



## ENV/SUST/GEOG 355 Green Cities: A Sustainable Future

### Course Syllabus

### Spring Semester 2026

**Instructor:** Neto Leão, PhD

**Email:**

**Credits:** 3

**Contact Hours:** 45

**Prerequisites:** None

**Class Hours:** Tuesdays and Thursdays, 12:30-2 pm

**Office Hours:** By appointment via email. Remote meetings take place at Jitsi on Moodle

**Course Type:** Course with a Service Learning component

**Course Fee:** USD\$35

#### Course Description

“The looming global pollution crisis”, “billions without clear water”, “vehicle pollutants harming people’s health”, are just a few of the headlines making the news every day, all over the world. Cities all over the world have become the major threat to local and planetary health. For the first time in history, the majority of the world’s people live in cities. These numbers are growing. Cities are major contributors to resource consumption, environmental degradation and climate change. Cities are also centers of technological and socio-cultural innovation. Cities must be at the forefront of actions for a sustainable future — working *with* nature, without destroying it.

This class will review concepts of sustainable urbanism and the systems that comprise it: open space, mobility, food and water, energy and waste. Through these perspectives, students will comprehend the principles informing sustainable urban planning and the sociocultural, economic, and political challenges faced by its promoters. Our approach is both global and local - we use Perugia as our case-context while considering broader issues faced by those who promote and apply sustainability internationally.

#### Course Learning Outcomes

By the end of the course, students will be able to:

1. *identify* key terms, concepts, and principles related to sustainability in urban environments; as well as specific connections between people, perceptions, activities, identity and cities’ open spaces and their systems;
2. *explain* how current debates about urban sustainability are impacted by local, national, and international politics and economies;
3. *compare* urban systems through the analysis of case studies on both the public and private sectors—including, energy, water and food, waste management, transportation, architecture, and green spaces—for their effectiveness in implementing policies, technologies, and organizational models that support urban sustainability;
4. *understand* the energy crises within the context of climate change in order to better comprehend the state of the art alternatives to high quanta energy dependence;
5. *integrate* experiential learning activities with classroom knowledge to identify concrete strategies for supporting urban sustainability and communicate them using systematic, public-facing, and ethical scholarship with twenty-first-century research and communication tools.

## Course Materials

### Readings

A course reader, including all the indicated readings, will be available. The course's Moodle site is the primary location for readings and assignments.

### Assessment

|  |     |
|--|-----|
| Attendance   | 10% |
| Weekly Quizzes                                     | 30% |
| Course Journal                                     | 20% |
| Field Notes Journal                                | 10% |
| Service Learning Project                           | 25% |
| End of Semester Community Engagement Presentations | 5%  |

### Grading

Students are reminded that it is their responsibility to note the dates of exams and other assignments. No alternative exam dates will be offered and professors are not required to give partial credit for any late work (they do so at their discretion: the Institute's default policy is no extensions and a zero for any work turned in late). Students who book travel when they have an exam or other assessment will have to change their plans or accept a zero. Letter grades for student work are based on the following percentage scale:

| Letter Grade Range | Numerical Score Equivalent | Student Performance |
|--------------------|----------------------------|---------------------|
| A                  | 93% - 100%                 | Exceptional         |
| A-                 | 90% - 92%                  | Excellent           |
| B+                 | 87% - 89%                  | Superior            |
| B                  | 83% - 86%                  |                     |
| B-                 | 80% - 82%                  |                     |
| C+                 | 77% - 79%                  | Satisfactory        |
| C                  | 73% - 76%                  |                     |
| C-                 | 70% - 72%                  |                     |
| D+                 | 67% - 69%                  | Low Pass            |
| D                  | 63% - 66%                  |                     |
| D-                 | 60% - 62%                  |                     |
| F                  | 59% or less                | Fail (no credit)    |

**Please note:** decimal and centesimal numerals between 1-4 are rounded down while 5-9 are rounded up: e.g., expect 89.4 to be 89.0 while 89.5 to round up to 90.

### Course Requirements

Grades are based on a combination of participation, in-class assessments, service learning, and exams.

#### *Attendance (10%)*

Attendance is an essential part of this course. You are allowed 2 unexcused absences per course without penalty, per Institute policy. If you attend all the other meetings, you will receive 10% for this part of your grade. There are no make-ups offered for attendance.

