Open Urban Innovation: Synthesis Laboratory

Code: 104538
ECTS Credits: 6

2024/2025

Degree	Type	Year
2500001 Management of Smart and Sustainable Cities	OB	2

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Teachers

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Teaching groups languages

You can view this information at the end of this document.

Prerequisites

No needed pre-requirements.

Objectives and Contextualisation

In the subject "Open Urban Innovation: synthesis laboratory" a set of practical case studies will be developed by the students. The course provides the basic descriptions of the open innovation tools, which will be applied in the synthesis projects. It is a subject with a pragmatic vision, which studies real examples of open innovation in our cities.

The specific objectives are:

- Approaching the student to the theoretical corpus on open innovation.
- Developing the analytical capacity of students on the challenges of innovation in cities from a sustainability perspective.
- Providing a critical vision about the processes of transformation in cities -fundamentally the digital transformation- and its consequences of social transformation.
- Developing a critical perspective on the impact of innovation on the citizen, and on the role of the citizen in innovation processes.
- Providing students with the tools for design, analysis, and implementation of open innovation processes.
- Developing the ability of students to critically expose an analysis around innovation processes.

The generic objectives are:

- Prepare the future city managers for the development of innovation processes from a technical perspective of quality.
- Provide the future leaders of urban innovation processes with a critical vision of the role of the citizen and the potential transforming power of innovation.

Competences

- Demonstrate creativity, initiative and sensitivity in the different social and environmental topic areas.
- Identify and analyse government and management policies for cities in the different fields of urban development, particularly methods of public participation.
- Identify and use different sources, models and data bases of information generated by urban activity, as well as their principles of operation, access policies and standards.
- Solve problems of urban or regional management on a basic level for the implementation of processes for decision making.
- Solve urban management problems using knowledge, methodology and procedures for the design and implementation of computer applications for different types of environment (web, mobile, cloud) and different paradigms.
- Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
- Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.

Learning Outcomes

1. Demonstrate creativity, initiative and sensitivity in the different social and environmental topic areas.
2. Design citizen-participation processes that comply with the city's legal and operational framework.
3. Design computer applications that allow citizen participation in the resolution of urban-management problems.
4. Identify ideas related to innovation processes, integrating all actors concerned, and communicate this in multidisciplinary environments.
5. Identify innovative solutions using open-source innovation tools.
6. Manage innovation ecosystems that have the participation of the distinct contributors in the quadruple helix.
7. Organise the collection of data through citizen participation, and the annotation and analysis of these through participatory processes.
8. Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
9. Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.

Content

1. Context of the Challenges for Sustainable Development.
2. Green economy and circular economy.
    1. The urban model of waste management.
    2. Examples of implementation of the green economy.
4. Paradigms of Open Innovation.
    1. Models and classic levels of innovation.
    2. Open Innovation.
    3. Innovation ecosystems.
6. Living Labs.

1. Methodological approach.
2. Implementation examples.
3. Scalability of open innovation.
4. The European Network of Living Labs ENoLL.

8. Processes of citizen participation and citizen science.
    1. Data generated by the individual: ownership, access and use of the data generated collectively (digital common good).
    2. Generation and collective analysis of data in the scientific context.
    3. The transversal participation in the scientific process.
    4. Infrastructures and citizen science projects in Europe.
10. Impact on the territory.
    1. Integration of public administration in innovation processes.
    2. Integration of the start-ups in the processes of innovation.
    3. The canvas model.
    4. Agile methodologies for innovation management.

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Field studies for innovation projects	10	0.4	
Lab for analysis of case studies	7	0.28	
Lab of synthesis and exposition of case studies	8	0.32	
Lectures for theoretical contextualisation	15	0.6	
Open debates with specialists	10	0.4	
Type: Supervised			
Impact analysis of the innovation process (individual and collective)	32	1.28	
Type: Autonomous			
Development of the Case Studies	40	1.6	
Individual study	20	0.8	

The course is based on a practical implementation aimed at solving problems. The teaching will be based aroun4 representative cases of urban innovation processes. The students will receive the theoretical contents contextualized in these cases. Renowned experts will provide open discussions during class hours with the aim of generating a modern and real-world critical vision.

