

## Master of Science Urban Agriculture & Green Cities



Academic year 2022-2023

## Contents

<b>Master of Science Urban Agriculture &amp; Green Cities .....</b>	<b>3</b>
General introduction of the program.....	3
Target skills.....	3
Careers.....	3
SEMESTER I.....	4
<b>Teaching Unit 2. Urban Ecology .....</b>	<b>8</b>
<b>Teaching Unit 2. Urban Agriculture 1 .....</b>	<b>10</b>
<b>Teaching Unit 3 Planning &amp; Urban Design 1.....</b>	<b>12</b>
<b>Teaching unit 5 - Urban Sociology .....</b>	<b>16</b>
<b>Teaching Unit 5- Legislation .....</b>	<b>19</b>
<b>Teaching Unit 6. Geographical Information System.....</b>	<b>23</b>
<b>Teaching Unit 7 - Field experiments - Visits .....</b>	<b>24</b>
<b>Teaching Unit 8 - Self and group awareness .....</b>	<b>25</b>
<b>Teaching unit 9 - Practical Assignment .....</b>	<b>27</b>
<b>Teaching Unit 10 – Innovation Management .....</b>	<b>28</b>
SEMESTER 2.....	29
<b>Teaching Unit 11 - Sustainable cities and eco-innovation.....</b>	<b>31</b>
<b>Teaching Unit 12 - Urban Agriculture II.....</b>	<b>34</b>
<b>Teaching Unit 13 Urban Food System .....</b>	<b>35</b>
<b>Teaching Unit14 – Value Chain Management .....</b>	<b>37</b>
<b>Teaching Unit 15- Urban planning &amp; Architecture II.....</b>	<b>39</b>

# Master of Science Urban Agriculture & Green Cities

## General introduction of the program

The Master of Science Urban Agriculture & Green Cities aims to train future executives and engineers in the field of urban agriculture and its related sciences in order to ensure the inevitable transition to the green, resilient and intelligent cities. This master program has been developed following an innovative approach to enhance the well-being of citizens and society.

Urban agriculture creates value and opportunities by efficiently using the assets of sustainability such as climate adaptation, energy transition, circular economy, the use of harvested rainwater or greywater, and there is a specific need for executives and engineers with specific knowledge of these issues.

## Target skills

- To have a deep understanding of the **tools and methods** applied to the **analysis of cities and suburban areas**, and **the perspective for future changes** regarding their **food systems and natural resources use**
- To gain the technical skills required to integrate **multifunctional and innovative** urban farming projects into **urban development plans** (building standards and architectural design)
- To be able to assess and handle **complexities of urban development** in a local and regional perspective and relate them to their **agricultural, social, economic, environmental and political context**
- To develop the skills needed **to organize and lead inter-disciplinary groups with experts, including planning, coordinating, team working, business development, problem-solving skills, etc.**

## Careers

- Project manager specialized in urban farming and plant innovation
- Policy advisor on sustainable living and building
- Designer, architecture, urbanist specialized in green cities
- Consultant/ entrepreneur/researcher specialized in the deployment of sustainable planning strategies in urban and suburban areas

**The program: The MSc Urban Agriculture & Green Cities is taught in English and lasts 18 months running from October to June.**

The program is broken down into 13 teaching units (TU)

- 450 hours ( in person classes, online classes, field trips, directed work, project work, personal work...)
- 60 ECTS ( The European Credit Transfer and Accumulation System - UC)

Program coordinator: Dr. Marie Asma Ben-Othmen [marie-asma.benothmen@gmail.com](mailto:marie-asma.benothmen@gmail.com)

# **SEMESTER I**

**From October 5<sup>st</sup>, 2021 to February 19<sup>th</sup> 2022**

Semester I	
<p><b>Specific Knowledge acquisition (21h, 4 ECTS)</b></p> <p>General introduction to urban planning at the city and building scales, short lectures and field visits as introduction plants' biology &amp; botany</p>	
<p><b>Urban Ecology (35 h, 4 ECTS)</b></p> <p>Concepts, principles, applications; biodiversity and urban resilience, cities and climate change</p>	
<p><b>Urban Planning &amp; Architecture I ( 35h, 4 ECTS)</b></p> <p>Urban planning and innovation, Landscape project in urban planning, Urban project phases, Ecological urban design, etc</p>	
<p><b>Urban Agriculture I (35 h, 3ECTS)</b></p> <p>Concepts, principles and applications; urban agriculture definitions and functions, urban agriculture and planning, etc</p>	
<p><b>Self and group awareness (15 h, 2ECTS)</b></p> <p>Team building, participative management, French as second language</p>	
	<p><b>Legislation (15h, 2 ECTS)</b></p> <p>Urban planning law, environmental law</p>
	<p><b>Geographical Information System (35h, 4ECTS)</b></p> <p>Data analysis, concepts and techniques</p>
	<p><b>Urban Sociology (18 h, 2 ECTS)</b></p> <p>participative planning, urban social development</p>
	<p><b>Field Experiments I (25h, 3ECTS)</b></p>
	<p><b>Innovation Management (20h, 2ECTS)</b></p> <p><i>Approaches &amp; Strategies</i></p> <p><i>A journey as an entrepreneur in urban agriculture</i></p>
	<b>Practical assignment</b>

## Teaching Unit 1. Specific Knowledge Acquisition

The objective of this module unit is to smooth the levels of knowledge among different students of the MSC program that may have different backgrounds: architecture, urban planning, geography, agronomy, or biology, etc.

### Module 1 A Project in the City – Theory & Practice

This course is an introduction to urban planning projects for agronomy, environmental sciences and biology students. It aims the understanding of different urbanism keywords and concepts: actors of the city, density, district, mobility, monuments, process, project design, real estate developer, capacity, density, eco neighborhood, design, etc.

The course focuses on the introduction to what to be and work in an architectural office, by presenting a broad view of architectural projects, and the tools of their analysis.

The primary outcomes of this course are to be able to understand the objectives and main steps of an urban planning project and feasibility studies. Lectures provide answers to questions such as:

- How are cities planned and by whom?
- Composition of design teams?
- Roles design team members and areas of expertise?
- Understand what a design brief is.
- Introduction to city planning, masterplanning and urban design.
- How are projects conceived, initiated, paid for and implemented?
- How do you approach undertaking an urban agriculture project in a city

21 Hours lecture and tutorial - **the Workshop ends with an oral presentation of the students' work** Course instructor: Paul Smith – Landscape designer – British Landscape Institute.

### Recommended readings

1- Johnson, Steven - *Emergence: The Connected Lives of Ants, Brains, Cities, and Software.*(Penguin) 2001.

2 - Rudlin, David and Hemani, Shruti - *Climax city: Masterplanning and the complexity of Urban Growth.* (RIBA publishing) 2019.

3 - *Design with Nature Now - Edited by Frederick Steiner, Richard Weller, Karen M'Closkey, and Billy Fleming.* (Lincoln Institute of Land Policy in association with the University of Pennsylvania Stuart Weitzman School of Design and the McHarg Center) 2019

4 - Beatley, Timothy - Handbook of Biophilic City Planning & Design (2016) Island Press - Je pense que la bibliothèque l'a peut-être déjà, mais je ne me souviens pas?

5 - [Lovelock, James E.](#) A rough Ride to the Future (2014) Allen Lane  
A Rough Ride to the Future. (2014) Allen Lane

6 - Crawford, Martin - Creating forest Gardens: Working with Nature to grow edible crops (Green books) 2010

7 - Hall, Peter - Cities of Tomorrow: An intellectual History of Urban Planning and Design in the 20 century (Blackwell). Updated edition - 1996

8 - Kropf, Karl - The Handbook of Urban Morphology. (Wiley) 2017.

## **Module 2 an introduction to plant biology in the city**

The course aims to provide both an introduction of plant biology sciences for architecture and planning students and an update for students who are already familiar with these notions.

After completion of the course, the student is expected to be introduced and to understand different aspects related to plant biology and botany (structure and functioning of plant population in ecosystems), biogeochemical cycles (the water cycle and vegetation, the carbon cycle, the nitrogen cycle); and the cultivation practices.

Duration of the course: 6 hours including an in-person and outdoor sessions

Dr. Marie-Pierre Bruyant will take you in a field visit to discover the surrounding biodiversity.

Professor Dr. Marie-Pierre Bruyant [marie-pierre.bruyant@unilasalle.fr](mailto:marie-pierre.bruyant@unilasalle.fr)

## **Assignments / Evaluation of the module unit**

- Module 1. Oral presentation (60%) account for 60% the final grade
- Module 3. Group work progress evaluation, written report, and oral presentation accounting for 40% of the final grade.