#### *Moodle Quizzes (30%)*

Every Tuesday morning, students will be assigned a short quiz on Moodle that will be open until the following Monday. Students can take the quiz as many times as they want. The quizzes will assess their understanding of the readings and discussions for that week.

#### *Course Journal (20%)*

Students will need a notebook to use as a personal space for reflecting on course material and ideas. In-class assignments, such as summaries of assigned readings, mental maps, reflections, and predictive exercises, will be regularly scheduled and graded twice throughout the semester (Weeks 6 and 11). These checks will be worth 10% of your grade, for a total of 20%. See a full prompt in Moodle.

|  |  |
|--|--|
| <i>Field Notes Journal (10%)</i>                               | Field notes journal entries document the written accounts of data collected during observations at the Rocca Paolina and the MiniMetro headquarters. These entries should be written in full sentences in the Course Journal notebook and will be graded alongside the course journal entries in Week 6. See a full prompt in Moodle.  |
| <i>Service Learning Project (25%)</i>                          | Students will analyse the activities of the Minimetro to understand their operations, values, and goals. They will also get to know and analyse their organisational model, its structure, mission, and goals. Students will then develop proposals to better involve the Minimetro with the local inhabitants. All proposals will be presented at a final event.  |
| <i>End of Semester Community Engagement Presentations (5%)</i> | During Special Academic Events Week, the class will present a 15-minute summary of the project experience to the Umbra community during the <b>Community Engagement Final Presentations on Thursday, April 23</b> . Students will receive the guidelines and presentation order after the mid-semester break. Participation in this event is MANDATORY and an integral part of the community engagement grade. |

### Extension & Submitting Late Work

Work submitted after the deadline will receive a grade of zero, not partial credit. Each student is allowed one extension of 24 hours over the entire semester. This can be used for any assignment but the final project. Students need to email the instructor before the deadline and inform the instructor of their use of the extension. Any work submitted after the 24-hour extension will be marked zero. As for all policies, exceptions can be made by the Director for students with special accommodations or in case of medical emergencies, etc.

### Attendance Policy

Attendance is expected and mandatory for classroom times and co-curricular activities. The first two absences per course due to illness will be considered excused “sick days” and do not require medical documentation. To receive additional excused absences due to illness, students are required to see a local physician or request a letter from an Institute-approved doctor documenting they should be excused from class for illness.

Unexcused absences will adversely affect a student’s academic performance and will result in a reduction of the student’s final course grade by 2% per absence up to a maximum of 10%. Excessive unexcused absences may result in a failing grade or disciplinary action. It is the student’s responsibility to be aware of the number of absences or late arrivals for each course, and to ask the instructor when in doubt.

If students miss class, they are responsible for obtaining class notes from other students and/or for meeting the professor during office hours. Any work missed in class because of an excused absence may be made up within one week of the return to the class. Any work missed that was a quiz or other test must be made up outside of class time and will, in the interest of intellectual honesty, be a slightly different test than the one given in class.

Presence during mandatory field trips is especially important. Missing a mandatory field trip for a course, unless for a very serious reason that is communicated to Umbra staff in a timely manner, will lower the students’ grade by half a letter grade (i.e., a final grade of a B+ would be lowered to a B).

Legitimate reasons for an excused absence or tardiness include death in the immediate family, religious observances, illness or injury, local inclement weather, and medical appointments that cannot be rescheduled.

Absences relating to illness may be excused by the Director, but only if a medical certification is provided.

Students who request an approved absence to observe a religious holiday must submit a formal request to the Institute’s Director within one week after the add/drop period when course schedules, including any field trips, are finalized. No exceptions will be made after this deadline.

Except in the case of medical emergencies, absences are not accepted when tests are scheduled; tests cannot be made up. Furthermore, scheduled times and dates indicated for exams, quizzes, oral presentations, and any other graded assignments cannot be changed for any reason. Even if more sections of the same class are activated, students may only take exams during the scheduled times and dates for the section they are enrolled in.

### Tardiness Policy

Students are expected to attend all classes punctually. Any student arriving up to 15 minutes late or leaving up to

15 minutes earlier than the scheduled class end time will be marked as tardy. Each incident of tardiness (late arrivals to or early departures from class) is 0.5% off the final grade. However, should a student arrive more than 15 minutes late or depart more than 15 minutes before the conclusion of the class, it will be recorded as an absence.

