

GEO 4345: Applied Urban Studies Lab

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Class Meeting Schedule: TR 12:45pm – 2:00pm, Coltrane 116
Office Hours: TR 9:30am - 12:30pm, and by appointment.

Textbook: Singleton, A. D., Spielman, S., & Folch, D. (2017). *Urban analytics*. Sage.

Supplemental Readings: Available on Canvas

Pre-Requisite: NONE

Course Description:

Cities are increasingly becoming locations for the accumulation of massive amounts of data that may provide opportunities for developing solutions to complex problems afflicting urban spaces. This course seeks to provide students with a foundation in urban data analysis. Students will be exposed to systematic approaches to collecting, analyzing, modeling, and interpreting quantitative and qualitative data through the use of multiple techniques used to inform robust research and policymaking. Beyond instruction in urban data science and analytics, students will be introduced to theory and critical discourses on topics such as big data, open data and e-governance. Instructors will expect students to engage with technical and theoretical - with particular focus placed on *ethical* - considerations associated with these subjects in lecture and laboratory sections.

Prerequisite: NONE

Course Rationale:

The majority of the world's population lives in urban areas and future projections show the share of people living in cities increasing. New technology is generating a wealth of urban data that can be used to create more just, sustainable and equitable cities. Urban analytics represents a methodological toolkit for exploring this data and creating a better tomorrow.

Course Goals:

The goal of this course is to expose students to the field of urban data analysis through a combination of lectures and laboratory activities.

Course Objectives/Learning Outcomes:

Upon completion of this course you will be able to:

- Demonstrate an understanding of the following urban analytics, big data and spatial justice.
- Use appropriate technologies to analyze and evaluate urban data and to identify and solve urban problems.

- Demonstrate skills that clearly and effectively showcase their ability to use multiple urban analytical techniques.

General Education Outcome – Quantitative Literacy

A major emphasis of this course is to focus on and improve the quantitative literacy abilities of students enrolled in the course. Quantitative Literacy seeks to understand and create arguments that are supported by empirical evidence and clearly communicate those arguments in a variety of formats such as using words, tables, graphs, mathematical equations, as appropriate. As a result, a quantitative literacy based assessment is included in the general requirements of the course. This assessment will provide students an opportunity to showcase their quantitative literacy abilities by collecting quantitative data, analyzing the data, developing a conclusion regarding the data and appropriately displaying the data through the use of a visualization technique.

Assessment of Learning:

- 1. Attendance and Participation:** 20% of the students final grade will be determined by participation and attendance. It is imperative that students regularly attend and participate in class do to the intensive use of interactivity exercises, labs and assignments. Students are expected to attend every class.
- 2. Exercises:** 8 exercise/labs will be given throughout the semester. These labs will serve to stimulate your thinking, drive classroom discussions, and reinforce important concepts, ideas and needed skills. In total, the assignments count for 40% of your grade.
- 3. Urban Data Analysis Research Project:** Each student will be responsible for collecting quantitative data, analyzing the data, developing a conclusion regarding the data and appropriately displaying the data through the use of a visualization technique as it relates to an urban issue of their choice. Some potential topics for consideration include: water quality, air quality, socio-economic variation, brownfields, crime, etc.

Grading:

MATERIAL	PERCENT OF COURSE GRADE
Attendance/Participation	20%
8 Exercises/Labs	40% (5% each)
Urban Data Analysis Research Project	40%

Grading Scale: Final grades will be allocated at follows:
A 100 – 90.0%; **B** 89.9 – 80.0; **C** 79.9 – 70.0%; **D** 69.9 – 60.0%; **F** 59.9 - 0%.

Student Code of Conduct:

Academic Honesty Statement: See Student Handbook.

Freedom to Learn: The UNC Board of Governors has prescribed that all students shall be responsible for conducting themselves in a manner that helps enhance an environment of learning in which the rights, dignity, worth, and freedom of each member of the academic community is respected.