The students will make field visits to case studies in a monitored manner. From these visits, students will perform a sprint process based on agile methodologies to generate a work on each case study, interacting with social actors under the supervision of teachers. The information and data obtained in these actions will be contextualized in a laboratory of analysis of the case, and the results of this analysis will be exposed in a synthesis laboratory, all with the support of teachers and innovation professionals.

The student must support the case studies with individual and group work in order to obtain 2 deliverables, which will be evaluated separately.

This methodological vision allows working cooperatively in complex or uncertain environments and with limited resources, in a multidisciplinary context, assuming and respecting the role of the different members of the team.

The analysis of the case studies will allow developing creativity, initiative, and sensitivity towards social and environmental issues. The high practical content allows generating innovative and competitive proposals in future professional activities, since all processes are carried out within real city projects. This allows to prevent and solve problems, adapt to unforeseen situations, make decisions, and critically evaluate the work done demonstrating spirit of improvement and anticipation.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Deliverable of the Paper with the Innovative Solution	70%	4	0.16	1, 2, 3, 4, 5, 6, 9
Deliverable of the paper on the sate-of-the-art	30%	4	0.16	3, 4, 7, 8, 9

There will be 2 deliverables for evaluation:

1. Deliverable of the state of the art (SoA).
2. Deliverable of the article on the innovation proposal (IP)

The final grade will be the result of applying the following formula:

FINAL SCORE = SoA*0.30 + PI*0.70

To pass, it is necessary that the evaluation of each of the parties exceeds the minimum required (5) and that the total evaluation exceeds 5 points. In case of not passing the subject, the numerical note of the student's file will be the lower value between 4.5 and the weighted average of the notes. There is no option for single evluation.

Positive contributions in the discussions will round up the decimals. To qualify for the Matrícula d'Honor (with honors) it is necessary to have a participative attitude in the class discussions. The maximum number of Matrículas d'Honor is restricted by the UAB regulation to a maximum of 5% of the students enrolled in the subject. They can only be granted to students who have obtained a final grade equal to or greater than 9.

In case of not passing in any of the deliveries, the student will have the opportunity to recover the partial mark by sending back the corrected document before the day determined by the teacher. Repeating students may validate the parts approved in previous years.

The non-presentation to the final exam (EF) implies a "Not Evaluable" in the student´s file.

Finally, there will be an extraordinary test that will allow the students to pass in the Theory part in case of having failed the final exam (E).

All exams will be adjusted according to the School's calendar.

The dates for continuous evaluation and submission of works will be published on the website Caronte (http://caronte.uab.es) and may be subject to changes for reasons of adaptation to possible incidents. Caronte

will always inform about these changes since it is understood that the Caronte website is the usual mechanism for exchanging informationbetween teacher and students.

For each evaluation activity, a place, date and time of revision in which the student can review the activity with the teacher will be indicated. In this context, claims may be made on the activity grade, which will be evaluated by the faculty responsible for the subject. If the student does not appear in this review, this activity will not be reviewed later.

Without prejudice to other disciplinary measures deemed appropriate, and in accordance with current academic regulations, any irregularities carried out by the student that could lead to a variation of the grade of an evaluation act will be scored with a zero. Thus, plagiarizing, copying or allowing a document to be copied or any other evaluation activity will involve failing with a zero and will not be able to be passed in the same academic year.

Bibliography

- Eric von Hippel. Democratizing Innovation. MIT Press 2005.
- Ash Maurya. Running Lean. O'Really, 2012.
- Henry Chesbrough, Wim Vanhaverbeke and Joel Wet. Open Innovation: Researching a new paradigm. Oxford University Press. 2006.
- Thomas Lockwood. Design Thinking. Integrating Innovation, Costumer Experience, and Brand Value. Alworth Press. 2009.
- Anna Ståhlbröst and Marita Holst. The Living Lab Methodology Handbook. Luleå University Press. 2012.

Software

- LaTeX: Software for professional text processing. https://www.latex-project.org
- Overleaf: Web tool for LaTeX edition. https://www.overleaf.com

Language list

Information on the teaching languages can be checked on the CONTENTS section of the guide.