## Teaching Unit 2. Urban Ecology

### Objectives and learning outcomes

Upon the teaching unit completion, students will be able to:

- ✓ Describe the **global urban environmental issues** that are a concern today and need to be addressed in the coming decades
- ✓ Evaluate the **problems and consequences** of humans becoming the dominant organisms in the natural environment
- ✓ Apply scientific **knowledge and methods** in analyzing different aspects of environmental issues into a particular urban area of study
- ✓ Be able **to make recommendations** regarding how global ecological issues can be solved at the **local level**

### Content

- Introduction to the scientific ecology:** concepts, principles, and applications of urban ecology
- Ecological engineering:** concept, principles, and applications
- Biodiversity and climate change mitigation:** nature-based solutions in the urban environment
- Biodiversity and green spaces:** differentiated management principles
- Biodiversity and agricultural** issues
- Soil and urban biodiversity:** main issue and ongoing projects
- Biophilic cities:** history and concept of bio-philia
- Field visits**

### Course coordinators

- Marc BARRA - Regional Agency for Biodiversity - IAU îdF - [marc.barra@iau-idf.fr](mailto:marc.barra@iau-idf.fr)

### Evaluation

Students' evaluation will be based on a project design accounting for ecology in urban living spaces ( to be submitted in groups)



## **Reading List ( further references are available on moodle platform)**

- Angold, P.G., Sadler, J.P., Hill, M.O., et al. (2006)** Biodiversity in urban habitat patches. *Science of the Total Environment* 360: 196-204.
- Bowler, D.E. et al. (2010)** Urban greening to cool towns and cities: a systematic review of the empirical evidence. *Landscape and urban planning* 97:147-155.
- Box, J. & Harrison, C. (1993)** Natural Spaces in Urban Places. *Town and Country Planning* 62: (9) 231-235.
- Cussans, J., Goulson, D., Sanderson, R., Goffe, L., Darvill, B., & Osborne, J.L. (2010)** Two bee-pollinated plant species show higher seed production when grown in gardens compared to arable farmland. *Plos One* 5: e11753.
- Davies, Z.G. et al. (2009)** A national scale inventory of resource provision for biodiversity within domestic gardens. *Biological Conservation* 142:761-771.
- Dawson, D. & Gittings, T. (2000)** The effect of suburban residential density on birds. London Ecology Unit, 23pp.
- Douglas, I., Goode, D., Houck, M. and Wang, R., Eds. (2010)** *The Routledge Handbook of Urban Ecology*. Routledge.
- Drewitt, E.J.A. & Dixon, N. (2008)** Diet and prey selection of urban-dwelling Peregrine Falcons in south west England. *British Birds* 101: 58-67.
- Evans, K.L., Newson, S.E. & Gaston, K.J. (2009)** Habitat influences on urban avian assemblages. *Ibis* 151: 19-39.
- Evans, K.L. et al. (2010)** What makes an urban bird? *Global Change Biology* 17:1365-2486.
- Fuller, R.A., Tratalos, J., & Gaston, K.J. (2009)** How many birds are there in a city of half a million people? *Diversity and Distributions* 15: 328-337.
- Gaston, K.J., Ed. (2010)** *Urban Ecology*. Cambridge University Press.
- Gilbert, O.L. (1989)** *The Ecology of Urban Habitats*. Chapman and Hall, London.
- Goddard, M.A., Dougill, A.J. & Benton, T.G. (2009)** Scaling up from gardens: biodiversity conservation in urban environments. *Trends in ecology and evolution* 26:90-98.
- Goode, D. (1986)** *Wild in London*. Michael Joseph, London.
- Goode, D. (2005)** Connecting with Nature in a capital city: The London Biodiversity Strategy. In T. Trzyna (Ed.) *The Urban Imperative*. California Institute of Public Affairs, Sacramento.
- Goode, D. (2007)** Nature conservation in towns and cities. In: *Contemporary Rural Geographies* (Ed. Clout, H.), 111-128. Routledge, London.
- Goulson, D., Lepais, O., O'Connor, S., Osborne, J.L., Sanderson, R.A., Cussans, J., Goffe, L., & Darvill, B. (2010)** Effects of land use at a landscape scale on bumblebee nest density and survival. *Journal of Applied Ecology* 47: 1207- 1215.
- Kattwinkel, M., Biedermann, R., & Kleyer, M. (2011)** Temporary conservation for urban biodiversity. *Biological Conservation* 144: 2335-2343.
- Luck, G.W. & Smallbone, L.T. (2011)** The impact of urbanization on taxonomic and functional similarity among bird communities. *Journal of Biogeography* 38: 894–906.
- Owen, J. (1991)** *The Ecology of a Garden: The First Fifteen Years*. Cambridge University Press, Cambridge.
- Owen, J. (2010)** *Wildlife of a Garden: A Thirty-Year Study*. Royal Horticultural Society, London.

## Teaching Unit 2. Urban Agriculture 1

### Objectives and learning outcomes

On completion of the fall part of the course of urban agriculture, students should be able to:

- ✓ Account for **critical concepts** and **approaches** of the implementation of urban agriculture projects as active **territorial projects**
- ✓ **Critically review and relate to different examples of urban farming in a global context**
- ✓ Account for the **productive, environmental, and human dimension** (social, organizational, political) of urban farming projects
- ✓ Understand urban farming techniques: greening rooftops, buildings and facades, aquaponics, agroecology, pests' controls, permaculture design, urban and peri-urban gardening

### Content (detailed contents per instructors are available on moodle platform)

- ❑ Urban, peri-urban farming and local food system – techniques, farming practices, work organization, resources management, agricultural rotation, and association
- ❑ Diversity of urban farming functions (economic, social, environmental)
- ❑ Professional urban farming (principles and concepts)
- ❑ Introduction to the agroecology, peri-urban gardening and local food systems (principles and methods)
- ❑ Urban agriculture rooftops (advantages and disadvantages, typology of roofs, technical key points: waterproofing, drainage, substrate, watering, safety, plants selection and cultural monitoring)
- ❑ Aquaponics (concepts, key components, control and management, dimensioning, steps of an aquaponic project in urban environment)
- ❑ Permaculture design (ethics, methodology, living soils, harvesting water, carbon and nitrate cycle )

### Course instructors

- Mr. Guillaume Morel-Chevillet (ASTREDHOR) - [guillaume.morel@astredhor.fr](mailto:guillaume.morel@astredhor.fr)
- Mr. Paul Rousselin (Cueillette urbaine) [paul.rousselin@cueilletteurbaine.com](mailto:paul.rousselin@cueilletteurbaine.com)
- Dr. Hortense Serret (Seoul University) [hortense.serret@gmail.com](mailto:hortense.serret@gmail.com) Dr. Noémie Maughan Université Libre de Bruxelles, [nmaughan@ulb.ac.be](mailto:nmaughan@ulb.ac.be)
- Dr. Nicolas Vereecken Université Libre de Bruxelles, [nicolas.vereecken@ulb.ac.be](mailto:nicolas.vereecken@ulb.ac.be)

❑

- M. Antoine de Lombardon – Attorney specialized in urban farming regulation antoinedelombardon@gmail.com (talk about legal aspects around urban farming)
- Mr. Antoine Lagneau Paris Institute of Biodiversity [lagneauantoine@outlook.com](mailto:lagneauantoine@outlook.com)
- Mr. Félix HAGET – Bioponis Consultant – bioponi.consulting@gmail.com
- Mr ; Paul Rousselin [paul.rousselin@gmail.com](mailto:paul.rousselin@gmail.com) Cueillette Urbaine – Paris

## Evaluation

**The evaluation will be based on the writing of personal note and a group work.**

**Reading List (complementary reading materials are available on moodle platform)**

- COCKRALL-KING, J. (2012), *Food and The City: Urban Agriculture and the New Food Revolution*, New York: Prometheus Books.
- DIMITRI, C., OBERHOLTZER, L., PRESSMAN, A. (2015), 'The promises of farming in the city: introduction to the urban agriculture-themed issue', *Renewable Agriculture and Food Systems*, 30 (1), pp. 1–2.
- DIMITRI, C., OBERHOLTZER, L., PRESSMAN, A. (2016), 'Urban agriculture: connecting producers with consumers', *British Food Journal*, 118 (3), pp. 603–617.
- DUBBELING, M. (2014), 'Urban agriculture as a climate change and disaster risk reduction strategy', *UA Magazine*, 27, pp. 3–7.
- DUURSMA, M. (2017), 'Restwarmte haven Rotterdam moet 500.000 huizen verwarmen', NRC, 23 March 2017.
- EHRENBERG, R. (2008), 'Let's get vertical', *Science News*, 16, pp. 16–20.
- FENG, S. (2013), 'Japan: "Office Farming" green Tokyo's urban jungle', *Wilderutopia.com*, 29 August 2013.
- GUIART, D., PICKERING, C., BYRNE, J. (2012), 'Past results and future directions in urban community gardens research', *Urban Forestry & Urban Greening*, 11 (4), pp. 364–373.
- HAUGHTON, G., HUNTER, C. (1994), *Sustainable Cities, Regional Policy and Development Series 7*, London: Regional Studies Association.
- JENKS, M., JONES, C. (2009), *Dimensions of the Sustainable City*, New York: Springer.
- JOHNSON COFFIN, C., YOUNG, J. (2017), *Making Places for People: 12 Questions Every Designer Should Ask*, London: Routledge.
- JUNGE, R. (2014), 'UF001 LokDepot, Basel: The first commercial rooftop aquaponic farm in Switzerland', Presentation International Conference on Vertical Farming and Urban Agriculture, 9/10 September 2014.
- KOZAI, T. (2013), 'Resource use efficiency of closed plant production system with artificial light: concept, estimation, and application to plant factory', *Proceedings of the Japan Academy. Series B, Physical and Biological Sciences*, 89 (10), pp. 447–461.
- LAWSON, L. (2016), 'Sowing the city', *Nature*, 540 (22/29 December), pp. 522–524.
- MARKS, P. (2014), 'Vertical farms sprouting all over the world', *Science News*, 16 January 2014.
- MASI, B., FISKIO, J., SHAMMIN, M. (2014), 'Urban agriculture in Rust Belt cities', *Solutions*, 5 (1), pp. 44–53.
- McCLINTOCK, N. (2010), 'Why farm the city? Theorizing urban agriculture through a lens of metabolic rift', *Cambridge Journal of Regions, Economy and Society*, 3 (2), pp. 191–207.
- McCLINTOCK, N. (2014), 'Radical, reformist, and garden-variety neoliberal: coming to terms with urban agriculture's contradictions', *Local Environment*, 19 (2), pp. 147–171.

