



Energy communities for Smartcities

Seville,

Virtual Part: 09/02/2026 to 11/02/2026 TBC

Physical Part: 23/02/2026 to 27/02/2026

Blended short term mobility



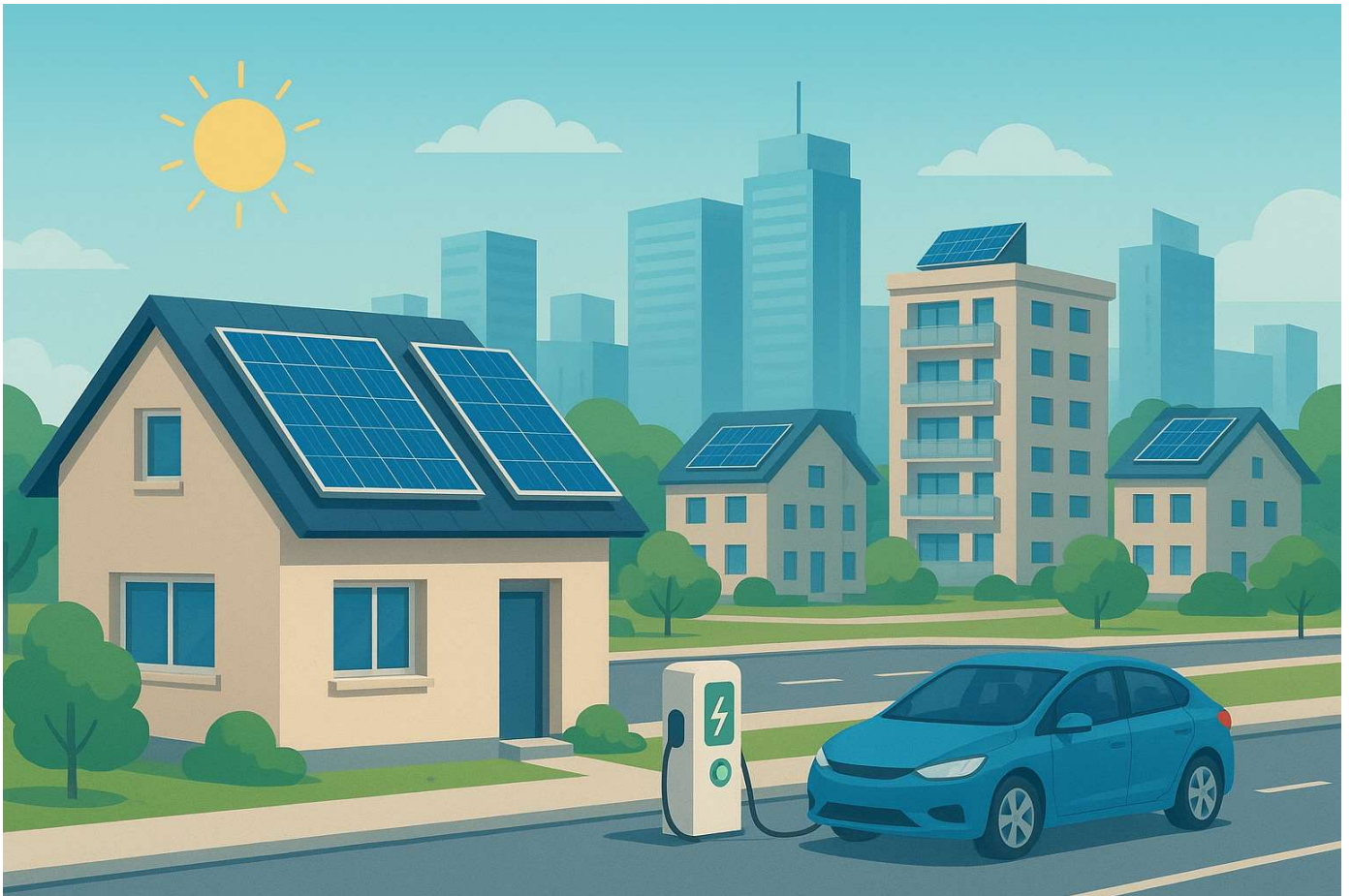
Energy Communities for Smartcities

Summary of Information:

In which city is the short term mobility located?	Seville, Spain
Name of the hosting university?	University of Seville
Name of the coordinating university?	University of Seville
Ulysseus topics?	<input type="checkbox"/> Entrepreneurship <input type="checkbox"/> Citizen Engagement <input type="checkbox"/> Topics related to the Ulysseus Innovation Hubs, <input type="checkbox"/> Transversal/Interdisciplinary topics aligned with the Ulysseus Mission
ISCED code, according to the list in annex 1:	0713 - Electricity and energy 0714 – Electronics and automation 0712 – Environmental protection technology 0710 – Engineering and engineering trades
Amount of ECTS :	3 ECTS
Expected participants (students, staff or the two ones) and the expected study level for students:	Students: Bachelor, Master, PhD Academic Staff
- Maximum number of desired participants - And if possible, precise, how many slots per university:	4-5 per university 2 for University of Montenegro Maximum 30 participants in total
Start/End dates of the virtual component:	09/02/2026 to 11/02/2026 TBC

Start/End dates of the physical component:	23/02/2026 to 27/02/2026
(Expected) Workload (detail for physical component and the virtual one if possible):	Virtual Component: 2 sessions / 5 hours Physical Component: 5 days / 27 hours Other activities: 10 hours
Language and level required:	Minimum required English B2
Available funding:	<i>Consult your home university regarding available funding options</i>
Hosting university's registration deadline to receiving (the participant list) or (the signed Erasmus mobility agreement):	16/01/2026 (Later applications can be accepted only with the approval of the organisers. Please consider the dates of your home institution in case you need a mobility agreement)
Application Details:	Please contact your Ulysseus Local Mobility Officers in this table below. Feel free to reach out to them with any questions. They will manage the selection process internally.
Contact details of Ulysseus Local Mobility Officers:	
University of Seville:	mobilityulysseus@us.es
Université Côte d'Azur:	mobility-ulysseus@univ-cotedazur.fr
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University of Münster:	mobilityulysseus@uni-muenster.de
University of Montenegro:	ulysseusmobility@ucg.ac.me

General Course Information



- **Course Description:**

This short term mobility offers both students (undergraduate, master, and PhD) and researchers a dynamic and inspiring learning experience on the design and analysis of energy communities in the context of smart cities. The program focuses on learning centered on the development of use cases that consider energy communities made up of different participants: photovoltaic electricity generation, electrical and/or thermal storage systems, electric vehicles, and flexible demand. All of this considers different types of cities, whether in urban or rural environments. Different regulatory issues, as well as the technical analysis and economic evaluation of the different types of energy communities, are addressed through work in small interdisciplinary groups, enabling active and comprehensive learning.

- **Ulysseus Priority Topics:**

- Entrepreneurship
- Citizen Engagement
- Related to the Ulysseus Innovation Hubs
- Transversal/Interdisciplinary topics aligned with the Ulysseus Mission

- **Target group:**

- Students
- Academic staff

- **Level** (for students)

- Bachelor
- Master
- PhD

- Field of study and ISCED code(s) for a BIP for students: using the ISCED code list in annex:

- 0713 - Electricity and energy
- 0714 – Electronics and automation
- 0712 – Environmental protection technology
- 0710 – Engineering and engineering trades

- Course dates:

Physical component: 23/02/2026 to 27/02/2026

Virtual component: 09/02/2026 to 11/02/2026 (TBC)

- Registration dates are open from 01/10/25 to 16/01/26

Please be aware that your home university may set a different application deadline depending on their internal selection process (around 2-3 months).

Detailed Information

- **Course Outline:**

This short term mobility is structured around a blended learning approach that combines virtual sessions with an intensive in-person week. Participants will work both individually and in international multidisciplinary teams, focusing on the design and analysis of energy communities in smart city environments.

During the virtual phase, students will explore the use and integration of renewable resources, shared self-consumption, and European regulatory aspects related to energy communities

In the physical phase, students will be introduced to the administrative considerations of energy communities and will learn from experts in the field about the lessons learned in the processing and operation of energy communities. Subsequently, working in groups, students will learn to design energy communities that incorporate both renewable resources and elements of energy storage and electricity use. Finally, students will carry out a technical and economic analysis of the energy communities they have designed. These analyses have to be presented to the rest of audience.

- **Course content:**

- Introduction to European and local regulations related to energy communities.
- Quantification of renewable resources based on location and architectural integration.
- Calculation of electrical energy produced by photovoltaic fields.
- Uses of electrical and thermal energy storage systems in energy communities.
- Considerations regarding charging points for electric vehicles in energy communities.
- Economic aspects related to energy communities.

- **Learning Outcomes:**

Following this course, students will be able to:

- Ability to conceptually design an energy community in city environments.
- Understanding of the technical and economic parameters that affect an energy community.
- Ability to quantify renewable energy resources.
- Work collaboratively in multicultural teams, applying problem-solving and creativity.
- Present their work effectively in a public forum to both academic and industry audiences.