Responsibilities: All students are responsible for conducting themselves in a manner that helps enhance an environment of learning in which the rights, dignity, worth, and freedom of each member of the academic community are respected. WSSU expects all students and their guest to behave in a manner consistent with campus policies and applicable state and federal laws. Students are expected to observe and adhere to the university's standards of conduct outlined within the WSSU Student Code of Conduct in the classroom, on-campus and off-campus.

Class Meeting/Attendance Policy:

Class time will be a combination of lecture, discussion, videos, and group work. Come to class prepared.

Students are expected to attend every class meeting and to carefully study all reading and homework assignments. There will be a large amount of information presented, and much of it requires deliberate attention on your part. This is not a class to attempt to pull an "allnighter." Any student missing more than two class periods will have their course attendance grade lowered by five (5) points unless the student contacts the instructor in advance AND comes to an agreement about when the work will be made up AND has a doctor's note. An additional five (5) points will be taken off for each subsequent absence. For example, if you missed four classes your final attendance grade would be a 90.

WSSU MISSION STATEMENT

Winston-Salem State University is a comprehensive, historically Black university offering innovative undergraduate programs and exceptional graduate programs grounded in the tradition of liberal education. Students engage in active and experiential learning offered through flexible delivery modes. The university is dedicated to the holistic development of students by faculty dedicated to excellence in teaching, research, and service. As a constituent institution of the University of North Carolina, Winston-Salem State University contributes to the social, cultural, intellectual and economic growth of North Carolina, the region, and beyond.

MISSION OF THE DEPARTMENT of HISTORY, POLITICS and SOCIAL JUSTICE

To offer and sustain quality education through a focus on social justice that strongly complements the mission of the university and fulfils the general expectations

recommended by the Southern Association of Colleges and Schools. Those expectations include: a) incorporating current pedagogies into classroom instruction to produce high impact teaching that will enhance students' learning and academic success; b) designing and promoting interdisciplinary curricula that reflect the theme of Social Justice; and c) establishing strong community-based partnerships through the department's Alliance for Sustainable Communities (ASC), a community outreach program that is strongly oriented toward the promotion of social justice.

WSSU ACCESSIBILITY STATEMENT 2020 – 2022

Students with ADA-documented physical, sensory, psychological, emotional or medical impairments may be eligible for reasonable accommodations. Veterans may also be eligible for services. All accommodations are coordinated through the WSSU Department of Disability Services. You may contact the Department of Disability Services by email at dds@wssu.edu. If you have registered in a previous semester, continuation is not automatic. Action is required on your part. Please contact dds@wssu.edu to continue your accommodations. Accommodations are not usually retroactive.

CLASS SCHEDULE GEO 4345: Applied Urban Studies Lab

Week of 2/2	Course Overview
Week of 2/8	Questioning the City through Urban Analytics – Chapter 1 Exercise: How does Winston-Salem collect, use, display data?
Week of 2/15	Sensing the City – Chapter 2 Exercise: Water Quality Activity
Week of 2/22	Urban Data Infrastructure – Chapter 3 Exercise: Brownfield Activity
Week of 3/1	Visualizing the City – Chapter 4 Exercise: ArcGIS online - Dashboard Development
Week of 3/8	Differences within the City – Chapter 5 Exercise: Community Analyst High School Infographic
Week of 3/15	Explaining the City – Chapter 6 Exercise: Python Activity - Crime
Week of 3/22	Generative Urban Systems – Chapter 7 Exercise: Neighborhood Infrastructure Activity
Week of 3/29	Cities as Networks and Flows – Chapter 8 Exercise: Air Quality Activity
Week of 4/5	Introduction of Urban Data Analysis Research Project: Topic Identification
Week of 4/12	Urban Data Analysis Research Project: Data Identification, Technique and Collection
Week of 4/19	Urban Data Analysis Research Project: Analysis and Visualization
Week of 4/26	Urban Data Analysis Research Project: Development of Final Product
Week of 5/3	The Future of Urban Analytics – Chapter 9, Research Paper Due 5/6
Week of 5/10	Catch up any missing work

**NO CELL PHONES,
PLEASE TURN OFF ALL CELL PHONES.
THANKS!**