## Teaching Unit 3 Planning & Urban Design 1

### Objectives and learning outcomes

On completion of the course, students should be able to:

- ✓ Account for **key-concepts and operational principles** of sustainable urban planning projects
- ✓ To understand different perspectives and approaches of **landscape and urban design**
- ✓ To understand the **field of landscape architecture** in an **international context**
- ✓ To understand the **scales of intervention**: strategic planning and design
- ✓ Introduction to food systems from an urban planning viewpoint

### Content

- ❑ The sustainable city: adaptation and mitigation strategies to climate change,
- ❑ Theories of ecology, the emergence of urban ecological design in planning movement and landscape architecture,
- ❑ The Athens Charter: environmental impact and social cohesion,
- ❑ The role of mobility on urban planning/ Public transportation and urban biodiversity,
- ❑ Policies and actions for sustainable cities: a focus on the example of Copenhagen,
- ❑ The country, the city and the place of Nature,
- ❑ Policy context and implementation of urban design and landscape projects,
- ❑ Landscape Character Assessment and Visual Impact Assessment as a design,
- ❑ Green Infrastructure and Strategic Masterplanning,
- ❑ Contemporary landscape projects: practices, figures and landscape movements,
- ❑ Landscape Urbanism, Landscape Design.
- ❑ Food systems in search of sustainability
- ❑ Food autonomy of cities:
  - City planning and food
  - The challenges of collective catering
- ❑ Territorial Food Governance: An Emerging Process
  - Empowerment and food democracy
  - From sustainable food to food justice...

### Course instructors

- ❑ Dr. Anais LEGER–SMITH Toulouse National School of Architecture, anais.leger.smith@gmail.com
- ❑ Paul SMITH – British Landscape Institute, paulmhsmith@gmail.com
- ❑ Dr. Frédéric WALLET – INRAE - AgroParisTech, frederic.wallet@agroparistech.fr
- ❑ David CASTILLO - ARTELIA Group, dcastillomont@gmail.com

## **Outline of Dr. Frédéric Wallet Course ( to be updated)**

1. Food systems in search of sustainability
  - a. The craze for local short circuits, a lever for the territories' food strategies
  - b. Territorial strategies for sustainable local food systems
2. Food autonomy of cities: a utopia?
  - a. City planning and food
  - b. The challenges of collective catering
3. Territorial Food Governance: An Emerging Process
  - a. Empowerment and food democracy
  - b. From sustainable food to food justice...

## **Evaluation**

**Assignment by Mr. David Castillo (30%)**

**Assignment by Dr. Frederic Wallet ( 20%)**

**Assignment: Landscape project analysis based on the course content by Dr Smith (50%)**

## **Reading List**

- Dubbini R. (2002) *Geography of the gaze: Urban and rural visions in early modern Europe –The University of Chicago Press.*
- Calvino. I (1997, first published 1979) *Invisible Cities.* Vintage.
- Cronon W. (Ed) (1996) *Uncommon Ground: Rethinking the Human Place in Nature.* Norton.
- Glacken Clarence J. (1976) *Traces on the Rhodian Shore - Nature and Culture in Western Thought from Ancient Times to the End of the Eighteenth Century*
- Hall, P. (1996, First published 1988) *Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the 21 Century.* Blackwell.
- Howard E. (1946, reprinted 1970) *Garden Cities of To-morrow.* Faber and Faber Ltd
- Meinig D.W. (Ed) (1979) *The interpretation of ordinary Landscapes.* OUP.
- Nash R. (3rd Ed 1982) *Wilderness and the American Mind.* Yale.
- Rykwert J. (2002) *The seduction of place: The history and future of cities.* Vintage
- Viljoen A. (Ed) (2005) *CULPS: Continuously productive urban landscapes.* Architectural Press.
- Whiston Spirn A. (1978) *The Granite Garden: Urban Nature and Human Design.* Yale
- Whiston Spirn A. (1998) *Language of Landscape.* Yale
- Williams R. (1973) *The Country and the City.* OUP
- Williams R. (1980) *Ideas of Nature.* In *Problems in materialism and culture.* London: Verso.
- Alberti, M. (2008). *Advances in Urban Ecology.* New York: Springer Science.
- Baudry, J., & Burel, F. (2010). *L'écologie du paysage, une approche fonctionnelle.* In J. Baudry, P.

Blandin, F.

Burel & M. Toublanc (Eds.) *Les carnets du paysage, Écologies à l'oeuvre*, 19, 32-50. Carson, R. (1962). *Silent Spring*. Boston, Massachusetts: Houghton Mifflin.

Descola, P. (2005). *Par-delà nature et culture*. Paris : Gallimard. 14

Forestier, J. C. N. (1908). *Grandes villes et systèmes de parcs*. Paris : Hachette. Gaston, K. J.

(2010). *Urban Ecology*. In K. J. Gaston (Ed.), *Urban Ecology*, Cambridge: Cambridge University Press.

Leopold, A. (1966). *A Sand County Almanac*. Oxford: Oxford

University Press. McHarg, I. (1969). *Design with Nature*. New York:

John Wiley & Sons.

Odum, E. P., & Barrett, G. W. (2005). *Fundamentals of Ecology* (5 ed.). St. Paul MN, USA: Thomson Brooks/Cole.

Paquot, T. (2000). *Les relations entre projet urbain et démarche paysagère*. In Masbouni, A. (Ed), *Penser la ville par le paysage*. Paris: La Villette.

Roger, A. (1997). *Court traité du paysage*. Paris : Gallimard Coll. Sciences

humaines. Thoreau, H. D. (1854). *Walden; or, Life in the Woods*. Boston:

Ticknor and Fields.

Berque, A., Conan, M., Donadieu, P., Lassus, B., & Roger, A. (1999). *Mouvance. Cinquante mots pour le paysage*. Paris : Éditions de la Villette.

Claramunt, M. (2013). *Evolution et état des lieux du métier de paysagiste*. Openfield, 1.

Clément, G. (2006). *Le jardin en mouvement : De la Vallée au jardin planétaire*. Paris : Sens

& Tonka. Corajoud, M. (2010). *Le paysage, c'est l'endroit où le ciel et la terre se touchent*.

Arles/Versailles: Acte Sud, École Nationale Supérieure de Paysage de Versailles-Marseille.

Delbaere, D. (2010). *La fabrique de l'espace public*. Paris : ellipses.

Deming, E., & Swaffield, S. (2011). *Landscape Architectural Research: Inquiry, Strategy, Design*. New York: John Wiley & Sons.

Desvigne, M. (2009). Introduction. In M. Desvigne (Ed.), *Natures intermédiaires, Les paysages de Michel Desvigne*. Basel, Boston, Berlin: Birkhäuser Verlag AG.

Donadieu, P. (2000). *La société paysagiste*. Arles : Acte Sud, École Nationale Supérieure de Paysage de Versailles.

Masbouni, A. (2002). *Penser la ville par le paysage*. Paris: La

Villette. Bélanger P. (2017) *Landscape as infrastructure*.

Routledge.

Johnson B.R. and Hill K. (Eds) (2002) *Ecology and design: Frameworks for learning*.

Island Press. McHarg I. (1992, First published 1969) *Design with Nature*. John Wiley and Sons, Inc

UK Landscape Institute GI guidance

<https://www.landscapeinstitute.org/policy/green-infrastructure/> SuDS (Sustainable Urban Drainage Systems)

<https://nacto.org/publication/urban-street-stormwater-guide/stormwater-elements/green-stormwater-elements/bioretenion-swale/>

### **CASE STUDIES**

Boston Emerald Necklace – Olmstead Landscape

Architect <https://www.emeraldnecklace.org>

London Olympic Park

<http://www.queenelizabetholympicpark.co.uk/our-story/transforming-east-london/creating-a-new-urban-park>

Newquay Masterplan

<http://duchyofcornwall.org/newquay.ht>

ml Woodberry Down, London

<https://www.theguardian.com/society/2014/may/18/-sp-truth-about-gentrification-how-woodberry-down-became-woodberry-park>

<https://www.berkeleygroup.co.uk/new-homes/london/finsbury-park/woodberry-down/the-park-collection>

## Teaching unit 5 - Urban Sociology

### Teaching objectives

This course aims to introduce and critically analyze some of the ways urban sociology has explored the question of the city and urban change. As well as examining some of the contributions that the social sciences can make to debates on urban transformation, the course intends to develop critical thinking about the notions of 'the city', urban change and social relations, and about the conceptualization and implementation of urban projects.