Physical Mobility

The physical mobility will take place from 23 to 27 February 2026 at the School of Engineering, University of Seville (Camino de los Descubrimientos S/N, 41092, Seville). The programme combines morning and afternoon sessions, offering a full-time, immersive experience.

Activities will include:

- Lectures and seminars on the design and analysis of energy communities.
- Practical workshops on simulation tools for renewable resources and energy communities.
- Teamwork sessions to develop group projects.
- Discussions on energy communities.
- Guided city tour and cultural activities
- A final business and research forum where participants will present their projects to a panel of experts
- A field visit to an energy community (TBD).

	Morning	Afternoon
Day 1	09:30-10:00 Registration 10:00 – 13:00. Welcome and Group Dynamics. Presentation of the short term mobility programme, professor and participants. Activities focused on group integration and intercultural exchange. <i>(11:00-11:30 Coffee Break)</i>	13:00 – 14:00: Lunch 14:00 – 15:30: Introduction to regulations of energy communities 15:30 – 17:00: Lessons learned in the administrative procedures and implementation of an energy community
Day 2	09:30 – 13:00. Definition of energy communities and use cases. The groups will work under predefined conditions regarding the type of energy community and its location. <i>(11:00-11:30 Coffee Break)</i>	13:00 – 14:00: Lunch 14:00 - 17:00: Tour of the city of Seville. Guided visit to emblematic sites in Seville, including historical, cultural, and economic insights.
Day 3	09:30 – 13:00. Quantification of renewable resources. The groups will calculate the solar resource, considering the location of the energy community and the architectural possibilities of the buildings. <i>(11:00-11:30 Coffee Break)</i>	13:00 – 14:00: Lunch 14:00 – 17:00. Design of the conceptual scheme of the energy community, the equipment and systems used, and the calculation of their dimensions. 19:00 Cultural Activity (TBC)
Day 4	9:00 – 18:00. Techno-economic analysis of the energy communities designed by groups. Preparation of presentations. <i>(11:00-11:30 Coffee Break)</i>	20:00 – 22:00. Farewell Dinner. Informal networking event to close the programme.
Day 5	09:30 – 13:00. Project presentations by student teams to a panel of academic and industry experts.	13:00 – 14:00: Lunch 15:00-17:00. Field visit (TBD)

Virtual Component/Part

Dates: 09/02/2026 to 11/02/2026 (TBC)

Format: Two live online sessions and autonomous work (total: 5 hours)

Organization:

The virtual component will be delivered synchronously via MS Teams. Access links and schedule details will be provided one week in advance. **Participation is mandatory for all selected students and staff.**

Content:

This phase is designed to foster initial interaction and ensure all participants share a common understanding before the on-site activities begin.

The sessions will serve as an introduction to the programme. They will include:

- Presentation of the course structure and objectives.
- Introduction of teaching staff and participants.
- Overview of key concepts in renewable energy sources, photovoltaic technology, energy storage systems, heat pumps and electric networks.

Requirements

To be eligible for this short term mobility, participants must meet the following requirements.

Academic Level:

- Bachelor's degree students
- Master's degree students
- PhD candidates
- Alternatively, early-stage researchers or academic staff may participate if selected by their home institution

Academic Background:

- The short term mobility is aimed at individuals studying or working in areas related to:
 - Energy engineering
 - Electrical and electronic engineering



- Industrial engineering

Language Proficiency

- Minimum English level: B2 (CEFR)
- Recommended: C1, especially for academic staff or participants intending to contribute to research discussions
- Participants must be able to follow lectures, engage in teamwork, and present their final project in English.

Application Process

- The selection is done by your home institution.
- Mobility agreements must be sent before the virtual mobility.
- 4-5 places per university, but unused slots may be given to other universities.

Professors

- Francisco Javier Pino Lucena (University of Seville) – short term mobility Coordinator
- Esther Romero Ramos (University of Seville)

Contacts:

- Francisco Javier Pino Lucena (University of Seville) – short term mobility (regarding the programme) fjp@us.es
- Carmen Hinojosa – Mobility Officer (regarding the mobility process) mobilityulysseus@us.es



