UNIVERSITY of WASHINGTON | TACOMA
URBAN STUDIES

INSTRUCTOR
Jim Thatcher (he/him)
jethatch@uw.edu
Pinkerton 213
Office Hours: Tuesday 12:30-1:30; Thursday 3:00-4:30; and by appointment

Cartography and Data Visualization

COURSE DESCRIPTION

This course brings together many of the skills and techniques learned throughout the Master's program in Geospatial Technologies to bear on designing 'better' maps. The rapid explosion in publicly available spatial information and a glut of new tools for the visualization of said data have resulted in a massive upswing in public interest in maps. Interactive and informative maps have become a staple of how individuals come to understand the world around them. However, at the same time, any data visualization remains inherently partial.

In this class, students learn advanced concepts in and theories of cartographic design and apply them to real world mapping and data visualization situations. As such, the class takes the form of both a seminar and a lab class. Students will work together to both discuss cutting-edge theories of map design while also applying these new concepts and tools to enhance the work they have been doing in map production and data visualization throughout the Master's program and prepares students for their final capstone projects.

LEARNING OBJECTIVES

Students who complete this course will:

- Gain an ability to ask critically informed questions about visualization and representation of data and information [1]
- Be able to conceptualize and execute data visualizations using GISystems [2]
- Design original visualizations [3]
- Have a strong historical and contemporary understanding of the ways in which cartography and data visualization have and continue to influence the world [4]

READINGS

- The course requires the following books:
  - Wood, D. *Rethinking the Power of Maps*
  - Desimini. *Cartographic Grounds*
  - *Moretti, Graphs, Maps, Trees*

  And the following books are highly recommended:

- Brewer, C. *Designing Better Maps* (the 2nd edition is preferable)

- The course will additionally require extensive reading of articles distributed on canvas

---

ASSIGNMENTS

- Group Map Assignments (80% of course grade)
  - Each assignment is 5% 'check in' and 15% final production
- Leading Reading Discussion (10% of course grade)
- Reading Responses (10% of course grade)

COURSE STRUCTURE

The course follows a cyclical nature. First, we read an important work in thinking about and through maps. Students lead the discussion of these works for the first half of class. Then, the remainder of that class and ***all*** of the following class are devoted to the group development of a visualization of spatial information. The readings focus on theoretical and methodological approaches to map design, the role of mapping in the world, and the politics and knowledge production that underlie map design and creation. Students are expected to read extensively and come to class prepared to discuss the material. During this period, the students will produce two reading responses (5% of their course grade each) and lead discussion (10% of course grade).

During the working sessions, students work in small groups to undertake a series of 'mapping projects.' These projects bring together the material discussed, their training throughout the MGST program, and empirical problems of mapping and data visualization. During this period, the students will produce four mapping 'products' (each worth 20% of their course grade). After the first working/discussion session, students will be expected to produce a 'check in' for 5% of the mapping project's grade.

Weekly Responses: Two times over the course of the quarter students will choose to submit a brief (single page) response to the assigned readings. These are due *and distributed to the class via Canvas* the day before the class. Therefore, if a student is submitting one of their responses for a class on Thursday, the response will be due Wednesday at 9:00 p.m. The instructor will distribute responses to the class the following morning. Students are expected to come to class having read the summaries as well as the assigned reading as together they will form the basis of discussion. (10% of grade)

Leading Discussion: Once over the course of the quarter students will lead the discussion. Students will be expected to prepare a short summary of the readings, to tie these readings to previous presentations, and to guide the class as we discuss related topics. Each group of students will meet with the

instructor ***before*** they are to lead discussion to go over their material and clarify any remaining questions. (10% of grade)

COURSE SCHEDULE

APRIL 2ND – NO CLASS
Readings: Wood, D. *Rethinking the Power of Maps*

APRIL 9TH – What is a map?
Readings: Wood, D. *Rethinking the Power of Maps*
Visualization: A Campus Map?