The course will enable students to learn about different theoretical and methodological approaches used to explore and to understand urban spaces, with the ambition to encourage nuanced and balanced reflection towards complex urban societies. The course will also enable students to experiment and deepen one specific method (to be chosen between questionnaire, semi-structured interview, or narrative), feasible in the current pandemic context.

With a mix of theoretical and methodological approaches, the course will explore the complexity of social spaces within which urban projects take place and reflect critically on different theoretical and methodological approaches to understanding cities and urban phenomenon.

The key objectives for the students are:

1. To situate urban social science research within history and geography, with attention given to different existing sociological models (urban ecology, industrial city, global city) as theoretical tools to analyze the city;
2. To acquire a sociological lens through exploring some of the critical questions of urban sociology such as *cityness*, urban cultures, community, spatial division/segregation, social inclusion, mobility, social and spatial relations, and urban development/change, in relation to macro trends such as globalization, migration or environmental change;
3. To acquire sociological tools – data collection and data analysis – that students can use appropriately when approaching a project, for instance: to add sociological insights to a local diagnosis, to understand stakeholders' needs, to monitor and evaluate the social aspects of a project, or to work with researchers in charge of these tasks.

### Structure and content

Over four weeks, the course takes place with two three-hour sessions each week, split between theoretical analysis and discussion and practical methodological exercises.

Each week, some references and material (podcasts, articles, videos) will be provided and serve as a basis for discussion during the next session.

Ideally, the group will conduct collective research to approach urban farming through the lens of social sciences. For instance, they could conduct narratives with urban farmers, build a questionnaire or conduct semi-structured interviews with common questions. The research program, as well as the data collection tools, will be built collectively. Data collection will be performed individually and will be adapted to the conditions due to the current pandemic as well as to the students' resources (time, network). Collected materials will be shared and analysed by groups, each group focusing on a specific aspect. At the end of the course, each group will present its focus and discuss it with the others to synthesize and contribute to a collective transversal analysis.



## Evaluation

Course evaluation will be based on a group oral presentation of fieldwork in the last session (50%), active participation in class and group work (10%); an essay of between 6-8 pages based on the fieldwork and mobilizing some of the key notions introduced and referring to at least two of the sources presented during the course (40 %).

### Program

#### Week 1

##### Session 1

Course overview, philosophy, and structure of course

- Introduction to the social sciences and urban sociology: the need for social science in addressing the challenges of the 21st century.
- What is a city? Mapping our knowledge of the different features of a city

##### Session 2

- Introduction to methodologies for exploring the city (a comparative overview)
- Ethical aspects of research
- Group work exercise: Formulating a research question, selecting theoretical and practical data collection tools.

#### Week 2

##### Session 1

- The early founders of urban sociology: Simmel, Weber (Weberian and neo-weberian models), Marx (the industrial city)
- Introducing urban ecology and Chicago schools (Park, Wirth, Burgess)

##### Session 2

- Introducing tools for observations of social relations in urban spaces
- Follow-up of field work: field research questions, data transcription and data analysis tools

#### Week 3

##### Session 1

- The global city
- Refocusing the gaze: mobility and the city

##### Session 2

- Follow-up of fieldwork: data analysis methods and outputs.

#### Session 4

##### Session 1

- Group presentations

##### Session 2

- Collective transversal analysis.

#### Course reading list

Burgess, E. W. 1925. "The growth of the city: An introduction to a research project". In R. E. Park & Burgess (Eds.), *The city: Suggestions for the investigation of human behavior in the city environment*, Chicago: University of Chicago Press, pp. 49–60

Castells, M. 1977. *The urban question: A Marxist approach*. London: Edward Arnold.

Castells, M. 2002. Conclusion: Urban sociology in the twenty-first century. In I. Susser (Ed.), *The Castells reader on cities and social theory*, Malden: Blackwell, pp. 390–406

Glick Schiller, Nina, and Garbi Schmidt. 2015. "Envisioning Place: Urban Sociabilities within Time, Space, and Multiscalar Power." *Identities*, 1–16.

Gmelch, George, and Petra Kuppinger, eds. 2018. *Urban Life: Readings in the Anthropology of the City*. Sixth edition. Long Grove, Illinois: Waveland Press, Inc.

Hannerz, Ulf. 1980. *Exploring the City: Inquiries Toward an Urban Anthropology*. Columbia

University Press.

Lofland, Lyn H. 1998. *The Public Realm: Exploring the City's Quintessential Social Territory. Communication and Social Order.* Hawthorne, N.Y: Aldine de Gruyter.

Park, Robert E. 1915. "The City: Suggestions for the Investigation of Human Behavior in the City Environment." *American Journal of Sociology* 20 (5): 577–612.

Wirth, L. 1938. Urbanism as a way of life. *American Journal of Sociology*, 44, 1–24.

Wacquant L. 2008. *Urban Outcasts: A Comparative Sociology of Advanced Marginality*, Cambridge, Polity Press.

Additional references will be provided during the sessions (including on methodological references).

#### Course coordinators

- Mr, Christophe Trehet [Christophe.TREHET@unilasalle.fr](mailto:Christophe.TREHET@unilasalle.fr)
- Dr. Maguelone Vignes [maguelone\\_vignes@yahoo.fr](mailto:maguelone_vignes@yahoo.fr)

## Teaching Unit 5- Legislation

### Objectives and learning outcomes

- To provide students with knowledge of the multiple issues arising from different legislation governing the Urbanism / Environment / Risk avoidance in the urban environment, the articulation between the various legal devices; the analysis of their effective consideration and limitations in the planning documents, in their different scales.
- To contribute to identify the different public policies approaches and the purposes of the regulatory tools,
- The main stakeholders involved in risk management (natural, technological, sanitary risks) and sustainable development within the urban environment.
- To discuss local environmental public policies through two issues: climate change and public health

### Content

#### **18/11 – 1<sup>st</sup> class**

##### First part (85')

Presentation of the course, plan class, final evaluation (20')

The fundamentals of urban planning and environmental regulation; the hierarchy of legal rules; basic notions and concepts; questions of limits to property land – uses and controls. (65')

##### Break (10')

##### Second part (85')

Urban planning documents. Examples: SCOT, PLU, special zones (ZAC, ZAD) in France; Master Plan and urban instruments/tools in Brazil; Zoning in US, Town and County Planning Act in UK... (85')

Homework to next class: students must bring examples of urban documents and planning system of their original country

#### **02/12 – 2<sup>nd</sup> class**

##### First part (85')

Urban planning documents (continuation, discussion about students examples)

How green spaces and environmental protection is considered in urban documents and legislation; hierarchy and different scales of urban and environmental legislations (EU, UN; national, regional and local legislations).

##### Break (10')

##### Second part (85')

Urban heritage protection and enhancement: concept of cultural and Nature heritage. Protection tools – Examples. UNESCO references and concepts for world heritage (cultural, landscape and natural): integrity and authenticity, protection tools and legislations, management system and sustainable uses.

Homework to next class: students must bring examples of natural, technological or health/sanitary

## risks

### **06/01 – 3<sup>rd</sup> class**

#### First part:

Dealing with natural and technological risks in the urban environment: different types of natural risks; [landslide](#), undermining or erosion; inundations and floods as one of the most important natural risk in urban environment; impacts of urbanization process in inundation/flooding; cases of São Paulo: "Horta das Corujas", "Ocupação 9 de Julho"

The technological risks: industrial and nuclear accidents, dam failure (case of mining dam at Brumadinho-MG-Brazil)

#### Second part (85'):

Health and sanitary risks and their integration into the local political agenda; pollution issues; case of Paris public policies against pollution

Social actors and stakeholders of risk management in urban areas

[Homework to next class: examples of climate change impacts in urban environmental](#)

### **27 /01 – 4<sup>th</sup> class**

#### First part (110'):

Climate Change – mitigation X adaptation; public action and means/tools; environmental inequalities and/or gentrification; different scales issues; Amazonian example (impacts, recent polemics and conflicts)

#### Break (10')

#### Second part (60'):

Discussion about final evaluation (oral presentation)

### **03/02 – evaluation**

Evaluation- oral presentation – case research

## **Instructor**

- Dr. Daniela MOTISUKE - [danimoti76@gmail.com](mailto:danimoti76@gmail.com) Recommended reading
- Mr, Christophe Trehet [Christophe.TREHET@unilasalle.fr](mailto:Christophe.TREHET@unilasalle.fr)

CHOAY, Françoise. *L'urbanisme, utopies et réalités*. Paris: Le seuil, 1965  
JACQUOT, Henri. *Droit de l'urbanisme*. Dalloz, 1989

SVEDIN, Uno. *Urban Development and the Environmental Challenges – “green” systems considerations*. Paper commissioned by the European Commission (chapters: 2.3. Implications for urban development, with special regard for Europe; 2.4. Natural resources and the urban processes)

FRANCE. Code de l'Urbanisme:

<https://www.legifrance.gouv.fr/affichCode.do?cidTexte=LEGITEXT000006074075>

BRAZIL. Estatuto da Cidade, 2001:

