



ENV-GSCI-GEOG 355 - Green Cities: A Sustainable Future

Course Syllabus

Spring Semester 2023

Instructor: Viviana Lorenzo (Arch. Ph.D)

Credits: 3

Contact Hours: 45

Prerequisites: none

Class Meeting Days & Time:

Office Hours: Tue. 12-1pm or by appointment

Email:

Course Type: Course with Service Learning component

Course Description

For the first time in history, the majority of the world's people live in cities. Cities are major contributors to emissions and resource consumption but also centers of technological and socio-cultural innovation. Cities can be at the forefront of actions for sustainable development - working *with* nature instead of against it.

This class will review concepts of sustainable urbanism and the systems that comprise it: Energy, Waste, Water, Food, Transportation and Open Space. Our main focus, which reflects its methodology, is based on two premises: (a) the role and importance of *Place* as an impediment or facilitator of urban sustainability and (b) the fundamental part played by *citizens' participation* in the commitment to sustainable policies and practice. Through these perspectives, students will comprehend the principles informing sustainable urban planning and the socio-cultural, economic, and political challenges faced by its promoters. Our approach is both global and local - we will use Perugia as our case-context while considering broader issues and analyzing case-studies both in Europe and all over the world, to compare approaches, goals, and policies.

The course will be carried out with the collaboration of the College of Agriculture of the University of Perugia (DSA3), and will focus on the various roles played by the vegetation within the context of a densifying city.

Starting from the definition of the ecosystem services provided by "nature in the city," the course will approach the ever-transforming context of *Nature-Based Solutions* as a framework of reference and as an opportunity to observe specific case studies, as well as to apply this approach to practical interventions in the city of Perugia.

The "Orto Sole" Environmental Restoration Project

Our main project site will be the former urban community garden now managed by Umbra Institute, named Orto Sole (the "Sun Garden"), just a few minutes from Perugia's main piazza in Via delle Prome. In Orto Sole, students will have the chance to engage with local partners and peers, and apply what they have learned to a concrete project, to learn and practice strategies for transforming urban open spaces into more resilient places, while creating more friendly, sustainable, and inclusive communities and cities.

Learning Outcomes and Assessment Measures

Below are the course's learning outcomes, followed by the methods that will be used to assess students' achievement for each learning outcome. By the end of this course, students will be able to:

- *identify and recall* the principles informing sustainability and sustainable urban development, and the socio-cultural, economic, and political challenges faced by its promoters; *compare* sustainable urban systems all over the world through the analysis of case studies for their effectiveness in implementing policies, technologies, and organizational models that support urban sustainability (Class Participation including Online Quizzes & Movie vision)

- *reflect* upon the relationships between people, places, values, and actions in building sustainability and *integrate* experiential activities with classroom learning to communicate them using systematic, public-facing, and ethical scholarship with twenty-first-century research and communication tools (Class Blog-Journal and Midterm Paper);
- *recognize and apply* different sustainable development approaches including green-blue infrastructure, nature-based solutions, and community participation methods in real-world settings. The latter include methods for interacting with peers, local partners and other stakeholders, and basic design, construction, and process skills (Field project);
- *distinguish* key terms, concepts, and principles related to sustainability and nature-based solutions in urban environments and the analysis of case studies. (Online Quizzes and Final Test, Final Presentation).

Course Materials

Readings

The only required book is Steven Cohen's *The Sustainable City* (New York: Columbia University Press, 2017). The course's Moodle site is the primary location for readings and assignments. The reference number is in the course schedule below with the due date indicated for each.

Assessment

Class Participation	10%
Online Quizzes & Movie viewing	10%
Class Blog-Journal and Midterm Paper	30%
Field Project	20%
Final Test	15%
Final Presentation	15%

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 Excellent
A-	90% - 92%	
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)

Course Requirements

Grades are based on the following criteria.

Class Participation (10%)

Class participation grades are based on students' regular attendance and contributions to the collective learning experience, as well as their individual performance. Active participation means: being prepared for class, having carefully read and carried out the days' assignments, asking and responding to questions, taking notes, and

attentively listening to others. Attending and contributing to class's special events, and to the individual meeting is also required.

