to have an equitable opportunity to learn and honestly demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of the University. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Conduct and Honor Code. Academic Misconduct includes:

Cheating
- The unauthorized use of any materials, information, study aids or assistance from another person on any academic assignment or exercise, unless explicitly authorized by the course Instructor;
- Assisting another student in the unauthorized use of any materials, information, study aids, unless explicitly authorized by the Instructor; and
- Having a substitute complete any academic assignment or completing an academic assignment for someone else, either paid or unpaid; and

Plagiarism
- The deliberate use and appropriation of another are work without any indication of the source and the representation of such work as the Student's own.
- Assisting another student in the deliberate use and appropriation of another’s work without any indication of the source and the representation of such work as the student’s own.

Learn more about the academic integrity policies and procedures as well as student resources that can help you prepare for a successful semester.

PANTHERS CARE & COUNSELING AND PSYCHOLOGICAL SERVICES (CAPS)

If you are looking for help for yourself or a fellow classmate, Panthers Care encourages you to express any concerns you may come across as it relates to any personal behavior concerns or worries you have, for the classmate’s well-being or yours; you are encouraged to share your concerns with FIU’s Panthers Care website.

Counseling and Psychological Services (CAPS) offers free and confidential help for anxiety, depression, stress, and other concerns that life brings. Professional counselors are available for same-day appointments. Don’t wait to call (305) 348-2277 to set up a time to talk or visit the online self-help portal.

INCLUSIVITY STATEMENT

This course will serve to embrace the diversity and inclusivity found within Florida International University. We appreciate and respect diversity, equality, equity, cooperativeness, community, and sustainability within our online courses. We are committed to the ongoing education of our students and their participation within the course regardless of gender, ethnicity, age, sexual orientation, geographical location, religion, and disability. We strive in encouraging collaboration by preparing our students to value the differences in others. At the core of our intentions is the encouragement of acceptance and appreciation of differences within our student population and community.

COURSE PREREQUISITES

There are no prerequisites for this course.
TEXTBOOK AND EQUIPMENT

There is no textbook for the course. Readings will be assigned each week. Copies of book chapters and academic journal articles will be uploaded to a shared Zotero library. Students are required to create a Zotero account. Although Zotero can be accessed with a web browser, it is recommended that students install the standalone app on their computer to access all capabilities of the reference management application.

EXPECTATIONS OF THIS COURSE

This is an upper-level seminar class intended for Graduate students or College Seniors. If you are a first- or second-year undergraduate student, you may find this class too difficult. There will be a high reading load, for which you should be prepared. Students are expected to have read assigned readings before joining the class.

Active Learning

This class is designed as a graduate seminar experience. In the first few weeks, I will give lectures introducing students to the study of critical GIScience. As the course progresses, students will increasingly take charge by giving presentations on the week’s topics and readings and leading discussions. Every student is also expected to participate in class discussions. This means that students are actively preparing before joining class each week.

Collaborations

One of this seminar's main pedagogical approaches is fostering group collaborations for students to learn through discussion, clarification of ideas, and evaluation of others’ opinions. The seminar includes peer-to-peer teaching and learning strategies for students to learn from each other. For example, each student is expected to become an ‘expert’ in a specific course topic and give a lecture to share what they have learned with other students. The seminar is also structured around class group discussions when students also take on the moderator role. Students will engage and receive peer-to-peer feedback both informally in the classroom and in formal written reviews. Rather than competing for the highest grade, students will improve their collaboration skills that are crucial for their careers, in and outside of academia.

Reflexivity

The seminar is also based on a reflexive pedagogical approach. This means that students learn through engaging in a reflexive thinking practice to document their progress, interrogate their learning process, reflect on the significance of topics learned, set their objectives, goals, and expectations, and shed light on their lived experiences. Most of the reflexive process is personal, but students will collectively share parts of the reflections they wish to mention to enrich the group discussions. I hope this process will improve your critical thinking and make you more aware of how you learn, teach, and collaborate.

COURSE DETAIL

ASSIGNMENTS

Attendance, Participation, and Discussions

Attendance in class is necessary to achieve a passing grade. Students are responsible for all information, materials, and instructions disseminated during class. If you miss a class, make sure you get notes from classmates. Better still, discuss the missed material with your classmates.