[http://www.planalto.gov.br/ccivil\\_03/Leis/LEIS\\_2001/L10257.htm](http://www.planalto.gov.br/ccivil_03/Leis/LEIS_2001/L10257.htm)  
BARROS, Ana Maria Furbino Bretas; CARVALHO, Celso Santos; MONTANDON, Daniel Todtmann. *Commentary on the City Statute 91 (Law No 10. 257 of 10 July 2001)*. In CARVALHO, Celso Santos and ROSSBACH, Anacláudia. “The City Statute of Brazil A commentary”. São Paulo: Cities Alliance and Ministry

of Cities - Brazil, 2010. P. 91-118

Direction Générale de la Coopération Internationale et du Développement. *Spatial planning and sustainable development policy in France*. Paris: Ministère des Affaires étrangères, 2006 (To read chapter

11. Spatial Planning, p.50-52)

PRÉVOST, Aurélie; MOLINES, Nathalie; DEHAN, Philippe; BANDET, Jean. *The urban planning of French cities and the challenge of sustainable town planning: improvements and limits*. AESOP 26th Annual Congress, Jul 2012. Ankara, Turkey: AESOP, 2012. To read the first section (numbered as section 2)

BERRY, James; MCGREAL, Stanley (eds). "European cities, planning systems and property markets". London: E & FN Spon, Chapman & Hall, 1995. (To read, especially: BOYER, Jean-Claude. *Paris* – chapter 6; 6.1 and 6.2)

São Paulo Master Plan (Law 16.050 from July 31, 2014). Strategies booklet. English version. São Paulo: PMSP, 2014

SVEDIN, Uno. *Urban Development and the Environmental Challenges – “green” systems considerations*. Paper commissioned by the European Commission (chapter: 3. Green urban principles and goals in contemporary urban planning - the case of Hammarby Sjöstad, Sweden (“Hammarby Sea City”))

UNESCO. *Convention concerning the protection of the world cultural and natural heritage*. Paris 1972 UNESCO. *Operational Guidelines for the Implementation of the World Heritage Convention*. (In this document you can find several bibliographical references in English)

IED (International Institute for Environment and Development). *Understanding the nature and scale of urban risk in low- and middle- income countries and its implications for humanitarian preparedness, planning and response*. London, 2013

Stefan Greiving, Mark Fleischhauer. *Spatial planning response towards natural and technological hazards*. In SCHMIDT-THOMÉ, Philipp (edt). "Natural and Technological Hazards and Risks Affecting the Spatial Development of European Regions". Geological Survey of Finland, Special Paper 42, 109–123, 2006

Ministère de l'Écologie, du Développement et de l'Aménagement Durables. *Les rôles des Acteurs de la prévention des Risques naturels*. In "Information, participation du public, concertation et association dans les plans de prévention des risques". 2008

THOURET, Jean-Claude; D'ERCOLE, Robert. *Vulnérabilité aux risques naturels en milieu urbain: effets, facteurs et réponses sociales*. 2015

World Bank. *Urban risk assessments: an approach for understanding disaster and climate risk in cities*. Washington: WB, 2012

MARICATO, Erminia *The Statute of the Peripheral City*. In CARVALHO, Celso Santos and ROSSBACH, Anaclaudia. "The City Statute of Brazil A commentary". São Paulo: Cities Alliance and Ministry of Cities - Brazil, 2010. P. 5-22

GOBERT, Julie; LEON-BARECKE, Noemi. *Desigualdades socioambientales desafíos para los urbanistas y sus territorios*. Ciudades, 2018

CONDON, Patrick M.; CAVENS, Duncan; MILLER, Nicole. *Urban Planning Tools for Climate Change Mitigation*. Cambridge: LILP, 2009

PINTO, Fulvia. *Urban Planning and Climate Change: adaptation and mitigation strategies*. In TeMA Journal of Land Use Mobility and Environment. Naples: DICEA, June 2014. P. 829-840

World Bank. *Urban risk assessments: an approach for understanding disaster and climate risk in cities*. Washington: WB, 2012

UNDP. *Urban Risk Management*. New York: UNDP, 2010

### **Complementary references**

ROSENFELD, Michel; SAJÓ, András (edts). *The Oxford Handbook of Comparative*

*Constitutional Law*. 2012 GOHIN, Olivier. *Manuel Droit Constitutionnel*. Litec, 2010

CALDEIRA, Teresa; HOLSTON, James. *Participatory urban planning in Brazil*. In *Urban Studies*, 2015, Vol. 52(11), London, 2015

BUDNY, Daniel Nogueira. *Democracy and The City: Assessing Urban Policy in Brazil. Comparative urban studies project and brazil institute*. Washington: Woodrow Wilson International Center for Scholars, USAID: 2007

OCDE. *Land-use Planning Systems in the OECD: Country Fact Sheets. Country Facts Sheets*. Paris: OCDE Publishing, 2017 (To read online: [https://read.oecd-ilibrary.org/urban-rural-and-regional-development/land-use-planning-systems-in-the-oecd\\_9789264268579-en#page1](https://read.oecd-ilibrary.org/urban-rural-and-regional-development/land-use-planning-systems-in-the-oecd_9789264268579-en#page1))

## Teaching Unit 6. Geographical Information System

Upon completing this class, students will be able to:

- Understand the fundamental concepts of geographic information systems
- Describe the different GIS data
- Utilize GIS software (QGIS) for conducting basic GIS analyses and producing cartographic output
- Understand and follow workflow of data processing
- Conduct studies typically carried out in GIS including site selection, analysis of spatial/temporal processes,
- Search and download on-line free dataset

### Content

This course examines in detail the fundamentals of Geographic Information Systems (GIS) and their applications. These systems are often the core of local (city, county) government operations. They are rapidly adopted governments to manage operations from highway planning to environmental resource conservation and are playing a significant role in businesses as diverse as market research, site selection, real estate, civil engineering, and geophysical exploration.

The course will comprise both lecture and lab. The lab component will focus on the use of QGIS software in a Windows environment.

Steps:

- [Install](#) QGIS on your computer
- Watch this introductory [video](#) about map design (43 mn).
- Access the course materials ([link](#)) and visualize the introductory videos

Link to course materials

<https://view.genial.ly/5f8d9dbade72be0d16ec8767>

<https://web.microsoftstream.com/video/b1922bf8-51d6-4e38-9400-245f497225be?list=studio>

<https://web.microsoftstream.com/video/d0557e31-6118-443d-b63c-74cb517c704f?list=studio>

<https://web.microsoftstream.com/video/2f8cdd62-d775-4a5e-acd7-26377dca8a6e?list=studio>

<https://web.microsoftstream.com/video/96453913-f9fc-48b5-9b7f-bf5975d886f2?list=studio>

### Course coordinator

Dr. Romain ARMAND – UniLaSalle – [romain.armand@unilasalle.fr](mailto:romain.armand@unilasalle.fr)

**Evaluation** The valuation mode will be provided by Dr. Romain Armand ( intermediary evaluation + final exam)

## Teaching Unit 7 - Field experiments - Visits

### Objectives and learning outcomes

The field visits are intended to be first-hand experience to explore French urban agriculture projects. The field visits' objectives are to make the learning of urban agriculture project concepts and principles more engaging and provide opportunities for learning concepts by putting them into a more realistic and relevant context.

- First underground farm in France: Cycloponics
- Urban farms/ rooftops in Paris managed by VeniVerdi
- Periurban micro-farms visits: La Ferme des Ruffaux
- Permacultural farms visit: Ferme du Bec Helouin
- Aquaponic farm: La Ferme de l'abbaye, les jardins du sauméniers
- High-tech sites of agri-urban spaces visits
- Urban farms experiences in Paris: La recyclerie, cueillettes urbaine, le paysan urbain, etc.
- Meeting of economic and associative urban farming actors
- Parc du Chemin de l'île à Nanterre,
- Eco-neighborhood Hoche – Paris Nanterre
- La Seine Musicale at Boulogne Billancourt – Paris – It is a green rooftop.
- Rouen City urban gardens + green and blue frame of Rouen City.

### Course coordinator

Dr. Marie Asma Ben-Othmen [marie-asma.benotmen@unilasalle.fr](mailto:marie-asma.benotmen@unilasalle.fr)

### Evaluation

**Visits writing report due May 24<sup>th</sup> 2022, Submitted electronically in Moodle Platform**

The report is only ten pages long.

- You will describe each visited site – considered in the following as an initiative of urban agriculture and ecological sustainability in or around the city.
- You will describe how the initiative could be implemented, the opportunities and challenges it faces; the relevant stakeholders, and their active involvement, how the initiative would fit into the broader context of existing urban and peri-urban planning projects
- Include a discussion of the following points: How each initiative can be perceived as a potential of social, economic and environmental change.



## **Teaching Unit 8 - Self and group awareness**

### **Objectives and learning outcomes**

At the end of this course, students should be able to:

- Learn how to present the critical components of a project in a clear, concise, logical, and systematic way by answering the following questions: What will the project achieve? What activities will be carried out to achieve its outputs and purpose? What resources (inputs) are required?; What are the potential problems that could affect the project's success? Etc.
- Be able to act as an active member of a decision-making team.

### **Content**

- **Team building**
- **Tools for project management**
- **French as a second language (for international students)**

### **Tools for project management: project management & working in team**

### **Course instructor: Mrs. Maud RICHET**

### **Course principles:**

- A class based on active learning, mixing experience, knowledge and thoughts of participants and teaching / inputs from Maud Richet's resources and experience.

