ENV/GSCI/SOC 355: Towards Green Cities: Local and Global Perspectives

Course Syllabus
Spring 2020

Credits: 3
Contact Hours: 45
Prerequisites: None
Class Hours: Tuesdays and Thursdays, 12:00 p.m.-1:30 p.m.
Office Hours: immediately after class or by appointment
Course Type: Lecture / workshop / field study and practice
Lab Fee: TBA

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: open space, mobility, food and water, energy and waste. 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 in the US, 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 also 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 for this term will be with the urban community garden just a few minutes from Perugia's main piazza, Orto Sole (the "Sun Garden"). In Orto Sole, students will propagate local plants from DSA3's Seed

Bank, and settle them on-site to reduce the risk of hydro geological instability. Students will have the chance to engage with local partners and apply what they have learned to a concrete project, to learn and practice strategies for transforming urban spaces into resilient places, while creating more friendly, sustainable, and inclusive communities and cities.

Learning Outcomes and Assessment Measures

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

Learning Outcomes	**Assessment Measures** **Course requirements that will be used to assess students' achievement for each learning outcome**
Appreciate and understand the relationships between people, places, values, and actions in building sustainability. Critically understand the principles informing sustainable urban planning and the socio-cultural, economic, and political challenges faced by its promoters. Compare 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
Consolidate the understanding of the course activities and theory, and offer an opportunity to explore connections between in-class and experiential learning. Integrate experiential learning activities with classroom knowledge to communicate using systematic, public-facing, and ethical scholarship with twenty-first-century research and communication tools.	Class Journal
Understand and apply skills acquired in sustainable urban development approaches, nature-based solutions, and community participation methods. These include methods for interacting with neighborhood actors, local partners and other stakeholders, and basic design, construction, and process skills. Get to know well, and understand, Perugia's historic neighborhoods in its urban context – its history, places, people and recent efforts in improving its livability.	Field Project
Assess student's knowledge and ability to identify key terms, concepts, and principles related to sustainability in urban environments and the analysis of case studies.	Final Test

Course Materials

Readings

The only required book is Cohen, Steven. *The Sustainable City*. New York: Columbia University Press, 2017.
The following readings can be found in the course reader. The reference number is in the course schedule below with the due date indicated for each.

1. Seto, K., Parnell, S. and Elmqvist, T., "Chapter 1. A Global Outlook on Urbanization" in *Urbanization, Biodiversity and Ecosystem Services: Challenges and Opportunities. A Global Assessment*. Springer, New York London 2013, pages 1-12.
2. Lorenzo, R. (trad) *The Sustainable City,* Eléuthera, Milano 1998. Read "The Modern Italian City", pages 28-31.

3. Zappelli, M. R. (ed. Nowak, Z.) *Home Street Home: Perugia's History Told Through Its Streets*. Morlacchi Editore, Perugia 2013. Read "Brief History of the City's Development" pages 16-23, "Via dell'Acquedotto" page 35.
4. Rees, W. E., Ecological footprints and appropriated carrying capacity: what urban economics leaves out. *Environment and Urbanization*, *4*(2) 1992, 121–130.
5. Lorenzo, R. and Vannucci, S. "Getting oriented for the future: documents, agreements, tools and resources from a global to local level" in *Agenda 21 Locale*. Italian National Agency for the Environment, Rome. 31/2004. Pages 103-108 and 112-119.
6. Grohmann, D. and Menconi, 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.
7. Earley, J., Sorting in Patrick Geddes' Outlook Tower, in *Places*, 7(3), 1991.
8. Jacobs, J., Cap. 22 "The kind of problem a city is", in *The Death and Life of Great American Cities*, Vintage Books (1961, 1992), New York, pages 428-439.
9. Making Cities Liveable. Blue-Green Infrastructure and its impact on Society. (Online)
10. Grohmann, D., and Menconi, M.E., "Green infrastructures: tree trenches for stormwater management in urban environments." *Proceedings of the 44th InternationalSymposium on Agricultural Engineering: Actual Tasks on Agricultural Engineering,* Opatija, Croatia, 23-26 February 2016, pages 75-84.
11. Project for Public Spaces, "Placemaking: what if we built our cities around places?" Manual. New York: P.P.S., 2016 (Online).
12. Ghofrani, Z., Sposito, V. and Faggiani, R. "A Comprehensive Review of Blue-Green Infrastructure Concepts" in *International Journal of Environmentand Sustainability* Vol. 6 No. 1, 2017, pages 15-34.
13. Hester, R., *Community Design by Intricate Oppositions*. Proceedings of the 6th Conference of the Pacific Rim Community Design Network, Quanzhou, Fujian, China, June 2007.
14. Jacobs, J., "The uses of Sidewalks: safety", in The Death and Life of Great American Cities, pages 29-54.
15. Nar, J., Komisar, J., and Gorgolewski, K. "Urban Agriculture as ordinary urban practice." In *Second Nature Urban Agriculture*. Routledge: London, 2014, pages 24-31.
Course reader is available at a local copy shop. See "Umbra Institute Course Materials - Textbooks and Readers" handout provided in the orientation folder for more information.