Online quizzes & Movie viewing (10%)

During the term Online Quizzes (3 in total – 9%) will be released to assess students' understanding of fundamental learnings, each of which will be due on Moodle before the scheduled deadline and will not be reopened. There will be a combination of open and closed-ended *content questions*. The content questions will help students zoom in on the most important ideas of the readings and lectures. Students will also be required to vision individually or in group a *Movie related to course content* and to write a brief critical analysis in this regard (1 in total – 1%).

Class Blog-Journal and Midterm Paper (30%)

The Blog-Journal is an integral part of the class. It's a sandbox for students' reflections and a place to elaborate on what they have learned in class and applied to Perugia. Students will keep a blog-journal focusing on assigned reflections about themes discussed in class, presented in the readings, and as related to the student's field experiences. The journals will help solidify students' understanding of the course activities and theory, and offer an opportunity to explore connections between in-class and experiential learning. Weekly Blog-Journal entries are mandatory (7 short entries in total – 21%), as well as one Midterm Paper (4-5 pages – 9%). Guidelines will be provided for both formats.

Field Project (20%)

Students will be taking an active part in an ongoing project, starting by the legacy of students of past Green Cities' terms. The field project will be developed by the group in collaboration with the course partners, thanks to place observations and dialogs/workshops with community and faculty members. It will consist of a practical and creative application of Umbra's efforts to date in the Orto Sole site in the form of a small-scale concrete place improvement and/or the development of communication strategies to bring attention to the changes. Community workshops and interactive moments with community partners and stakeholders will be held during the term. Students will observe and help organize, and practically collaborate to the participatory process, addressing the needs and visions of involved community and faculty members. These are important moments in which the details of the field project are defined, and student and community roles are assigned.

Final Test (15%)

Students will be given an Online final test, through the Moodle platform or in class, to assess their overall knowledge and understanding of the class lectures and reading materials, case-studies presented, of the community-based project development process and of the city of Perugia. The test will be in the form of a multiple-choice quiz. A full prompt in Moodle will be given with the description of the topics covered, the format and number of Qs and how to study.

Final Presentation (15%)

During Special Academic Events Week, the class will present a 15-minute summary of the project experience to the Umbra community during the Community EngageGAMES Presentations on **Tuesday, April 25th**. Students will receive the guidelines and presentation order after the mid-semester break.

Individual Meeting

During the second week after the break, students will have individual 15-minute conversations with the professor to assess their progress and address any class or field project concerns the students may have. Participation in the individual meeting will make for 2.5% of the Class Participation final grade.

Activities in the Community

Due to the participatory nature of the class and its interdependence with numerous community actors, some of the planned field meetings and events may change with respect to preliminary proposed scheduling. You will be informed with as much advance warning as possible, but a certain degree of flexibility is needed. Presence during mandatory field trips or workshops is especially important for student performance in class. Missing a mandatory field trip or workshop, unless for a very serious reason that is communicated to the professor and Umbra Academic Director in a timely manner, will lower students' final grade by half a letter grade (i.e., a final grade of a B+ would be lowered to a B).

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 & Lateness Policy

Class attendance (in person or through live connection) is mandatory. All students are allowed 2 “sick days” (i.e. unexcused absences), which do not need to be justified. It is the student’s responsibility to keep them in case of real necessity. i.e., sickness or any other unforeseen inconvenience that may prevent students from being in class. More than 2 absences will affect your final grade by 2% per absence. Excessive unexcused absences (8 or more) may result in a failing grade or disciplinary action. Three late arrivals to or early departures from class will count as an unexcused absence. 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 be considered the equivalent of two unexcused absences. As such, absence from the co-curricular field trip will lower students’ final grade in that course by 4% (the equivalent of two unexcused absences). The absence policy for the Italian courses may be different than for that of the courses in English.

Additional absences relating to illness may be approved by the Director but only if a medical certification is provided. 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.

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.

Classroom 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 set on silent mode before the beginning of each class. Computers and other electronic devices cannot be used during class lectures and discussions for anything other than note-taking, unless there has been a specific academic accommodation.

Schedule of Topics, Readings, and Assignments

WEEK 1

Towards Green Cities

Meeting 1 (Tue., Jan. 24): **Introduction to the class.** Why cities? What is urban sustainability? Some numbers on (non)sustainable urbanization. Towards Green Cities: our collaboration with the College of Agriculture of the University of Perugia (DSA3) and field project partners, and our efforts for Umbra's campus garden, Orto Sole.