Students are also expected to remain in class during the time of instruction except for a reasonable amount of time to use the restroom. Students who leave class and do not return during the class session will receive an unexcused absence or late penalty.

### **Academic Integrity**

All forms of cheating (i.e., copying during exam either from a fellow student or making unauthorized use of notes) and plagiarism (i.e., presenting the ideas or words of another person for academic evaluation without acknowledging the source) will be handled according to the Institute Academic Policy, which can be found in the Umbra Institute Academic Policies and Conduct Guidelines.

Utilizing ChatGPT or other artificial intelligence (AI) tools for the generation of content submitted by a student as their own as part of any assignment for academic credit at the Institute constitutes a form of plagiarism. Should the Institute become aware of a student's use of such platforms and services, the student will be subject to the same consequences and judicial proceedings as are in place for plagiarism (defined above).

### Classroom & Laptop Policy

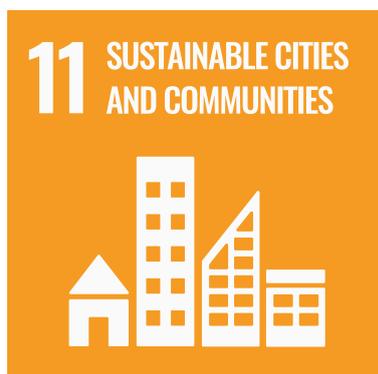
Students are expected to follow the policy of the Institute and demonstrate the appropriate respect for the historical premises that the school occupies. Please note that cell phones must be turned off before the beginning of each class. Computers and other electronic devices (for example, ear buds) cannot be used during class lectures and discussions

### Laptop/Smartphone Policy

An ever-increasing body of research shows that open laptops and telephones in the classroom create distraction (both visual and auditory) for those using them and those around them. You can type faster than you can write, and as a result you end up processing less when you're simply typing notes. For this reason, students are asked to keep computers and phones away and use a regular notebook. There are four exceptions: 1) if you have a vision or other accommodation; 2) if you are using a tablet to take notes, one which is not connected to the internet; 3) if we have an in-class tutorial about online research tools; or 4) if you make an office hours appointment with me to discuss the use of a computer.

### **U.N. Sustainable Development Goals**

This course contributes to the achievement of one or more goals of U. N. Agenda for Sustainable Development



## Schedule of Topics, Readings, and Assignments

### Week 1

#### **Introduction & Definitions**

Meeting#1: Introduction to the class. Why cities? What is urban sustainability? Some numbers on (non)sustainable urbanization

Meeting#2: An urban “snoop about” in Perugia’s ancient center. Café Turan Conversation: what makes a sustainable city?

#### Readings

Cohen, Steven. *The Sustainable City*. New York: Columbia University Press, 2017. Read “Defining the Sustainable City,” pages 3-15.

### Week 2

During this week the Community Engagement Team will stop by the class to introduce the Service Learning Project

#### **Roots of the “problem”: a closer look at the evolution of an Italian city**

Meeting#3: Italy and Perugia, an overview of its Urban History and Modern Evolution. Visit to Rocca Paolina (Medieval Fortress).

#### Readings

Zappelli, M. R. *Home Street Home: Perugia’s History Told Through Its Streets*. Edited by Zachary Nowak. Translated by Deborah Rim Moiso and Alan Whykes. Perugia, Italy: Morlacchi Editore, 2013. Read “Brief History of the City’s Development” and “Via delle Prome,” pages 14-21 and 122-123.

Cohen, The Sustainable City, “Sustainable Urban Systems: Defined and Explained,” 15-38.

Meeting#4: The case of Perugia. We will contrast the difference between finiteness and scarcity to better understand the challenges of transitioning to a sustainable city.

#### Readings

Samuel, S.; Robert, J. (2010). Water Can and Ought to Run Freely: Reflections on the Notion of ‘Scarcity’ in Economics, in Mehta, L. *The Limits to Scarcity: Contesting the Politics of Allocation*. London, Washington: Earthscan, pp. 109-126.

### Week 3

#### **Sustainable Urban Systems: the role of politics and public policy**

Meeting#5: Public Policy for Sustainability and Citizen Participation: an overview of the evolution of public policy in favor of Urban Sustainability. The importance of local authorities and community action (viz., Europe).

#### Readings

Cohen, *The Sustainable City*, “The Role of Politics and Public Policy in Building Sustainable Cities,” 89-111.