Assessment

Class Participation	20%
Class Journal	30%
Class Project	25%
Final Test	25%

Grading

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+ D D-	67% - 69% 63% - 66% 60% - 62%	Low Pass
F	59% or less	Fail (no credit)

Course Requirements

Grades are based on the following criteria/requirements:

Class Participation (20%)
Class participation grades are based on students' contributions to the collective learning experience and 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' special events is also required.

Class Journal (30%)—The journal is an integral part of this class. It's a sandbox for your reflections and a place for you to elaborate on what you've learned in class and apply it to both Perugia and your hometown. 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 Journal entries are mandatory.

Field Project (25%)

Students will be taking an active part in an ongoing project. The field project will be developed by the group in collaboration with the course partners, thanks to community place observations and dialogs/workshops with community members. It will consist of a practical and creative application of Umbra's efforts to date in the OrtoSole site or other small scale concrete place improvements and/or the development of communication strategies as identified in the study /by the community to bring attention to the changes. Community workshops will be held during the term. Students will observe and help organize participatory processes addressing the needs and visions of involved community members. These are important moments in which the details of the field projects are defined, and student and community roles are assigned.

Final Test (25%)

Students will be given a final test to assess their knowledge and understanding of the class 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.

Individual Meeting
During the third week after the break, students will have individual 15-minute conversations with the professors to assess their progress and midterm paper results and address any class or field project concerns the students may have. (Date to be announced)

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.

Attendance Policy

Class attendance is **mandatory**. Students are allowed **two "free" absences**, which do not need to be justified. **It is the students' responsibility to keep them in case of real necessity (sickness or any other unforeseen inconvenience that may prevent students from being in class)**. Each additional absence, unless for a very serious reason, will lower the students' grade by one grade level (i.e., final grade of a B+ would be lowered to a B).

If students miss class, they are responsible for obtaining class notes from other students and/or for meeting the professor during office hours. It is also the policy of the Institute that any student who has eight or more absences automatically fails the class.

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.

Presence during mandatory field trips is especially important for student performance in class. Missing a mandatory field trip, 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 one grade level (i.e., a final grade of a B+ would be lowered to a B).

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. Active class participation is part of students' final grades. Please note that **cell phones** must be turned off before the beginning of each class. **Computers and other electronic devices** can only be used in class as supports to class activities and objectives (taking notes, doing class project work, etc.).

Schedule of Topics, Readings, and Assignments

WEEK 1

Tue., Jan. 21 **Introduction & Definitions**: 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 Prof. David Grohmann (DSA3).

Readings (due)

Cohen, S., *The Sustainable City*, New York: Columbia University Press, 2017. Read "Defining the Sustainable City", pages 3-13.

Thu., Jan. 24 **Green Cities Future Lab**: An urban "snoop about" in Perugia's ancient city center. Café Conversation: Is this Place sustainable?