### **Possible outline for the class (2x4h + 3h)**

- Starting a team
  - Building the team
  - Defining the frame
- Starting a collective project
  - Defining the project & the roles
  - Focus on the projects framework
- Life cycle of projects / teams
  - Making meetings works
  - Decision making
  - Tools supporting project management and team works
- Finishing a project
  - Feedback and retrospective tools
  - Closing with teams
  -

### **Options for Theoretical inputs, tools and methods that could be used in this class**

- Inputs from
  - Groundwork framework for projects
  - Full Circle leadership

- Psychological safety (Aristote project)
- Learning organization
- Panorama of tools supporting team work
- Decision making in groups + focus on Consent based decision making
- Making meetings work / basic methods and roles
- Bono's hats
- Active listening
- Feedback & retrospective tools
- ...

### Some Resources

- **Some basics**
  - <https://www.projectmanager.com/blog/history-project-management>
  - [https://en.wikipedia.org/wiki/Project\\_management](https://en.wikipedia.org/wiki/Project_management)
- **Better work Together book** <https://www.betterworktogether.co/>
- **Reinventing organizations, Frédéric Laloux**  
[http://www.reinventingorganizationswiki.com/Main\\_Page](http://www.reinventingorganizationswiki.com/Main_Page)
- **Groundwork / team canevas** <http://thegroundwork.weebly.com/the-framework.html>
- **Xplane /** <https://x.xplane.com/ways-of-working>
- **Trello /** <https://trello.com/c/ADfPOTpk/15-project-team-canvas>
- **Decisions** <https://thecider.app/about>
- **Full circle leadership** <https://medium.com/@aliciatrepatpont/a-new-vocabulary-for-leadership-b94b61d95356>

### Course coordinators and instructors

- Mrs. Maud Richet <maud.richet@hotmail.fr>
- Mrs. Laraine Gallerne
- Mr. Christophe Trehet Mr, Christophe Trehet [Christophe.TREHET@unilasalle.fr](mailto:Christophe.TREHET@unilasalle.fr)
- Mr. Jean-Philippe Pelletier [jppelletier.unilasalle@gmail.com](mailto:jppelletier.unilasalle@gmail.com)

## Teaching unit 9 - Practical Assignment

### Objectives and learning outcomes

The practical assignment aims to introduce students to research paper and project report writing.

Upon completion of this practical assignment students are expected to be able to:

- Define clear objectives of a research topic
- Be able to convince readers why a research project is worth doing (why is it significant in some sense and will make an original contribution to the knowledge and understanding the studied field,
- Propose a suitable and feasible methodology,
- Demonstrate that there is well thought through plan for achieving the research objectives in the available timeframe.

Sample of a research paper/proposal writing

1. Introduction
2. Previous research
3. Theoretical framework and hypothesis to be tested
4. Expected outcomes and their implication
5. Method
6. Timeline, budget, equipment, and staffing requirement

The practical assignment is organized as collective "workshops". It is a training for real-life professional situations.

Topics covered may vary from the sustainable development of the territories, the environment, urban planning to urban agriculture.

Students will work in small groups of three

### Evaluation

- Oral presentation
- Poster
- Written report (due March 2021)

Project coordinator: Marie Asma BENOETHMEN – UniLaSalle – [marie-asma.benoethmen@unilasalle.fr](mailto:marie-asma.benoethmen@unilasalle.fr)

## Teaching Unit 10 – Innovation Management

### Description, contents, learning-outcomes

The course aims at equipping students with an understanding of innovation management, that is, ideas, in organizations, through the stages of the innovation cycle:

1. Developing an innovative product or services
2. Building the business to market the product or service.

The course account for the relevant skills needed to manage innovation in urban planning projects (AgriGo4Cities, n.d.). It provides evidence of different approaches based on real-world examples and experiences of urban farming projects (Levidow, 2018). In this way, it enables students to develop an understanding of analytic frameworks for managing the innovation process.

### Contents

- Market opportunities identification: start with an idea
- Resources: organize people, finances, and facilities to match the goal of the organization (Sozo & Ogliari, 2019)
- Possibilities of research: investigations
- Intellectual property protection
- Model and test for users: design
- Starting the production
- Advertisement and people information: sell
- Communicate with customers: services

Examples of previous topics covered by the course:

- How can the use of natural elements be fostered in urban areas?
- Encouraging people to create urban farms / Community gardens
- Imagine the Green Black Friday
- Changing the way waste is managed in cities / big companies/homes?
- Champion the reuse of waste in communities

### Evaluation

- Research work in group/ Oral

presentation Course coordinator

- Ms. Nastasia Time, [nastasia@tangostart.com](mailto:nastasia@tangostart.com)
- Dr. Marie Asma Ben Othmen [marie-asma.benothmen@unilasalle.fr](mailto:marie-asma.benothmen@unilasalle.fr)

## **SEMESTER 2**

**From March 1<sup>st</sup> to May 30<sup>th</sup>, 2022**

<p><b>Semester 2</b></p>	<p><b>Smart cities &amp; Eco-innovations (75h, 8 ECTS)</b> Technologies for Smart Cities, energy efficiency; positive energy building, circular economy (life-cycle performance); Eco-districts/Green building; water shed management, etc.</p>	<p><b>Urban Food Systems (25h, 3ECTS)</b> <i>Urban food system planning, farm to fork production, Consumption: Health and Nutrition, Urban Food Production and Distribution</i></p>	<p><b>Professional assignment II (4 WEEKS, 5 ECTS)</b></p>
	<p><b>Urban planning &amp; Architecture II (35h, 4ECTS)</b> Green Architecture, Eco-design, Building and planning with Biodiversity</p>	<p><b>Production &amp; Value Chain (15h, 2CTS)</b> <i>Value chain analysis – Governance and stakeholders analysis</i></p>	
	<p><b>Urban Agriculture II (20h, 3ECTS)</b> Concepts, principles and applications; high tech urban agriculture techniques: aquaponics, hydroponics, ; etc</p>	<p><b>Field Experiments (20h, 3ECTS)</b></p>	

## Teaching Unit 11 - Sustainable cities and eco-innovation

### Objectives and learning outcomes

Innovative cities have demonstrated that supported by the appropriate strategic approach, they can enhance their resources efficiently by realizing the same value from a much smaller and renewable resource base while decreasing harmful pollution and unnecessary waste.

Doing this increases the quality of their citizens' lives, enhances their economic competitiveness and resilience, and creates an enduring culture of sustainability.

This teaching unit deals with many innovative approaches and tools for integrated urban planning projects, which has significant importance for smart and ecological cities.

### Course 1: Introduction to green infrastructure

The course's objective is to introduce students to the fundamentals of eco-construction and show them the main lines of work to improve the environmental performance of a building throughout its life cycle. The lectures will be complemented by two tutorials during which students will reflect on the environmental optimization of two stations of the Grand Paris Express.

#### Content

- Fundamentals of eco-construction;
- Focus on the passive house;
- Energy consumption and GHG emissions;
- Sustainable Materials: Recycling, Local Production and Labeling;
- Environmental management of works: waste management, protection of the environment and nuisance towards residents;
- Tools for optimizing the ecodesign of a building: dynamic thermal simulations, aerodynamic studies, LCA

Course coordinator: David CASTILLO - ARTELIA Group, [dcastillomont@gmail.com](mailto:dcastillomont@gmail.com)

### Course 2: Smart Cities strategies

Smart cities is a rapidly growing concept which is viewed as a solution for cities to better cope with critical societal challenges like energy, agriculture, water, mobility and social innovation through extensive and useful use of big data. This, in turn, calls for new modes of – smart – governance, with the active involvement of a wide diversity of public, private and citizen organization.

In this course smart cities are being studied through the following themes:

- a) Urban metabolism and resilient city
- b) Future energy: Smart Grids (e.g, electricity)

- c) Digital city (big and open data, geoinformatics): What can we do with available information? How can we combine all these data for infrastructure, can we increase the comfort of living in smart cities?

V

Social Innovation (new way of innovation and behavioral change), how can we create smart rules for smart cities

Course coordinator: Jean-Luc ROY – GE Power - [jean-luc.roy@ge.com](mailto:jean-luc.roy@ge.com)

#### **Course 4 – Circular economy and urban development**

**Course objectives:** This course explores the circular economy: how businesses can create value by reusing and recycling products. How designers can come up with amazingly smart solutions, and how can we make the circular economy happen in accordance with urban farming projects.

Students will learn how to experience how to rethink the economic system we are experiencing every day.

- What is the circular economy? How can the circular economy provide solutions to the challenges our current, linear economy brings? Roots of the circular economy: industrial ecology, cradle to cradle, slow design movement, and biomimicry.
- Longer lasting product and remanufacturing: The smaller the loop, the greater the profitability of the system. We look at product life extension through the eyes of designers and entrepreneurs.
- Waste equal food: How can we take inspiration from Nature when we are redesigning the way we deal with waste? Presentation of the circular case study and ways to identify opportunities for change in new building projects?