APRIL 18TH (NOTE DATE CHANGE) - Campus Map Continued (working session)
Visualization: A Campus Map? (check in due)
Suggested Readings:
Brewer, C. *Designing Better Maps* (selections)

APRIL 23rd – Figure and Ground
Readings: Desimini. *Cartographic Grounds*
Visualization: Remotely Sensed

April 30th – Remotely Sensed Continued (working session)
Visualization: Remotely Sensed (check in due)
Suggested Readings:
Brewer, C. Designing Better Maps (selections)

MAY 7TH – Visualizing Text
Readings: Moretti, *Graphs, Maps, Trees*
Visualization: Map a novel

MAY 14TH – Visualizing Text (working session)
Visualization: Map a novel (check in due)
Suggested Readings:
Brewer, C. *Designing Better Maps* (selections)

MAY 21st – Mapping the invisible
Readings (on Canvas):
Kwan, M-P, Lee, J. 2004. "Geovisualization of Human Activity Patterns Using 3D GIS"
Vasiliev, I. 1997. "Mapping Time"
Zook, M. A. and Graham, M. "Mapping Digiplace"
McCarthy, J., Thatcher, J.2017. "Visualizing New Political Ecologies"
Bergmann, L. and O'Sullivan, D. 2018. "Reimagining GIScience for relational spaces"
Visualization: Mapping a day

MAY 28TH – Mapping a day (working session)
Visualization: Mapping a day (check in due)

June 4th – Map Critique (site to be determined)

Each group will display their assignments to other students and we will engage in respectful and constructive map critique

INCLUSIVITY IN THE CLASSROOM

In this class, we will have the chance to indicate the name that we prefer to be called and, if we choose, to identify pronouns with which we would like to be addressed. This will be done confidentially through Canvas.

ACADEMIC STANDARDS

Students at the University of Washington are expected to maintain the highest standards of conduct as required by state legislation. The integrity that will be required in your professional career should be practiced in your academic career. Academic misconduct is a serious offense that can have severe penalties including failing an assignment, failing the course, or dismissal from the university. Cheating includes turning in work that is not your own, using resources for exams or assignments when not permitted, or if you consult or collaborate with anyone on assignments that are meant to be completed individually.

You are guilty of plagiarism if you fail to cite the source of any idea that is not your own. Plagiarism can be avoided by using reference citations correctly. You are responsible for learning how and when to document and attribute resources used in preparing a written or oral presentation. If you have any questions, please ask me or consult the Writing Center.

E-MAIL POLICY

UW policy requires you to use a UW e-mail account for communications with professors and to ensure that messages from the course website are received. For more information on setting up a UW NetID and email account, see: http://www.washington.edu/computing/uwnetid

DISABILITIES

Disability Support Services (DSS) offers resources and coordinates reasonable accommodations for students with disabilities. Reasonable accommodations are established through any interactive process between you, your instructor(s) and DSS. If you have not yet established services through DSS, but have, or think you have a temporary or permanent disability that requires accommodations (this can include mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact DSS at 253-692-4522 V/ 253-692-4413 / DSSUWT@UW.EDU.

TEACHING AND LEARNING CENTER (TLC)

The Teaching and Learning Center (TLC) in SNO 260 offers free academic support for students at all levels. Writing support is available at our online writing center. For math, stats and quantitative needs, assistance is available on a drop-in basis.

LIBRARY

The UWT Library has resources, services and facilities to support students at all levels of expertise. We guide students through the research process, helping them

learn how to develop effective research strategies and find and evaluate appropriate resources. For assistance or to schedule an appointment, visit us at the Reference Desk in the Library, email tacref@uw.edu or phone 253-692-4442.

STUDENT HEALTH AND WELLNESS - SHAW
Confidential health services and counselors are available to help students cope with illness, health maintenance, stresses and personal issues.

CAREERS
Assistance is available in career planning and job hunting at Career Development & Education.

FINANCIAL AID
Information on tuition, financial aid and scholarships can be found online. You must make satisfactory academic progress to receive most forms of financial aid.

CAMPUS SAFETY INFORMATION
The university-wide UW Alert system sends text messages of campus closures and emergencies.

INCLEMENT WEATHER
In the event of bad weather, class may be canceled. Check the campus website or call 383-4636 to determine if campus is closed. If campus is open but conditions are bad, please check your e-mail, the course Canvas site, or call my office phone (253-692-5635) to determine if class will be held.