WEEK 2

Tue., Jan. 27 **Roots of the "problem": A closer look at 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.

Readings (due)

1. Seto, K., Parnell, S. and Elmqvist, T., "Chapter 1. A Global Outlook on Urbanization", pages 1-12.
2. Lorenzo, R. (trad) *The Sustainable City,* Eléuthera, Milano 1998. Read "The Modern Italian City", pages 28-31.
3. Zappelli, M. R. (ed. Nowak, Z.) *Home Street Home: Perugia's History Told Through Its Streets*. Morlacchi Editore, Perugia 2013. Read "Brief History of the City's Development" pages 16-23, "Via dell'Acquedotto" page 35.

Thu., Jan. 30 **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")

WEEK 3

Tue., Feb. 4 **Sustainability in the Urban Environment: Systematic Components.** Overview and discussion of sustainable urban systems: Energy, Waste, Water, Food, and Open Space. Contextualization in Perugia and Italy. Interactive exercise in classroom "Our Island": the systems which make up a "living place" and a "city".

Readings (due)

Cohen, S., *The Sustainable City*, New York: Columbia University Press, 2017. Read "Sustainable Urban Systems: Defined and Explained", pages 15-38.
4. Rees, W. E., Ecological footprints and appropriated carrying capacity: what urban economics leaves out. *Environment and Urbanization*, *4*(2) 1992, 121–130.

Thu., Feb. 6 **Green Cities Future Lab:** A first visit to OrtoSole, to get to know our partner and site of our community-based project.

WEEK 4

Tue., Feb. 11 **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 Participation. Interactive in-class reflections/exercises on European Policy approaches vs. USA.

Readings (due)

Cohen, S., *The Sustainable City*, New York: Columbia University Press, 2017. Read "The Role of Politics and Public Policy in Building Sustainable Cities," 89-111.

5. Lorenzo, R. and Vannucci, S. "Getting oriented for the future: documents, agreements, tools and resources from a global to local level" in *Agenda 21 Locale*. Italian National Agency for the Environment, Rome. 31/2004. Pages 103-108 and 112-119.
6. 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.

Thu., Feb. 13 **Green Cities Future Lab:** First visit to the Orti Sociali di San Pietro. Introduction to our partner, the Green Team, and to the "lab" setting.

WEEK 5

Tue., Feb. 18 **The need for a critical view and prospectus. Forefathers and Foremothers of Sustainable Urban Development.** From the Outlook Tower of Patrick Geddes to Jane Jacobs' living cities, two *focal points* of the course methodology are introduced: the role of Place knowledge and Placemaking, and the importance of Community Participation for sustainability.

Readings (due)

7. Earley, J., Sorting in Patrick Geddes' Outlook Tower, in *Places*, 7(3), 1991.
8. Jacobs, J., The kind of problem a city is, in The Death and Life of Great American Cities, pages 428-439.

Thu., Feb. 20 **Green Cities Future Lab: Introduction on Nature Based Solutions** (NBSs) and Blue-Green Infrastructures, preparation for our Day Trip to Bologna.

Readings (due)

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

FRI., FEB. 21 DAY TRIP TO BOLOGNA.
VISIT TO FIU FOUNDATION FOR URBAN INNOVATION (FORMER URBAN CENTER) AND MODEL PROJECTS ON NATURE BASED SOLUTIONS AND GREEN&BLUE INFRASTRUCTURES

WEEK 6

Tue., Feb. 25 **Green Spaces and Infrastructures.** The importance of (designed) natural systems in urban settings. Nature Based solutions and Blue-Green Infrastructure concepts. International and local case-studies.

Readings (due)

Cohen, S., *The Sustainable City*, New York: Columbia University Press, 2017. Read "Parks and public spaces," 167-180.

10. Grohmann, D., and Menconi, M.E., "Green infrastructures: tree trenches for stormwater management in urban environments", pages 75-84.