Meeting 2 (Thu., Jan. 26): **Green Cities Future Lab:** An urban "snoop about" in Perugia's ancient city center. Café Conversation: Is this Place sustainable?

Readings for the week:

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

1. Zappelli, M. R. (ed. Nowak, Z.), *Home Street Home: Perugia's History Told Through Its Streets*. Read "Brief History of the City's Development", 16-23.

WEEK 2

The Urban Age

Meeting 1 (Tue., Jan. 31): **Roots of the "problem": Global Urbanization and a closer look to the evolution of an Italian city.** Italy and Perugia, an overview of its Urban History and Modern Evolution. The "sustainability" of its form and functions. A special guest: talk (via Zoom) by former Green Cities Fall 2022 term student.

Meeting 2 (Thu., Feb. 2): **Green Cities Future Lab:** First visit to Orto Sole, to get to know the site of our community-based field project, our main partner the College of Agriculture of the University of Perugia (DSA) and our semester's partner: ASD Viva, which operates through sports programs for the social inclusion of people with physical, sensory and intellectual disabilities. First collective hands-on activity. *Theory through practice*.

Readings for the week:

2. Seto, K., Parnell, S. and Elmqvist, T., "Chapter 1. A Global Outlook on Urbanization", 1-12.

3. Lorenzo, R., *La città sostenibile*, Eléuthera, Milano 1998. Read "The Modern Italian City" (trad.), pages 28-31.

Assignments:

Watch the Anthropocene movie and write your thoughts report (due March 5th).

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WEEK 3

Green Spaces and Infrastructures (Focus 1)

Meeting 1 (Tue., Feb. 7): **The importance of (designed) natural systems in urban settings.** The various roles of Nature in the City. Introduction on Ecosystem services, Nature Based Solutions (NBSs) and Green and Blue Infrastructure concept and case-studies.

Meeting 2 (Thu., Feb. 9): **Green Cities Future Lab:** Lesson by Luca Galli of Apicoltura Galli Corciano. Title TBC.

Readings for the week:

4. Making Cities Liveable. Blue-Green Infrastructure and its impact on Society. (Online)

Optional reading:

5. Castàn Broto, V. (2018). Green City Promises and "Just Sustainabilities". RCC Perspectives, (1), 55-64.

WEEK 4

Systemic Components of Urban Sustainability

Meeting 1 (Tue., Feb. 14): **Overview of Sustainable Urban Systems:** Energy, Waste, Water, Food, Transportation and Open Space. Case-studies in Europe and beyond.

Meeting 2 (Thu., Feb. 16): **Green Cities Future Lab:** Visit to Perugia's "Highline" (explorations along a medieval aqueduct converted to an elevated walkway – a walk in and out the city's "countryside").

Readings for the week:

- Cohen, S., *The Sustainable City*. Read "Sustainable Urban Systems: Defined and Explained", 15-38.
6. Zappelli, M. R. (ed. Nowak, Z.) *Home Street Home: Perugia's History Told Through Its Streets*. Read "Via dell'Acquedotto", 35.
7. Rees, W. E., Ecological footprints and appropriated carrying capacity: what urban economics leaves out. *Environment and Urbanization*, 4(2) 1992, 121–130.

Assignments:

First Moodle Quiz on SUSs (due Oct 16th).

WEEK 5

Place Knowledge and Citizen Participation for Sustainability

Meeting 1 (Tue., Feb. 21): **The evolution of global and public policies in favor of Sustainability.** The need for a critical view and prospectus: Forefathers and Foremothers of Sustainable Urban Development and participation. Tools and approaches to prepare the Community workshop. In class simulation.

Meeting 2 (Thu., Feb. 23): **Green Cities Future Lab:** (Umbra's Library) Community workshop with Orto Sole stakeholders (Faculty and students) and partners, to envision the pollinator garden and gather further ideas for the Orto. *Theory through practice*.

