Eunice EUROPEAN UNIVERSITY

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STUDY GUIDE

Introduction to Smart City Concepts regarding the urban sustainability

Organised by

University of Mons (UMONS)

1. IDENTIFYING DATA.	
· **Course Name.**	Introduction to Smart City Concepts regarding the urban sustainability
· **Coordinating University.**	University of Mons (UMONS)
· **Partner Universities Involved.**	/
· **Course Field(s).**	Human and Computer Science
· **Related Study Programme.**	Urban planning branch, Master of Architecture
· **ISCED Code.**	0688,0712,0732
· **SDG.**	7. Affordable and clean Energy 9. Industry, innovation and Infrastructure 11. Sustainable cities and communities 12. Responsible consumption and production 17 Partnership for the Goals
· **Study Level.**	Master

· **Number of ECTS credits allocated.**	2
· **Mode of Delivery.**	online live
· **Language of Instruction.**	French and English (MOOC)
· **Course Dates.**	Second semester
· **Precise Schedule of the Lectures.**	The precise schedule of the lectures is to be confirmed. Students enrolled into this course will receive it by email before the the first lecture.
· **Key Words.**	Sphere theory, models, pilars, governance, infrastructure, sustainability, citizenship, entropy, data, cities, wise management
· **Catchy Phrase.**	Optimizing the city of tomorrow by drawing on the collective intelligence linked to the Biosphere, allowing us to reduce our entropy.

· **Prerequisites and co-requisites.**	Skills in urban planning or engineering (TIC and Infrastructure), architecture Minimum level: Master student - B2-level in French
· **Number of EUNICE students that can attend the Course.**	30

· Course inscription procedure(s).	Registration through the EUNICE website

2. CONTACT DETAILS.	
· Department.	Projets, villes et territoire
· Name of Lecturer.	Pascal SIMOENS
· E-mail.	Pascal.simoens@umons.ac.be
· Other Lecturers.	/

3. COURSE CONTENT.

The content of the AA is defined with two distinct parts: first is the basic concept of a Smart City and the development of new technologies within one. The lessons are given on the basis of the presentation of examples of worldwide smart cities by analysing the specific strategies that have been developed in them. All of these parts are summarized under the concept of sphere : the link between the biosphere, the Technosphere and the datasphere. The second part is the definition of technologies and tools that make a city connected. Specifically, the unit develops the limits of the information and its use in the city, as well as knowledge of these information transfer principles by developing tools and well thought out infrastructure.

4. LEARNING OUTCOMES.

- Overview of the smart Cities theories until today
- Capacity of linking knowledge between the Cities models and data science
- Development of knowing for the 4 pillars of the smart city : Sustainability, infrastructure, governance, citizenship

5. OBJECTIVES.

- expand knowledge of urban patterns through digital tools
- develop a critical look at the theorization of smart cities
- to offer students the capacity to develop a specific culture enabling them to interact with the actors of the digital city

6. COURSE ORGANISATION.

UNITS	
1.	*Introducing the smart city model : between urban design, data and entropy (4h)*
2.	*The data sphere and retroaction model apply to the smart city model : knowledge model to understand the transition between the ancient city and the data city (4h)*

3.	*Example of smart cities models: apply and criticism (4h)*
4.	*Exercice/workshop : writing an scientific article about a subject linked with the course (12h). Subject proposed by the students*

LEARNING RESOURCES AND TOOLS.

- Book on line (EN/FR)
- Pptx explain (available online)

PLANNED LEARNING ACTIVITIES AND TEACHING METHODS.

- Main courses (3 x 4h) : on site / FR/ Question in EN
- 1 extra session on teams (2H) for the student EUNICE (EN/FR)
- workshop: By yourself with accompaniment of the lecturer : 1 session Teams (2h = 10 h work at home)

7. ASSESSMENT METHODS, CRITERIA AND PERIOD.

Oral examination (Teams or on Site) based on the work of the writing article critics and the links to the theorical part of the course.

OBSERVATIONS.

8. BIBLIOGRAPHY AND TEACHING MATERIALS.

- *ABITEBOUL, S., 2017. Autour de l'informatique : la géographie ubiquitaire. [En ligne] Available at: https://theconversation.com/autour-de-linformatique-la-geographie-ubiquitaire-83607 [Accès le 03 03 2018].*
- *ALOISI, J., 2016. City Protocol : Empowering and Improving Cities Trough Collaboration. Portland, GTJ Portland 2016.*
- *ANDRE, J.-C., 2013. Smart City, une gestion d'ensemble des services urbains. Dans: Numérique et génie urbain. Paris: EIVP, pp. 257-261.*
- *BAUDE, B., 2012. Internet : changer l'espace, changer la société. Limoges: Fyp éditions.*
- *BAYM, N. K., 2010. Personnal Connections in the digital Age. Cambridge: Polity Press.*
- *AUGE, M., 1992. Non-lieux, introduction à une antropologie de la surmodernité. Paris: Seuil.*
- *BEN LETAIFA, S., 2015. How to strategize smart cities: Revealing the SMART model. Journal of Business Research, xxx(xxx), p. 6.*
- *BINGHAM-HALL, J., 2017. Imagined community and Networked Hyperlocal Publics. Dans: 4D Hyperlocal, a Cultural Toolkit for the Open-Source City. Londres: John Wiley & Sons Ltd, pp. 64-71.*
- *Dominique PECAUD, L'explosion des données : chance ou malheur pour la connaissance ?, 2013, Le Monde, Paris*
- *RODIONOFF, A., 2012. Les territoires saisis par le virtuel. Rennes: Presses universitaires de*

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- *CAPDEVILLA, I. & ZARLENGA, M. I., 2015. Smart City or smart citizens? The Barcelona case. Journal of Strategy and Management, 08.pp. 1-19.*
- *ETLINGER, S., 2015. What Do We Do with All This Big Data? Fostering Insight and Trust in the Digital Age, San Mateo, CA: Rebecca Lieb.*
- *FISCHER, E., 2014. Making the most detailled tweet map ever. [En ligne] Available at: https://www.mapbox.com/blog/twitter-map-every-tweet/ [Accès le 25 01 2015].*
- *GREEN, J., 2016. A Vision for Smarter Public Spaces. [En ligne] Available at: https://dirt.asla.org/2016/03/24/a-vision-for-smarter-public-spaces/ [Accès le 24 04 2016].*

NYIRI, K., 2003. Mobile Learning. Essays on Philosophy, Psychology and Educadion. 1ere édition en Anglais, sur base de l'édition en Allemand, 2002 éd. Vienne: Passagen.