Students are expected to come to class prepared to discuss the weekly readings (two papers per week) and lecture materials. The instructor might ask any student to give a short overview of the readings for the week even when they are not scheduled to present.
A field visit to see the exhibit Plotting Power: Maps and the Modern Age at the Wolfsonian Museum is planned for November 1st. Students will demonstrate that they remember and understand key concepts and definitions by attending, participating, and discussing the material.

Reflexive Journal (some journal entries shared in class but written post for the Wolfsonian Museum (due on Nov. 10)

Students will document their reflections on their learning (and teaching) progress every week and share some of the entries during class discussions. One excerpt from the journal about the field visit is due on November 10. This assignment is in collaboration with The Wolfsonian Museum and will be a contribution to their exhibit.

Additional instructions will be provided.

Short Research Skills Presentation (on Tuesdays between week two and week 7)

Each student will give a short presentation (around 20 minutes) on research skills relevant to the seminar, such as reference management skills with Zotero, reflexive journaling, the peer-to-peer review process, annotated bibliography, panel discussant, literature review, and presentation skills. Students and the instructor will decide topics and schedules during the first week of the course.

With these presentations, students will demonstrate their ability to apply research skills in GIScience.

Lecture Presentation (on Tuesday between week eight and week 13)

At the beginning of the course, each student will choose a week to present. In their presentation on Tuesday, the student is expected to give a lecture on the topic for that week. Each student is expected to do additional readings about the subject.

When presenting, students must also provide the presentation material to their discussant on Tuesday, allowing sufficient time to prepare for the discussion on Thursday.

With the lecture presentations and discussant roles, students will demonstrate their capacity to understand and analyze in depth a specific area of study in GIScience.

Additional instructions will be provided.

Discussant (on Thursday between week eight and week 13)

At the beginning of the course, each student will choose a week to be the discussant and monitor the discussion at the end of another student’s presentation or the instructor’s presentation. The discussant will receive the presentation material on Tuesday and have two days to complete their preparation for moderating the discussion on Thursday. The discussant is expected to prepare prompts (topics/questions) for the class to discuss. Students will be given feedback on the relevance of discussion points and the quality of monitoring the conversation.

Additional instructions will be provided.

Annotated Bibliography (due Nov 17)

Each of you will produce an annotated bibliography in preparation for your presentation and your final literature review paper on the same topic. The annotated bibliography will be made using the reference manager application Zotero. The Zotero bibliography and the annotated bibliography report will be shared with one student in the course for peer-to-peer feedback. Students will also receive feedback from the instructor.

The annotated bibliography is a tool to analyze the literature and prepare your presentation. After your presentation, you have the opportunity to adjust your annotated bibliography according to the feedback you received after your presentation. With the annotated bibliography, students show their ability to analyze the
literature in a specific area of GIScience, draw connections between ideas, and examine and organize the main contributions in the field.

**Peer-to-Peer Feedback**

Students are expected to give constructive feedback for all presentations and discussant sessions. Feedback on presentations and discussants will be given informally during class.

Each student will also provide written feedback for one annotated bibliography within one week of receiving the document for review.

In addition, each student will provide feedback for one student’s final paper following the guidance of a peer-to-peer journal review process in your field. The peer-to-peer review of the final paper is due one week after receiving the document.

With the peer-to-peer feedback, students will demonstrate their ability to evaluate GIS theory and applications and analyze how space and society can be represented.

**Final Paper (due Dec 1)**

Each one of you will write a final paper of around 7,000 words. The final paper is a literature review on your presentation topic. The paper is expected to be of publication quality and follow the guidance of a scientific journal in your field. With this assignment, students will demonstrate their ability to evaluate different perspectives and debates on a specific topic in GIScience. Students will create an original contribution to the literature by assembling existing arguments by leading GIScientists in novel ways.

Students will receive comments from the instructor and peer-to-peer feedback from other students. Additional instructions will be provided.

**Self-Evaluation**

Students will produce a short paper at the end of the semester based on their progress documented in their reflexive journal and feedback received. With the self-evaluation paper, students will demonstrate their ability to evaluate their learning process.