Readings for the week:

- Cohen, S., *The Sustainable City*. Read "The Role of Politics and Public Policy in Building Sustainable Cities," 89-111.
8. Earley, J., Sorting in Patrick Geddes' Outlook Tower, in *Places*, 7(3), 1991.
9. Jacobs, J., The kind of problem a city is, in *The Death and Life of Great American Cities* 428-439.

WEEK 6

A closer look towards action: Placemaking for eco-local resilience.

Meeting 1 (Tue., Feb. 28): **Place experience and change as related to Sustainability.** Lesson by Prof. Raymond Lorenzo (Guest Lecture), "What is Placemaking: a brief overview of the "C.A.R.O. Vicolo" project". Interactive session in class dedicated to a reflection on the management of the outcomes of the Community workshop. Midterm Guidelines distributed and discussed.

Meeting 2 (Thu., Mar. 2): **Green Cities Future Lab:** Second visit to Orto Sole. Outdoor session dedicated to develop first class ideas, identify spots and resources for our Place-making efforts.

Readings for the week:

10. Project for Public Spaces, “Placemaking: what if we built our cities around places?” Manual. New York: P.P.S., 2016 (Online).
11. Adhya, A., “Jane Jacobs and the Theory of Placemaking in Debates of Sustainable Urbanism”, in *The Urban Wisdom of Jane Jacobs*, edited by Sonia Hirt. Routledge London NY, 2012.

Semester Break

WEEK 7

Green Spaces and Infrastructures (Focus 2) Climate Change’s Impact on Urban Sustainability

Meeting 1 (Tue., Mar. 14): The topic of the week is **Climate Change** as a result of man-made Global Warming, and how it is effecting cities and communities all around the world. How can NBSs and Blue-Green Infrastructure can help build resilience and sustainability to face this challenge?

Meeting 2 (Thu., Mar. 16): **Green Cities Future Lab:** In class session dedicated to form Final project teams and/or create communication tools for our Place-making efforts. (Individual meetings appointments scheduled)

Readings for the week:

- Cohen, S., *The Sustainable City*, New York: Columbia University Press, 2017. Read “Parks and public spaces,” 167-180.
12. Hester, R., *Community Design by Intricate Oppositions*. Proceedings of the 6th Conference of the Pacific Rim Community Design Network, Quanzhou, Fujian, China, June 2007.
 13. U.S. Army Engineer Research and Development Center (2021), International Guidelines on Natural and Nature-Based Features for Flood Risk Management, selected pages. (Online)

Assignments:

Second Moodle Quiz on Placemaking (due March 26th)

WEEK 8

Sustainable Transport & Mobility

Meeting 1 (Tue., Mar. 21): The topic of the week is **how the ways people move around** in, and to/from, cities have differing impacts on environmental sustainability, social relations and health. “Moving class” session dedicated to alternative mobility, a ride on Perugia’s Minimetro.

Meeting 2 (Thu., Mar. 23): **Green Cities Future Lab:** In class session dedicated to form Final project teams and/or create communication tools for our Place-making efforts.

Readings for the week:

- Cohen, S., *The Sustainable City*, New York: Columbia University Press, 2017. Read “Mass and Personal Transit,” 131-152.
14. Jacobs, J., “The uses of Sidewalks: safety”, in *The Death and Life of Great American Cities*, pages 29-54.

WEEK 9

Green Spaces and Infrastructures (Focus 3) Sustainable Food Urbanism

Meeting 1 (Tue., Mar. 28): Students will learn about **urban agriculture, community gardens and campus gardens**. Historical framework and new approaches. International and local case-studies.

Meeting 2 (Thu., Mar. 30): **Green Cities Future Lab:** At Orto Sole with Zachary Nowak we will set

the foundations of our NBS/Place-making intervention. *Theory through practice*.

Readings for the week:

15. Grohmann, D. and Meniconi, M.E., "The Vegetable Gardens of St. Peter (Perugia-Italy): The Rebirth of a Forgotten Place". IFLA World Congress International Federation of Landscape Architects, Turin 2016.

One of your choice:

16.a Nar, J., Komisar, J., and Gorgolewski, K. "Urban Agriculture as ordinary urban practice." In *Second Nature Urban Agriculture*. Routledge: London, 2014, pages 24-31.

16.b Giacchè, G., Paffarini, C., & Torquati, B. (2017). Cultivating changes. *Future of Food: Journal on Food, Agriculture and Society*, 5(1), 8-20.