Thu., Feb. 27 **Green Cities Future Lab:** A walk in Via Ripa di Meana, some (bad) examples of interventions with NBS solutions for hydro geological risk mitigation.

WEEK 7

Tue., Mar. 3 **A closer look: Place experience and transformation as related to Urban Sustainability** Lesson by Prof. Raymond Lorenzo (Guest Lecture Umbra's Placemaking Course), "What is Placemaking: a brief overview of the "C.A.R.O. Vicolo" project".

Readings (due)

11. Project for Public Spaces, "Placemaking: what if we built our cities around places?" Manual. New York: P.P.S., 2016 (Online).

Thu., Mar. 5 **Green Cities Future Lab:** Community workshop with OrtoSole activits to set the goals of our field project. *Theory through practice.*

SEMESTER BREAK

(March 9-15)

WEEK 8

Tue., Mar. 17 **Climate Change's Impact on Urban Sustainability.** Building ecologic local resilience through participation and placemaking. Interactive session in class dedicated to a reflection on the management of the outcomes of the workshop. First ideas for our class (community) project.

Readings (due)

12. Ghofrani, Z., Sposito, V. and Faggiani, R. "A Comprehensive Review of Blue-Green Infrastructure Concepts" in *International Journal of Environment and Sustainability*Vol. 6 No. 1, 2017, pages 15-34.
13. Hester, R., *Community Design by Intricate Oppositions*. Proceedings of the 6th Conference of the Pacific Rim Community Design Network, Quanzhou, Fujian, China, June 2007.

Thu., Mar. 19 **Green Cities Future Lab: The DSA3's Seed Bank** Lesson by Prof. Lorenzo Raggi (Guest lecture, Agricultural Geneticist, DSA3), the importance of the Seed Bank and propagation of local plants for our class project. *Theory through practice.*

WEEK 9

Tue., Mar. 24 **Transport & Mobility.** 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. International and local case-studies.

Readings (due)

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.

Thu., Mar. 26 **Green Cities Future Lab:** Visit to "Alternative Mobility Perugia" (Rocca Paolina Public Escalator and Mini-metro) "People watching exercises".

WEEK 10

Tue., Mar. 31 **Sustainable Food Urbanism.** Urban agriculture, community gardens, and the Continuous Productive Urban Landscape. Historical framework and new approaches. International and local case-studies.

Readings (due)

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

Thu., Apr. 2 **Green Cities Future Lab: The DSA3's Seed Bank.** *Theory through practice.* Continue work **on** propagation of local plants for our class project.

WEEK 11

Tue., Apr. 7 **A closer look towards action: Placemaking for ecologic local resilience.** Interactive session entirely dedicated to develop our proposed class (community) project for Orto Sole and prepare for the workshop.

Thu., Apr. 9 **Green Cities Future Lab:** *Theory through practice.* At Orto Sole, community workshop with activists managed by students, to assess our proposed project and find (human and not) resources.

WEEK 12

Tue., Apr. 14 **Final test: distribution, auto-evaluation and discussion.**

Thu., Apr. 16 **Let's do something! Green Cities Future Lab:** *Theory through practice.* At DSA Building Lab or Orto Sole. Development of project ideas selected at workshop: building/planting intervention

WEEK 13

Tue., Apr. 21 **Let's do something! Green Cities Future Lab:** *Theory through practice.* At Orto Sole - continued Building/planting/ promoting activities.

Thu., Apr. 23 **We did it! Green Cities Future Lab:** *Theory through practice.* At Orto Sole - conclusion Building/planting/ promoting activities.

Thu., Apr. 23 **Celebrative final event and presentation of Green Cities Future Lab Place-making efforts.**

5:30 PM–8:00 PM at OrtoSole. Presentation and celebration of elements designed and built by students together with our partners. **(Date to be confirmed)**

Food, music and dancing … until people are tired or have to study.

WEEK OF FINAL EXAMS AND SPECIAL ACADEMIC EVENTS

Apr. 27-May 1 The Final Exam and Special Academic Events Calendar will be provided later in the semester.