**GRADING**

Students will monitor their progress in the course in their reflexive journal. Students will also share some of their journal entries and discuss them in class. Students will also receive feedback from their peers and the instructor for each assignment and are expected to reflect on the feedback received.

Based on their reflections and feedback, students will produce a self-evaluation paper and assign themselves a final grade at the end of the semester. The instructor still has the final say in the final overall grade that students give themselves. The instructor could decide to lower or higher the grade and will provide justifications to the student for any grade change.

Suggestions of grading criteria:

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<tr>
<th>Grading Criteria</th>
<th>A</th>
<th>B</th>
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<th>D</th>
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<tr>
<td>0-1 absence</td>
<td>Demonstrate ability to understand and analyze theoretical foundations</td>
<td>Demonstrate their ability to understand and analyze skills in the</td>
<td>Demonstrate their capacity to understand and analyze in depth</td>
<td>Demonstrate their ability to analyze the literature in a specific area</td>
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<td>Demonstrate that they remember and</td>
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<td>applications of social theory and</td>
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understand key concepts and definitions and social critiques in GIScience
field of GIScience specific area of study in GIScience particular area of study in GIScience GIScience, draw connections between ideas, and examine and organize the main contributions in the field.

critiques in GIScience and create a contribution in compiling debates in the literature
learning experience

All assignments completed and submitted on time; appropriate length; quality of writing (i.e., organization, support arguments with evidence, sources, grammar, and style); quality of presentation (i.e., oral delivery, design of PowerPoint, organization, sources)

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<thead>
<tr>
<th>Letter</th>
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<tr>
<td>A</td>
<td>95 or above</td>
<td>B</td>
<td>83 - 86</td>
<td>C</td>
<td>70 - 76</td>
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<td>A-</td>
<td>90 - 94</td>
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<td>80 - 82</td>
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<td>60 - 69</td>
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<td>B+</td>
<td>87 - 89</td>
<td>C+</td>
<td>77 - 79</td>
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<td>59 or less</td>
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COURSE OUTLINE

The following course schedule and suggested readings are subject to minor changes and adjustments depending on the students’ choices of topic and their research interests.

