**COURSE OUTLINE**

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| 1. **Information about the program** | |
| **1.1** Higher education institution | **“Alexandru Ioan Cuza” University of Iaşi** |
| **1.2** Faculty | **Faculty of Economics and Business Administration** |
| **1.3** Cycle of study | **Bachelor, Master and Youth Researchers** |
| **1.4** Study program / Qualification | **Summer School**  „European Smart Cities for Sustainable Development (SmartEU)”  Project no. 620415-EPP-1-2020-1-RO-EPPJMO-MODULE. |

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| **2. Information about the course** | | | | | | | |
| **2.1** Course title | | | **[BUILDING SMART COMMUNITIES FOR SMART CITIES](https://www.getmeexperts.com/blog/detail/Renato-de-Castro-FOSTERING-COMPETITIVENESS-IN-THE-NEW-URBAN-REVOLUTION)** | | | | |
| **2.2** Course coordinator | | | Assoc. Prof., PhD. Hab. **Laura-Diana RADU** | | | | |
| **2.3** Year of study | All years of study | **2.4** Semester | **2** | **2.5** Type of evaluation\* | **M** | **2.6** Course status\*\* | **O** |

\* *MT-mid-term, O-oral exam, E-exam, M-mixed;* \*\* *C-compulsory/o-optional/E-elective*

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| **3. Estimated time allocation** (hours per semester and teaching activities) | |
| Time allocation | h |
| Study based on course book, course materials, bibliography and other | 14 |
| Supplementary study in the library, on electronic platforms and on the field | 6 |
| Preparing seminars/laboratories, assignments, papers, portfolios and essays | 6 |
| Tutorship | 2 |
| Examination | 2 |
| Other activities |  |
| Total | 30 |

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| **4. Prerequisites** (if applicable) | |
| **4.1** Referring to curriculum | **Not necessary** |
| **4.2** Referring to competences | **Not necessary** |

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| **5. Conditions** (if applicable) | |
| **5.1** For the course | **Not necessary** |
| **5.2** For the seminar / laboratory | **Not necessary** |

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| **6. Specific competences accumulated** | |
| **Professional competencies** | C1: The course will enforce students with the knowledge about the era of on-demand work in smart cities, about the employment crises and the challenges among youth in different EU countries.  C2: The students will learn about the importance of information technologies and the IT skills necessary for increasing youth employability in EU countries.  C3: The students will debate on European Best Practice in shaping and enforcing labour conditions. |
| **Transversal competencies** | CT 1: Self-training need and identifying the resources and means for personal and professional training development in order of insertion and adaptation to labour market requirements.  CT 2: Fulfilment term, rigorous, efficient and accountable professional tasks with ethical principles and professional ethics. |

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| **7. Course objectives** (based on specific competencies accumulated) | |
| **7.1 General objective** | The students will gain solid knowledge about the main technologies used in smart cities and about the importance of IT skills for responding to the changes generated by these technologies. They will understand also the technological trends in smart cities. |
| **7.2 Specific objectives** | After successfully finalizing this course, students will be able to:   1. Gain a deep understanding of the nature of disruptive innovations (smart technologies) in urban infrastructure systems. 2. Describe the role and importance of smart cities, why these are still prototypes and what the challenges are. 3. Understanding of road map for Planning Smart Cities and benchmarking their performance across EU. 4. Understand the concept of Smart communities’ infrastructure and its importance for responsive cities. 5. Identify the core objectives of an optimized smart community. 6. Understand what the proper tools for Designing Smart Communities in Smart Cities. 7. Learn the fundamental concepts of Big Data, along with Geographical Information Systems and how it changes traditional data management approaches. 8. Learn how can collect data and make decisions in a smarter way and how can contribute to smart city development. 9. Gain a deep understanding on the future technologies of smart cities and smart communities. |

