Faculty of Engineering | Università di Roma “La Sapienza”
Facoltà di Ingegneria Civile e Industriale

AAF1216 ALTRE - VIAGGI DI ISTRUZIONE, CONVEGNI, SEMINARI
(Prof. CERCATO MICHELE) 29904-INGEGNERIA PER L'AMBIENTE E IL TERRITORIO [L-270 - ORDIN. 2019] - L-7
AA 2023-2023

aka

“ECOLOGICAL URBANISM”

This course, conducted entirely in English by Architect Tom Rankin (BA, Princeton, MArch Harvard), introduces students to the problems of sustainable urban design and some of the innovative (and traditional) opportunities and techniques to reduce the environmental impact caused by urban development.

Schedule

Synchronous Meetings: Wednesdays 16:00
Via Eudossiana, 18 Roma, **RM031 aula 25**
First meeting: Wed 1 March 2023
Register online before first meeting on Google Classroom
https://classroom.google.com/c/NTk1MTEyMzEyMDY2?cjc=ovztzpp

Course Program

The course is structured thematically in three phases.

1. The **first phase** will consist of weekly slide lectures, readings and video screenings followed by occasional seminar discussions. Students will begin to research and prepare material for thematic presentations introduced below.
2. Thematic presentations will be **presented orally with slides during the second phase**, with the results also being compiled into a **written report**.
3. During the **final phase** there will be an optional **short oral exam** to evaluate students’ comprehension of the lectures and readings. Students may pass the course but not receive excellence points without doing the oral exam.

GRADING
The final evaluation will be based on the student’s performance on the presentation (50%), written paper (40%), and oral exam (10%).

Excellence points will be granted to those students performing outstandingly in the course in all three phases above, based on a. research

Learning Objectives

- Gain theoretical and practical experience around issues of sustainability and urban design.
- Learn about cities around the world and their specific approaches to ecology.
- Apply English-language verbal, written, interpersonal and cross-cultural communication skills in a variety of professional and/or cultural contexts, including the online context.
- Learn to engage with simple project management and communications applications to foster critical understanding of project-based communication.
- Develop a greater appreciation of career opportunities while more clearly defining personal goals.
- Develop and improve time, stress management, and problem-solving skills.
- Observe, analyze, and apply professional behaviors in businesses and organizations.
- Demonstrate creativity, initiative, and responsibility.
- Learn how to create and track learning outcomes
- Document knowledge and skills learned during the internship.
- Learn how to work collaboratively as part of a team with specific goals.

THEMES

1. **Water**. Where does it come from, where does it go, how is it managed? What effect does the recognition of the limits of clean water have on urban development?
2. **Green Space**. What is the role of green space in the city? How can it be defended and improved?
3. **Urban Fabric**. How does the choice of where to site buildings, how to plan and regulate development, impact the city's performance?
4. **Energy**. Where does it come from and how is it managed? What are the true costs vs. the economic costs? What strategies exist to reduce the energy consumption (and subsequent emissions) related to urban development?
5. **Waste**. What happens to the solid and liquid waste produced by human inhabitation? Where does it go, how is it managed, and how can it be reduced or eliminated, or at least turned into a resource?
6. **Transportation**. How do people move around the city and between cities and what are the environmental and personal costs?
7. **Community**. What role do stakeholders play in the development of more environmentally sustainable cities? How is participation essential to ecological urbanism?

Assignment:

This year the course workshops will address several exemplary green cities in the US and Canada: San Francisco, Portland, Seattle, and Vancouver. The chosen city will be analyzed using one or more of the course themes listed above.

You should work in groups of 3-4 although you may also request to do the work individually if special situations warrant it. A list of cities to choose from and a form to sign up will be posted during the first lessons.

Look for examples of successful urban revitalization projects, best practices, creative solutions to ecological challenges such as flooding or pollution. How will the needs of disease containment impact efforts to lower the environmental impact of city policies and practices?

Each student in the group will address a discrete phenomenon to research and present, but these components must be coordinated by the group to comprise a unified presentation.

Presentations will be given orally in the classroom, in English, with the support of digital slides (power point, etc.). Each student should speak for between 3 and 5 minutes.

Written reports must be between 1000-1500 words per student, clearly indicating the author of each section. Illustrations and graphics should be clearly labeled and all quotations must be credited to their source. Reports should be formatted A4 and submitted digitally in pdf format at the time of the presentation.

Calendar

WK 1 / 1 March 2023 Intro
LECTURE: INTRODUCTION: Ecological, Sustainable, Resilient and Smart
READ: Owen, David. Green Metropolis. Penguin Book, London, 2009.
SEMINAR/ WORKSHOP: New York

WK 2 /8 March 2023 Urban Fabric
LECTURE: Urban Density and Sustainability
READ: Owen, David. Green Metropolis. Penguin Book, London, 2009.
WATCH: Citizen Jane, intro
SEMINAR/ WORKSHOP: New York's Layout

Prof. Rankin will be out of the country 16-30 March but lessons will continue remotely and asynchronously.

WK 3 / 15 March 2023 Water
LECTURE (asynchronous on Classroom): Waters of New York
READ:
WATCH: City on the Water
SEMINAR/ WORKSHOP: New York's Blue Borough

WK 4 /21 March 2023 Green
LECTURE (asynchronous on Classroom): Greening of Manhattan
READ: NYC's Urban Forest
WATCH:

WK 5 /29 March 2023 Waste
LECTURE (asynchronous on Classroom): Zero Waste NY
READ: New York City Zero Waste Plan

WATCH:
SEMINAR/ WORKSHOP:

WK 6 /5 April 2023 Energy
LECTURE: Carbon-Neutral NYC
READ: Pathways to Carbon Neutral NYC
WATCH:
SEMINAR/ WORKSHOP: calculating embodied energy

WK 7 /12 April 2023 Mobility
LECTURE: NYC Multi-Modal Streets
READ: Creating Multi-Modal Streets
WATCH:
SEMINAR/ WORKSHOP: post-automotive urban mobility

WK 8 /19 April 2023 Community
LECTURE: Citizen Jane: the example of urban activism of Jane Jacobs
READ:
WATCH: Citizen Jane
SEMINAR/ WORKSHOP:

WK 9 /26 April 2023
STUDENT PRESENTATIONS

WK 10 /3 May 2023
STUDENT PRESENTATIONS

WK 11 /10 May 2023
STUDENT PRESENTATIONS

WED 7 June 2023
Oral Exam - VERBALIZATION

WED 5 July 2023
Oral Exam - VERBALIZATION

Bibliography

The principal articles read in the course are listed in the program and will be provided digitally in Classroom

Below are additional suggested readings for students who want to learn more:

Mohsen Mostafavi, (Editor), *Ecological Urbanism*, Lars Müller Publishers; 1 edition, 2010

Rifkin, Jeremy. *The Third Industrial Revolution*. 2010. *Available on-line

William McDonough and Michael Braungart, *Cradle to Cradle*. New York, NY: Northpoint Press, 2002.

Mitchell, William J. *Me++ The Cyborg Self and the Networked City*. MIT Press, 2004.

Brown, Lester. *Plan B 3.0: Mobilizing to Save Civilization*. W.W. Norton & Co. 2008.

Sassen, Saskia. “Seeing Like a City” in Burdett, Ricky, ed. *The Endless City*. Phaidon. 2007

Ratti, Carlo, The City of Tomorrow: Sensors, Networks, Hackers, and the Future of Urban Life, Yale University Press, 2016

Rankin, Thomas Greene. *Rome Works: An Architect Explores the World’s Most Resilient City* Peruzzi Press, 2015.