Assignments:

Third Moodle Quiz on NBSs (due April 9th).

WEEK 10

Let's do something! Place-making for eco-local resilience.

Meeting 1 (Tue., Apr. 4): **Green Cities Future Lab: *Theory through practice***. At Orto Sole Building Lab and/or in class. Development of project ideas selected at workshop: Building/planting/promoting activities.

Meeting 2: (Thu., Apr. 6): **Green Cities Future Lab: *Theory through practice***. At Orto Sole Building Lab and/or in class. Development of project ideas selected at workshop: Building/planting/promoting activities.

WEEK 11

Let's do something! Place-making for eco-local resilience.

Meeting 1 (Tue., Apr. 11): **Green Cities Future Lab: *Theory through practice***. At Orto Sole Building Lab and/or in class. Development of project ideas selected at workshop: Building/planting/promoting activities.

Meeting 2 (Thu., Apr. 13): **Green Cities Future Lab: *Theory through practice***. At Orto Sole Building Lab and/or in class. Development of project ideas selected at workshop: Building/planting/promoting activities.

WEEK 12

We did it! Place-making for eco-local resilience.

Meeting 1 (Tue., Apr. 18): **Green Cities Future Lab: *Theory through practice***. At Orto Sole Building Lab and/or in class. Development of project ideas selected at workshop: building/planting intervention. Preparation of Community Day participatory activities and Final presentation.

Meeting 2 (Thu., Apr. 20): **Green Cities Future Lab: *Theory through practice***. At Orto Sole Building Lab and/or in class. Development of project ideas selected at workshop: building/planting intervention. Preparation of Community Day participatory activities and Final presentation.

Assignments:

Final Online Test (TBA).

WEEK 13

Tue., Apr. 25 Orto Sole Neighborhood Day (Time TBA)

Bee Hotel inauguration and planting party with stakeholders, partners and potential friends to celebrate Umbra's Orto Sole, and present/evaluate our field project realization.

Final Exams and Special Academic Events Week



ENV-GSCI-SOC 355 - Green Cities: A Sustainable Future
Service Learning Project
Syllabus Appendix

What is service learning?

Service learning is a type of experiential education integrated into a course in which:

- 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 in order 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.

Service Learning Project Overview

Community Partner

For the Service Learning Project students will collaborate with several community partners: staff and Faculty of the Umbra Institute, the College of Agriculture of the University of Perugia (DSA), and potential partners and stakeholders who they will meet during the community workshops.

Project Description and Goals

The main project site will be the former urban community garden now managed by Umbra Institute, named Orto Sole (the "Sun Garden"), just a few minutes from Perugia's main piazza in Via delle Prome. In Orto Sole, students will have the chance to engage with local partners and peers, and apply what they have learned to a concrete project, to learn and practice strategies for transforming urban open spaces into more resilient places, while creating more friendly, sustainable, and inclusive communities and cities.

Organization, Expectations, and Roles

Students will be taking an active part in an ongoing project, starting by the legacy of students of past Green Cities' terms. The field project will be developed by the group in collaboration with the course partners, thanks to place observations and dialogs/workshops with community and faculty members. It will consist of a practical and creative application of Umbra's efforts to date in the Orto Sole site in the form of a small-scale concrete place improvement and/or the development of communication strategies to bring attention to the changes.

Community workshops and interactive moments with community partners and stakeholders will be held during the term. Students will observe and help organize, and practically collaborate to the participatory process, addressing the needs and visions of involved community and faculty members. These are important moments in which the details of the field project are defined, and student and community roles are assigned.

Final Presentation

On **Tuesday, December 13**, during the Special Academic Events week, the class will give a 15-minute presentation to the Umbra community at the Community EngageGAMES Presentation during the exams week. The class will work together to share a few words about the course and project, lead a meaningful activity that focuses on the project, and

provide a few thoughts about their experience with the project and partner. Students will receive guidelines and presentation order after the mid-semester break. Participation in this event is MANDATORY and an integral part of the community engagement grade.

Grading Rubric

The service learning project is worth a total of 35% of the final course grade, which will be divided into two categories:

1. Field Project (20%)
2. Final Presentation (15%)