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| **8. Content** | | | |
| **8.1** | **Course** | **Teaching methods** | **Observations**  (time) |
| 1. | **II.1 Smart cities dimensions**  **II.2 Smart communities’ infrastructure**  **II.3 Core objectives of an optimized smart community**  II.3.1 Safe  II.3.2 Sustainable  II.3.3 Well Run  II.3.4 Healthy  II.3.5 Prosperity  II.3.6 Liveable | Interactive course, heuristic conversation, problem solving method | 10 hours |
| 2. | **II.4 Tools for Designing Smart Communities in Smart Cities**  II.4.1 Geographical Information Systems  II.4.2 Big Data and Urban Informatics  II.4.3 Intelligent tools for smart communities  **II.5 Improving ICT competences to become smarter** | Interactive course, heuristic conversation, problem solving method | 12 hours |
| 3. | **II.6 Exploring the relationship between ICT competences and citizen intelligence**  II.6.1 Smarter ways to collect data  II.6.2 Smarter ways to make decisions  **II.7 Future technologies of smart cities and smart communities.** | Interactive course, heuristic conversation, problem solving method | 8 hours |
| **Bibliography**   1. Amini, M. H., Arasteh, H., & Siano, P. (2019). Sustainable Smart Cities through the Lens of Complex Interdependent Infrastructures: Panorama and State-of-the-art. In Sustainable Interdependent Networks II (pp. 45-68). Springer, Cham. 2. Ghaffarianhoseini, A., AlWaer, H., Ghaffarianhoseini, A., Clements-Croome, D., Berardi, U., Raahemifar, K., & Tookey, J. (2018). Intelligent or smart cities and buildings: a critical exposition and a way forward. Intelligent Buildings International, 10(2), 122-129. 3. Gil-Garcia, J. R., Pardo, T. A., & Nam, T. (2015). What makes a city smart? Identifying core components and proposing an integrative and comprehensive conceptualization. Information Polity, 20(1), 61-87. 4. Jalali, R., El-Khatib, K., & McGregor, C. (2015). Smart city architecture for community level services through the internet of things. In Intelligence in Next Generation Networks (ICIN), 2015 18th International Conference on (pp. 108-113). IEEE. 5. Khatoun, R., & Zeadally, S. (2016). Smart cities: concepts, architectures, research opportunities. Communications of the ACM, 59(8), 46-57. 6. Marsal-Llacuna, M. L., Colomer-Llinàs, J., & Meléndez-Frigola, J. (2015). Lessons in urban monitoring taken from sustainable and livable cities to better address the Smart Cities initiative. Technological Forecasting and Social Change, 90, 611-622. 7. Mattoni, B., Gugliermetti, F., & Bisegna, F. (2015). A multilevel method to assess and design the renovation and integration of Smart Cities. Sustainable Cities and Society, 15, 105-119. 8. Musa, S. (2018). Smart cities-a road map for development. IEEE Potentials, 37(2), 19-23. 9. Silva, B. N., Khan, M., & Han, K. (2018). Towards sustainable smart cities: A review of trends, architectures, components, and open challenges in smart cities. Sustainable Cities and Society, 38, 697-713. 10. Sikora-Fernandez, D. (2018). Smarter cities in post-socialist country: Example of Poland. Cities, 78, 52-59. 11. Webb, R., Avram, G., García, J. B., & Joyce, A. (2019). Transforming Cities by Designing with Communities. In The Hackable City (pp. 95-117). Springer, Singapore. 12. Zhilin, S., Klievink, B., & de Jong, M. (2019). Community Self-Governance in the Smart City: Towards a Typology. In E-Participation in Smart Cities: Technologies and Models of Governance for Citizen Engagement (pp. 81-97). Springer, Cham | | | |

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| **9. Bridging course content with the expectations of the community, professional associations and representative employers in the field of the program** |
| After each Summer School, the course content is discussed with the students, teachers and representatives of the business environment during the research and scientific events of the JM Project in order to receive feedback (on-line, anonymous) about the course structure, teaching methods, as well as strengths / weaknesses (after the final evaluation) and to increase the reliability of the content to be adapted at scientific developments and practical implications. |

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| **10. Evaluation** | | | |
| **Type of activity** | **10.1 Evaluation criteria** | **10.2 Evaluation methods** | **10.3 Allocation to the final grade (%)** |
| **10.4** Course | Theoretical and applied knowledge | *Attendance and active participation* (2 points/ attendance + 4 points for active participation): 40% of final gradeand *Individual Assignment*: empirical and exploratory research on a topic at students’ choice, related to the topics of the course: 30% of final grade; Class quizzes (30%). | 100% |
| **10.5** Evaluation conditions | Group discussions and analysis of case studies are highly encouraged to bring into the attention interesting case studies and lessons learned. There will be minimum one Individual Assignment for the assessment of the participants, in class quizzes in which learners will have to make proof of the knowledge gained. | The completion of the requirements will allow students to receive the **Jean Monnet Certificate** | - |
| **10.6** Minimal performance standard | | | |
| Obtaining 6 points (out of 10). | | | |

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| Date | Course coordinator |  |
| May 2021 | Assoc. Prof. PhD. Habil. **Laura-Diana Radu** |  |
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