**Course learning outcomes:** of the completion of the course student will be evaluated on how well they demonstrate:

- Knowledge & Understanding: Appreciate the critical roles of strategic thinking, hypothesis, methodology, critical analysis, scrutiny and synthesis.
- Practical, research & independent learning skills: analyze, evaluate and record data from a wide range of primary and secondary sources, as a means to generate concepts, in an appropriate and professional format.
- Transferable or key skill: use methodology and knowledge to contribute to research

goals. Course coordinator: Evy DUTEIL – Evy Design – [dutheil.evy@gmail.com](mailto:dutheil.evy@gmail.com)

#### **Course 5: Urban Watershed management**

This module presents a comprehensive approach to urban watershed management and covers themes such as drinking water, wastewater, riparian buffers and urban stream health, climate change adaptation, and more.

Content



- The urban water cycle: drinking water, wastewater, rainwater, treatment, and environmental impacts
- The urban cycle of water in the alder of the sustainable city
- Decentralized management of water in the city
- The link between water and vegetation in the city: green spaces, urban agriculture, wetlands, water, vegetation, and global warming.

Course coordinator: Michel LAFFORGUE - SUEZ - [michel.lafforgue@suez.com](mailto:michel.lafforgue@suez.com)

### **Course 6 - Building information modeling – BIM**

This module's global objective is to develop the knowledge, skills, and experience needed to use and manage efficient building realization processes supported by digital technologies, like Building Information Modeling BIM and Geographical Information System GIS, in the built environment sector to create sustainable values. With this module, we want to help students consider the environmental and potential health impact of design decisions and research on undertaking holistic, sustainable design analysis within the building information modeling (BIM). We will learn many different aspects of BIM; this includes modeling, simulation, and analysis, optimization, visualization, sharing, communicating, organizing, and managing processes for digitally-driven value creation.

Specific course objectives

- Understand the BIM methodology, know how to apply it, and be able to transmit it. The most important thing of BIM is to internalize its methodological and ideological principles. Given that the BIM applies in very different contexts, it is necessary to know how to adapt its requirements to each situation's social, industrial and technological conditions.
- Understand the processes that occur throughout the life cycle of buildings and how to work with BIM. We take advantage of our students' multidisciplinary profile to make them work together to maximize their knowledge of the global context where they will have to move in the future.
- Train students in the use of specific instruments for the modeling and analysis of BIM models. The contents of this master enable students to use specific software tools effectively.
- Encourage a proactive and critical attitude towards BIM. Our strategy is not based on the use of a single software platform. At the end of this course, the student will be able to understand the general panorama of the BIM methodology. Recognize the different technological tools that are used in this work methodology, the processes, and how to implement them in different projects.

Course coordinator: Roberto Baruch, BIM Manager, PINGAT XD, [rbaruch2@gmail.com](mailto:rbaruch2@gmail.com)

Teaching unit coordinator: Dr. Mariia Ostapchuk UniLaSalle [Mariia.ostapchuk@unilasalle.fr](mailto:Mariia.ostapchuk@unilasalle.fr)

## Teaching Unit 12 - Urban Agriculture II

### Description, contents, learning-outcomes

The spring session of the Urban Agriculture Module aims at providing a comprehensive view of horticultural projects and the many ways how technologies are used in these projects. Students will also be introduced to vertical farms and their specific use of lightening to grow fresh produce. At the end of this module, students will be able to account for integrated technology in urban farming projects, where the system has to be controlled entirely with the computers and other embedded systems such as sensors etc.

### Specific content of the second semester

- Greenhouse production (light management: use of LED light)
- Horticultural agronomy/Greenhouse climate control/ Greenhouse management/ Sensors, automation, Internet of Things
- Urban horticulture ( irrigation systems, fertilization, hydroponic )
- Soil analysis
- Plants recognition and identification
- Professional urban farming/ How to become an entrepreneur/ How to find a co-founder/ Lean Start-up and Customer Factory// Business case: MyFood farm plus « La Ruche Qui Dit Oui
- Deep dives on urban farming technologies

### Course coordinators

- Dr. Hermann Shilt, AERES Hogeschool, [h.schilt@aeres.nl](mailto:h.schilt@aeres.nl)
- Dr. Francesco Orsini, University of Bologna [f.orsini@unibo.it](mailto:f.orsini@unibo.it)
- Mr. Mickaël Gandecki MyFood the connected greenhouse
- Dr. Marco Fontanelli, Pise University Italy [marco.fontanelli@unipi.it](mailto:marco.fontanelli@unipi.it)
- Ms. Claire Grosbellet, R&D Director La Florentaise, [claire.grosbellet@florentaise.com](mailto:claire.grosbellet@florentaise.com)
- Ms. Perrine Hervé Guyer, Le Bec Helouin Farm
- Dr. Marie-Pierre Bruyant [Marie-Pierre.Bruyant@unilasalle.fr](mailto:Marie-Pierre.Bruyant@unilasalle.fr)
- Dr. Babacar Thioye [babacar.thioye@unilasalle.fr](mailto:babacar.thioye@unilasalle.fr)
- Mrs. Magli Magali MANIEZ <[Magali.MANIEZ@unilasalle.fr](mailto:Magali.MANIEZ@unilasalle.fr)>

### Evaluation

Written exam ( specifics will be provided)

## Teaching Unit 13 Urban Food System

### Objectives and learning outcomes

The current debate on food security has arisen several questions about the quantity and the quality of food provided in the urban food system (FAO, IFAD, UNICEF, WFP, & WHO, 2018). Local institutions are now more and more prone to adopt urban food policies to drive the local food system's sustainability due to the potential multifunctionality of food (Béné et al., 2019). The peri-urban farming system is now more and more included in such plans. This module's objective is to analyze the central dynamics of integrating consistent strategies accounting for a periurban farming system to design urban food systems. Considering a territorial approach is essential to achieve urban food security (Loconto, Jimenez, Vandecandelaere, & Tartanac, 2018).

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

- Identify and critique the most significant issues and debates on urban food systems and periurban farming systems
- Detect the main opportunities and constraints of integration of urban food systems and periurban farming systems
- Characterize the spatial networks of urban food system's actors

### Content

- Main agronomic approaches and scales in analyzing farming activities: cropping system, farming system, land use system, a territorial system
- Sustainability and resilience of agriculture in environmental urban and periurban environment, main results from research studies
- Main approaches in analyzing local food system: SYAL, foodshed, urban food system, alternative food networks
- Debate on urban food governance and urban food security: urban food policies
- The contribution of periurban farming system to local food system: taking into account the different perspectives of farmers and food system's actors in a case study analysis
- The specific case of the public school food procurement: integration of the farming system in an urban local food system

### Course coordinators

- Dr. Rosalia FLIPPINI – Milan University - [rosalia.filippini@gmail.com](mailto:rosalia.filippini@gmail.com)
- Dr. Marie Asma Ben-Othmen UniLaSalle [marie-asma.benothmen@unilasalle.fr](mailto:marie-asma.benothmen@unilasalle.fr)

### References

- AgriGo4Cities. (n.d.). *Approaching urban agriculture as a social innovation Guidelines for the development and*.
- Béné, C., Oosterveer, P., Lamotte, L., Brouwer, I. D., de Haan, S., Prager, S. D., ... Khoury, C. K. (2019). When food systems meet sustainability – Current narratives and implications for actions. *World Development*, 113, 116– 130.  
<https://doi.org/10.1016/j.worlddev.2018.08.011>
- Eakin, H., Rueda, X., & Mahanti, A. (2017). Transforming governance in telecoupled food systems. *Ecology and Society*, 22(4). <https://doi.org/10.5751/ES-09831-220432>
- FAO, IFAD, UNICEF, WFP, & WHO. (2018). *The State of Food Security and Nutrition in the*

- World 2018. Building climate resilience for food security and nutrition. Rome, FAO. Licence: CC BY-NC-SA 3.0 IGO. In *Building climate resilience for food security and nutrition*. <https://doi.org/10.1093/cjres/rst006>
- Kaplinsky, R., & Morris, M. (2000). *Value Chain Handbook Kaplinsky.pdf (application/pdf Object)*. (September). Retrieved from <http://www.bdsknowledge.org/dyn/bds/docs/424/Value Chain Handbook Kaplinsky.pdf>
- Levidow, L. (2018). London's urban agriculture: Building community through social innovation. *Journal of Sociology of Agriculture & Food*, 24(3), 354–376. Retrieved from <http://dpp.open.ac.uk/people/levidow.htm>
- Loconto, A., Jimenez, A., Vandecandelaere, E., & Tartanac, F. (2018). Agroecology, local food systems and their markets. *Ager*, 2018(25), 13–42. <https://doi.org/10.4422/ager.2018.15>
- Sozo, V., & Ogliari, A. (2019). Stimulating design team creativity based on emotional values: A study on idea generation in the early stages of new product development processes. *International Journal of Industrial Ergonomics*, 70(November 2018), 38–50. <https://doi.org/10.1016/j.ergon.2019.01.003>

## Teaching Unit14 – Value Chain Management

### Objective and learning outcomes

The courses address the issues of moving local food through the conventional food system infrastructure. Value chain analysis is an approach undertaken to map the actors participating in the production, distribution, marketing, and sales of a particular product (Kaplinsky & Morris, 2000). In this way, it provides insight into the distribution of benefits among various value chain actors. It is considered a relevant framework to understand how direct marketing approaches (from the producers to consumers) are intended to meet consumers' demand for local and fresh food.