Meeting#6: Guest Lecturer Leonardo Naldini will provide an overview of the historical development and urban planning strategies employed during the construction of the MiniMetro.

Service Learning Project: Field trip to the Minimetro Headquarters on **Friday, February 6**. A detailed itinerary will be sent early this week.

## Week 4

### **The rise of modern cities: reflections on the notions of space and place, and on the art of living**

Meeting#7: We will discuss how the notion of homogeneous space became a crucial element to develop modern cities and management as it is taken for granted in technological society.

#### Readings

Robert, J. Place in the Space Age. *International Journal of Illich Studies*, no. 4: 2–19.

Meeting#8: The art of dwelling is part of the art of living. We will explore the notion of dwelling and the idea of unplugging.

#### Readings

Illich, I. (2021). “Dwelling”, in Illich, I. *In the Mirror of the Past*. New York, London: Marion Boyars, pp. 55-64.

## Week 5

### **Placemaking, landscape design, and urban agriculture**

Meeting#9: We will take a close look at the Placemaking strategy for sustainable cities.

#### Readings

Adhya, A. “Jane Jacobs and the Theory of Placemaking in Debates of Sustainable Urbanism.” In *Urban Wisdom of Jane Jacobs*. Routledge: London, 2012, pages 215-228.  
Placemaking Booklet.

Meeting#10: Landscape design, urban agriculture, and community gardens.

#### Readings

Giacche, G., et al. “Cultivating changes: Urban Agriculture as a tool for socio-spatial transformation.” *Future of Food: Journal on Food, Agriculture and Society* 5, no. 1 (Summer, 2017): 8–20.

McClintock, Nathan. “Radical, Reformist, and Garden-Variety Neoliberal: Coming to Terms with Urban Agriculture’s Contradictions.” *Local Environment* 19, no. 2 (February 7, 2014): 147–160

## Week 6

### **Community engagement and Research day**

Meeting#11: Research day: in class time to prepare the Outline for the CE Project.

Grading of the Course Journal #1 and the Field Notes Journal

Meeting#12: Research day: in class time to develop the CE Project.

## Semester Break

## Week 7

### **Convivial Cities & Vernacular Architecture**

Meeting#13: Vernacular Knowledge for Sustainable Architecture: lessons from vernacular heritage to sustainable architecture.

#### Readings

Guillaud, H., “Defining vernacular architecture”, Vegas, F., et. al., “Defining sustainable architecture”, Achenza, M., “Environmental sustainability in vernacular architecture” in *Versus: Heritage for Tomorrow: Vernacular Knowledge for Sustainable Architecture*. Edited by Mariana Correia, Letizia Dipasquale, Saverio Mecca. Firenze : Firenze University Press, 2014, pp. 33-48.

Meeting#14: Convivial cities have the potential to cause a paradigm shift in alternative urbanization. In this class we will contrast Smart and Convivial cities.

Readings

Butola, B. (2023). "Convivial Cities: Alternative to Cities of Consumers: An Exploratory Note", in *Urban Transformational Landscapes in the City-Hinterlands of Asia*. Singapore: Springer, pp. 405-418.

**Week 8**

**Transport, Mobility, and Energy**

Meeting#15: The ways people move around in, and to/from, cities have differing impacts on environmental sustainability, social relations and health. We will start from *close up* - in the street.

Readings

Cohen, *The Sustainable City*, "Mass and Personal Transit," 131-152.

Meeting#16: Energy and Equity: the bicycle's panegyric. A practical proposition for convivial mobility.

Readings

Illich, I (2013). Energy and Equity, in Samuel, S. *Beyond Economics and ecology: The radical thought of Ivan Illich*. New York, London: Marion Boyars, pp. 98-154.

**Week 9**

**Climate Change's Impact on Urban Sustainability**

Meeting#17: The age of the Anthropocene and the planetary boundaries.

Readings:

Rockström, J. "A safe operating space for humanity". *Nature* 461, (September 24, 2009): 472-475.

Meeting#18: We will watch the Anthropocene movie in class. Students must bring their notebooks for course journal activity during the exhibition of the documentary.

**Week 10**

**Water & Waste**

Meeting#19: Water Rights: The State, the Market, the Community. Community Rights and Water Democracies.