<table>
<thead>
<tr>
<th>Dates</th>
<th>Week</th>
<th>Lecture/Student Presentations</th>
<th>Topics</th>
<th>Suggested Readings</th>
<th>Assignments</th>
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<tbody>
<tr>
<td>Tu Aug 23</td>
<td>Week 1</td>
<td>Introduction to Critical GIScience</td>
<td>GIS as tool or science; early debates, Friday Harbor, qualitative turn, science wars, GIS wars, early debates</td>
<td>Lake, 1993; Sheppard, 1995 (On Canvas)</td>
<td>Choose your topics for the semester Short Professional Presentation 1: Reflexive journaling</td>
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<td>Th Aug 25</td>
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<tr>
<td>Date</td>
<td>Week</td>
<td>Event Text</td>
<td>Reading Material</td>
<td>Assignment</td>
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<tr>
<td>Tu Aug 30</td>
<td>Week 2</td>
<td>Guest lecture: Lea Nickless, Curator at the Wolfsonian Museum, discusses</td>
<td>Kitchin and Dodge 2007 (On Canvas)</td>
<td>Short Professional Presentation 2:</td>
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<tr>
<td>Th Sept 1</td>
<td></td>
<td>the Exhibit Plotting Power: Maps and the Modern Age</td>
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<td>Literature Review</td>
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<tr>
<td>Tu Sept 6</td>
<td>Week 3</td>
<td>Technocratic nature of GIS</td>
<td>Obermeyer, 1995; Reid and Sieber, 2020a (on Canvas)</td>
<td>Short Professional Presentation 3:</td>
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<tr>
<td>Th Sept 8</td>
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<td>Annotated Bibliography</td>
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<td>Tu Sept 13</td>
<td>Week 4</td>
<td>Evolution of critical GIScience</td>
<td>Schuurman, 2000; Thatcher et al, 2016 (on canvas)</td>
<td>Reflexive journal post,</td>
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<td>Th Sept 15</td>
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<td>Short Professional Presentation 4:</td>
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<td>Tu Sept 20</td>
<td>Week 5</td>
<td>Dissecting components of new geospatial technologies 1</td>
<td>Elwood and Leszczynski, 2011 (in Zotero)</td>
<td>Reflexive journal post,</td>
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<tr>
<td>Th Sept 22</td>
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<td>Short Professional Presentation 5:</td>
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<tr>
<td>Tu Sept 27</td>
<td>Week 6</td>
<td>Dissecting components of new geospatial technologies 2</td>
<td>Sieber and Haklay, 2015; Warf and Sui, 2010 (in Zotero)</td>
<td>Reflexive journal post,</td>
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<td>Th Sept 29</td>
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<td>Short Professional Presentation 6:</td>
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<tr>
<td>Tu Oct 4</td>
<td>Week 7</td>
<td>Dissecting components of new geospatial technologies 3</td>
<td>Chen and Quan-Haase, 2020 (in Zotero)</td>
<td>Reflexive journal post,</td>
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<tr>
<td>Th Oct 6</td>
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<td>Short Professional Presentation 7:</td>
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<tr>
<td>Tu Oct 11</td>
<td>Week 8</td>
<td>PPGIS</td>
<td>Elwood, 2006; Sieber et al., 2016</td>
<td>Peer-to-Peer Review</td>
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<td>Th Oct 13</td>
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<tr>
<td>Tu Oct 18</td>
<td>Week 9</td>
<td>Crisis Mapping, disease mapping, epidemiology</td>
<td>Brandusescu and Sieber, 2018; Haworth, 2018</td>
<td>Reflexive journal post,</td>
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<td>Th Oct 20</td>
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<td>Student lecture presentation and discussant</td>
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<tr>
<td>Tu Oct 25</td>
<td>Week 10</td>
<td>Artificial Intelligence, Smart Cities</td>
<td>Roche, 2016; Tenney et al., 2020</td>
<td>Reflexive journal post,</td>
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<tr>
<td>Th Oct 27</td>
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<td>Student lecture presentation and discussant</td>
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<tr>
<td>Tu Nov 1</td>
<td>Week 11</td>
<td>Field visit at The Wolfsonian Museum to see Plotting Power: Maps and the</td>
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<td>Reflexive journal post,</td>
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<tr>
<td>Th Nov 3</td>
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<td>Modern Age</td>
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<td>Student lecture presentation and discussant</td>
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<tr>
<td>Tu Nov 8</td>
<td>Week 12</td>
<td>Qualitative GIS</td>
<td>Taylor et al., 2020; Wilson, 2009</td>
<td>Reflexive journal post for the Wolfsonian</td>
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<td>Th Nov 10</td>
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<td>Museum (due Nov 10)</td>
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<td>Student presentation and discussant</td>
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<tr>
<td>Date</td>
<td>Week</td>
<td>Topic</td>
<td>Summary</td>
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<td>Tu Nov 15</td>
<td>Week 13</td>
<td>Feminist GIScience</td>
<td>Feminist Theory; Data feminism; alternate representations, too much data/not enough data, gender and the geoweb; feminist digital geography</td>
<td>Elwood and Leszczynski, 2018; Kwan, 2002; Stephens 2013</td>
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<tr>
<td>Th Nov 17</td>
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<td></td>
<td>ANNOTATED BIBLIOGRAPHY(due Nov 17) Student lecture presentation and discussant</td>
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<tr>
<td>Tu Nov 22</td>
<td>Week 14</td>
<td>Indigenous GIScience</td>
<td>Epistemologies, ontologies, Indigenous Knowledges, Sharing/protection, data sovereignty, too much data/not enough data, counter data, countermapping: to map or to be mapped.</td>
<td>Reid and Sieber, 2020b; Rundstrom, 1995</td>
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<tr>
<td>Tu Nov 29</td>
<td>Week 15</td>
<td>Wrap up</td>
<td>What have we learned? Future of critical GIScience?</td>
<td>Pavlovskaya, 2018; Wilson, 2017</td>
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<tr>
<td>Th Dec 1</td>
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<td>FINAL PAPER (due Th Dec 1), Peer-to-peer review of final papers (due Tu Dec 6), Self-Evaluations (due Th Dec 8)</td>
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**SUGGESTED READINGS**