The course addresses various models for sustainable local economic development through designing urban agriculture value chains. Students will learn how to put in place a public-private partnership, including the organization of multi-stakeholder-meetings (Eakin, Rueda, & Mahanti, 2017).

### Content

- Characterization of the agribusiness value chain
  - Volatility
  - Complexity
  - Scrutiny
- Implication of stakeholders
  - Input companies
  - Farmers
  - Traders
  - Food companies
- Collaboration through the urban agriculture value chain

### Evaluation

- Research work in pair/ Oral presentation

### Course coordinators

- Loïc Sauvée – UniLaSalle – [loic.sauvee@unilasalle.fr](mailto:loic.sauvee@unilasalle.fr)
- Marie Asma Ben-Othmen – UniLaSalle – [marie-asma.benothmen@unilasalle.fr](mailto:marie-asma.benothmen@unilasalle.fr)

### References

- AgriGo4Cities. (n.d.). *Approaching urban agriculture as a social innovation Guidelines for the development* .
- Béné, C., Oosterveer, P., Lamotte, L., Brouwer, I. D., de Haan, S., Prager, S. D., ... Khoury, C. K. (2019). When food systems meet sustainability – Current narratives and implications for actions. *World Development*, 113, 116– 130.  
<https://doi.org/10.1016/j.worlddev.2018.08.011>
- Eakin, H., Rueda, X., & Mahanti, A. (2017). Transforming governance in telecoupled food systems. *Ecology and Society*, 22(4). <https://doi.org/10.5751/ES-09831-220432>
- FAO, IFAD, UNICEF, WFP, & WHO. (2018). *The State of Food Security and Nutrition in the World 2018. Building climate resilience for food security and nutrition*. Rome, FAO.

Licence: CC BY-NC-SA 3.0 IGO. In *Building climate resilience for food security and nutrition*. <https://doi.org/10.1093/cjres/rst006>

Kaplinsky, R., & Morris, M. (2000). *Value Chain Handbook Kaplinsky.pdf (application/pdf Object)*. (September).

Retrieved from <http://www.bdsknowledge.org/dyn/bds/docs/424/Value Chain Handbook Kaplinsky.pdf>

Levidow, L. (2018). London's urban agriculture: Building community through social innovation. *Journal of Sociology of Agriculture & Food*, 24(3), 354–376. Retrieved from <http://dpp.open.ac.uk/people/levidow.htm>

Loconto, A., Jimenez, A., Vandecandelaere, E., & Tartanac, F. (2018). Agroecology, local food systems and their markets. *Ager*, 2018(25), 13–42. <https://doi.org/10.4422/ager.2018.15>

Sozo, V., & Ogliari, A. (2019). Stimulating design team creativity based on emotional values: A study on idea generation in the early stages of new product development processes. *International Journal of Industrial Ergonomics*, 70(November 2018), 38–50. <https://doi.org/10.1016/j.ergon.2019.01.003>

## Teaching Unit 15- Urban planning & Architecture II

### WORKSHOP EDIBLE LANDSCAPES DESIGN WORKSHOP (Common for all students)

LECTURER: Anaïs Leger-Smith / Paul Smith

#### OVERVIEW

In the context of an increasing desire to grow food locally in urban areas, to create and strengthen community cohesion in cities and the desire to appropriate public spaces by local residents, the design brief requires the students to retrofit a food production area and community garden within the existing urban fabric of the city.

Students studying urban agriculture and green cities may be part of multidisciplinary teams or be directly involved with the planning, conception, design and construction of community growing areas in cities. This short design workshop aims to give students an introduction to site survey, site analysis and the landscape design process.

The Workshop addresses the issues, practicalities and potential problems of team working and how to overcome arising issues to create a shared concept and graphically communicate a vision and masterplan for a small community growing area. Students are introduced to various techniques of producing graphics such as simple hand-drawn plans, maps, sketches, and sections that provide a visual medium to explain ideas and communicate spatial information and text and images.

Whilst remaining in the practical, it is also worth keeping in mind the social dimension of space that the following quote from Lefebvre describes,

"Social space is a social product, the space thus produced also serves as a tool of thought and of action in addition to being a means of production it is also a means of control, and hence of domination, of power."  
(Lefebvre, Henri The Production of Space Blackwell, 1991 p.26)

#### PROGRAMME

>Day 1

09H - 10H30 Introduction

Briefing, programme, choice of site and deliverables

Lecture Paul Smith – Landscape design process / site analysis / examples of plan and map graphics

10H - 13H Site visit

14H30 - 17H30 Site analysis and mapping the findings in classroom

17H30-18H Group presentation site analysis

>Day 2

09H - 10H Group presentation site analysis

Lecture Paul Smith – Design development / drawing sections / levels / scale / examples of small scale edible landscapes and urban agriculture

10H – 12H30 Design development

14H – 17H Finalising designs and drawing plans and sections

17H-18H Presentation of group work

>2 / 3 weeks later Issue final projects as PDFs for marking Analysis / Design / Plant and material palettes.

1. What makes a city 'Green'? Discuss using examples real and imagined.

2. How can designers and urban planners bring 'nature' into cities, and why should they? / OR How can 'nature' be integrated into cities and why should it?

4 GROUPS

x 3 groups of 3

x 1 group of 2

#### **OBJECTIVES / TOPICS COVERED / LEARNING OUTCOMES**

- Circular systems (water, nutrients, waste etc)
- Understanding a brief
- Site analysis
- Design phases
- Design tools
- Landscape / ecological / permaculture design
- Conceptual development
- Graphic presentation
- Selection of plant and material palettes etc.

#### **EQUIPMENT REQUIRED**

- Base plan of site to scale A3 (provided by lecturers)
- A3 paper
- Tracing paper
- Scale rulers
- Measuring tapes (20m)
- Coloured pens / pencils
- Masking tape

#### **DAY 1 > SITE SURVEY AND ANALYSIS**

Having selected a site, each group should undertake a survey and analysis of the site and its existing features. Groups will produce maps, sketches, text and other graphics to explain and illustrate the existing conditions, Strengths, Weaknesses, Opportunities and Threats (SWOT analysis) that the site offers to a designer.

Undertake a site analysis to identify the existing site conditions including reference to:

##### **Sensitive approach**

- General character, feel and your perception of site (sense of security, feeling, smells, atmosphere...)
- Large scale urban context and history
- Surrounding context – geography, infrastructure, transport links, services, shops, library, cinema, cafes, bus stops, parks, green ways, etc...
- Past land uses, past memories.
- Cultural, historic, artistic and heritage layers if relevant (genus loci)
- Building type, form, massing and height.
- Physical characteristics of the site
- Levels and slopes across the site and drainage.
- Access and circulation (pedestrian, cycle, car, refuse vehicles (bin collection), emergency and fire services if applicable).
- Demarcation of public, semi public and private areas.
- Key views to landmarks or other, vis a vis with houses and issues of privacy.
- Soil quality (briefly not chemical analysis)



- Hard elements of site and their condition (paving, surfaces, kerbs, benches, bins, lighting etc)
- Soft elements / vegetation on site, species, estimated height + condition (Trees, shrubs, lawns etc)
- Site orientation, microclimates, wind and local climate (sun path, rainfall, prevailing winds etc)
- How is the site used today?
- Existing uses and users, local urban practices, planning issues and designations.

### DELIVERABLES

Show existing site conditions and map key elements / relationships with existing surroundings on A3 plans to a recognised scale with north point:

- Vehicular Circulation and accesses + building massing
- Vegetation
- Usages and practices
- Provide a SWOT analysis of the site : strengths, weaknesses, opportunities and threats
- Sections through key areas

### DAY 2 > DESIGN BRIEF

Having understood the site, each group proposes the development of a design.

Question the site boundary and think beyond the demarked red line to link the proposals into the wider city context, physically, socially, philosophically, theoretically and crucially practically.

Informed by the site survey and analysis each group will produce a design that includes:

- Xx m2 of fertile area to grow food for the local community.
- A demonstration garden / teaching garden for community and school groups of up to 20 people.
- A community area for meeting, socialising and playing with seating.
- A small building (5m x 5m maximum) for storing tools and hosting events.
- Raised planting beds accessible for people with reduced mobility.

Consideration should be given to:

- Improving local biodiversity
- Strengthening links to the surrounding Green Infrastructure networks.
- Water cycles and irrigation
- Nutrient cycles and composting
- Access and accessibility (circulation, disabled access and site security)
- Maintenance and long term management
- Social inclusion and community engagement
- Proposing a public space that combines ecological and social functions in an edible landscape
- Respond to the surrounding urban typo-morphology
- Aesthetics

### DELIVERABLES

All the deliverables to be scanned and sent to lecturers for a final A0 board.

- Small text : Explain the concept / inspiration / idea / reference projects
- Site pictures
- 1 A3 masterplan plan showing the layout of the design: hard and soft proposals
- 1 or more sections through key areas to show how the elements required in the brief relate to each other.
- Perspectives or illustrations
- Demonstrate how the site layout fulfils the brief, legends, bullet points...

- Illustrate or explain which materials might be used (plant species, surfaces, building etc) to build the project.

Have fun, go for it. Everyone is a designer!

Course Instructors

Mr. Paul Smith

Dr. Anaïs Smith

**Upcoming Workshop on "Edible cities and industrial risk"**