Readings:

Barlow, M. (2013). Reclaiming the Water Commons, in Barlow, M. *Blue future: protecting water for people and the planet forever*. Toronto: House of Anansi, pp. 147-165.

Recommended Readings:

Shiva, V. (2016). Water Rights: The State, the Market, the Community, in Shiva, V. *Water wars: privatisation, pollution, and profit*. Berkeley, California: North Atlantic Books, pp. 54-84.

Meeting#20: Waste Management: historical overview and the recent case of New York City.

Readings

Cohen, *The Sustainable City*, "Waste Management in New York City, Hong Kong, and Beijing", 237-270.

**Week 11**

**Research Week for CE Project**

Meeting#21: Research day - Service Learning Project  
Grading of the Course Journal #2

Meeting#22: No class (MPP & FSE Capstone Trips).

## Week 12

### **Sustainable Urban Living: sharing economy and vernacular ways**

Meeting#23: Sustainable urban living is about more than energy-efficient buildings, mass transit, and green spaces. A growing aspect of sustainable urban living is the “sharing economy.”

#### Readings

Cohen, *The Sustainable City*, “Sustainable urban living,” 363-402.

Meeting#24: *IN-CLASS FINAL PRESENTATION WITH THE PARTNER*

## Week 13

### **Final Classes & Special Academic Events Week**

Thursday, April 23: *Special Academic Events Day* - Community Engagement Final Presentations

*Special Academic Events*



## ENV/SUST/GEOG 355 Green Cities: A Sustainable Future Syllabus Appendix Spring Semester 2026

### What is service learning?

Service learning is a type of experiential education integrated into a course such that:

- students engage in an organized activity or project aimed to address a community need that is identified in collaboration with the community partner;
- students critically reflect on the link between the experience in the community, course content, and the learning goals; and
- there is reciprocal learning both by the students and by the community partners.

Students will need a certain degree of flexibility, creativity, and self-initiative to realize a service learning project. Organization and open communication in-class with the professor and student team members will be key to student success.

### Community Partner

Minimetrò S.p.A. is a public-private joint venture that manages the **Minimetrò of Perugia**, an innovative automated people mover system inaugurated in 2008. The service connects the historic city center with key areas such as the railway station and parking facilities, offering residents and visitors a fast, sustainable, and efficient alternative to private car use. The company oversees the operation, maintenance, and development of the network, aiming to reduce traffic congestion, promote eco-friendly mobility, and enhance accessibility in the hilly urban landscape of Perugia.

### Project Description and Goals

The project will focus on researching and deepening the knowledge of the Minimetrò and the urban environment in which it was built. Students will meet company representatives, visit the company's headquarters, and receive a 10-ride ticket to directly observe and experience the structure. Afterwards, working in groups, they will support the company in raising awareness among citizens and tourists about sustainability: First by calculating the carbon footprint of cars that would otherwise be used instead of the Minimetrò, and then by creating digital materials to be displayed at its stations.

### Organization, Expectations, and Roles

Students will be divided into teams, and they will choose their team. An important amount of time will be dedicated to the service learning project's progress in class. Teams might be required to meet outside of class for approximately 1–2 hours. Teams will be responsible for deciding how to divide the various tasks to ensure members contribute equally throughout the project.

Each team will collaborate to create and present a final detailed presentation accompanied by a PowerPoint presentation. Each student will be expected to complete a Presentation Feedback Form and ask questions to the other teams presenting to promote a community of learning and support.

Guidelines:

- PowerPoint (spell-check!).
- 10 minutes.
- Each team member contributes to the preparation and delivery of the presentation.
- Rehearse presentation as a group for content, length, and transitions.

### End of Semester Community Engagement Presentation

During Special Academic Events Week, the class will present a 15-minute summary of the project experience to the Umbra community during the Community Engagement Presentations on **Thursday, April 23** (the final week of the program). Students will receive the guidelines and presentation order after the mid-semester break.

All the presentations will have the same structure:

1. Present the partner
2. Present the project
3. Takeaways & challenges
4. A meaningful activity in line with the course topics (**optional**, it doesn't have to take more than five minutes)

Participation in this event is mandatory and an integral part of the community engagement grade.

### **Grading Rubric**

The service learning project (including the final presentation) is worth a total of 25% of the final course grade, which will be divided into three categories, each worth 8.33% of the final course grade:

1. Construction of learning project
2. Execution of learning project
3. End of Semester Community Engagement Presentation