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the European Union**



Annex 1: ISCED CODES

Broad field	Narrow field	Detailed field
00 Generic programmes and qualifications	000 Generic programmes and qualifications not further defined	0000 Generic programmes and qualifications not further defined
	001 Basic programmes and qualifications	0011 Basic programmes and qualifications
	002 Literacy and numeracy	0021 Literacy and numeracy
	003 Personal skills and development	0031 Personal skills and development
	009 Generic programmes and qualifications not elsewhere classified	0099 Generic programmes and qualifications not elsewhere classified
01 Education	011 Education	0110 Education not further defined 0111 Education science 0112 Training for pre-school teachers 0113 Teacher training without subject specialisation 0114 Teacher training with subject specialisation 0119 Education not elsewhere classified
	018 Inter-disciplinary programmes and qualifications involving education	0188 Inter-disciplinary programmes and qualifications involving education
02 Arts and humanities	020 Arts and humanities not further defined	0200 Arts and humanities not further defined
	021 Arts	0210 Arts not further defined 0211 Audio-visual techniques and media production 0212 Fashion, interior and industrial design 0213 Fine arts 0214 Handicrafts 0215 Music and performing arts 0219 Arts not elsewhere classified
	022 Humanities (except languages)	0220 Humanities (except languages) not further defined 0221 Religion and theology 0222 History and archaeology 0223 Philosophy and ethics 0229 Humanities (except languages) not elsewhere classified
	023 Languages	0230 Languages not further defined 0231 Language acquisition 0232 Literature and linguistics 0239 Languages not elsewhere classified
	028 Inter-disciplinary programmes and qualifications involving arts and humanities	0288 Inter-disciplinary programmes and qualifications involving arts and humanities
	029 Arts and humanities not elsewhere classified	0299 Arts and humanities not elsewhere classified

Broad field	Narrow field	Detailed field
03 Social sciences, journalism and information	030 Social sciences, journalism and information not further defined	0300 Social sciences, journalism and information not further defined
	031 Social and behavioural sciences	0310 Social and behavioural studies not further defined 0311 Economics 0312 Political sciences and civics 0313 Psychology 0314 Sociology and cultural studies 0319 Social and behavioural sciences not elsewhere classified
	032 Journalism and information	0320 Journalism and reporting not further defined 0321 Journalism and reporting 0322 Library, information and archival studies 0329 Journalism and reporting not elsewhere classified
	038 Inter-disciplinary programmes and qualifications involving social sciences, journalism and information	0388 Inter-disciplinary programmes and qualifications involving social sciences, journalism and information
	039 Social sciences, journalism and information not elsewhere classified	0399 Social sciences, journalism and information not elsewhere classified
04 Business, administration and law	040 Business, administration and law not further defined	0400 Business, administration and law not further defined
	041 Business and administration	0410 Business and administration not further defined 0411 Accounting and taxation 0412 Finance, banking and insurance 0413 Management and administration 0414 Marketing and advertising 0415 Secretarial and office work 0416 Wholesale and retail sales 0417 Work skills 0419 Business and administration not elsewhere classified
	042 Law	0421 Law
	048 Inter-disciplinary programmes and qualifications involving business, administration and law	0488 Inter-disciplinary programmes and qualifications involving business, administration and law
	049 Business, administration and law not elsewhere classified	0499 Business, administration and law not elsewhere classified

Broad field	Narrow field	Detailed field
05 Natural sciences, mathematics and statistics	050 Natural sciences, mathematics and statistics not further defined	0500 Natural sciences, mathematics and statistics not further defined
	051 Biological and related sciences	0510 Biology and related sciences not further defined 0511 Biology 0512 Biochemistry 0519 Biology and related sciences not elsewhere classified
	052 Environment	0520 Environment not further defined 0521 Environmental sciences 0522 Natural environments and wildlife 0529 Environment not elsewhere classified
	053 Physical sciences	0530 Physical sciences not further defined 0531 Chemistry 0532 Earth sciences 0533 Physics 0539 Physical sciences not elsewhere classified
	054 Mathematics and statistics	0540 Mathematics and statistics not further defined 0541 Mathematics 0542 Statistics 0549 Mathematics and statistics not elsewhere classified
	058 Inter-disciplinary programmes and qualifications involving natural sciences, mathematics and statistics	0588 Inter-disciplinary programmes and qualifications involving natural sciences, mathematics and statistics
	059 Natural sciences, mathematics and statistics not elsewhere classified	0599 Natural sciences, mathematics and statistics not elsewhere classified
06 Information and Communication Technologies	061 Information and Communication Technologies (ICTs)	0610 Information and Communication Technologies (ICTs) not further defined 0611 Computer use 0612 Database and network design and administration 0613 Software and applications development and analysis 0619 Information and Communication Technologies (ICTs) not elsewhere classified
	068 Inter-disciplinary programmes and qualifications involving Information and Communication Technologies (ICTs)	0688 Inter-disciplinary programmes and qualifications involving Information and Communication Technologies (ICTs)

Broad field	Narrow field	Detailed field
07 Engineering, manufacturing and construction	070 Engineering, manufacturing and construction not further defined	0700 Engineering, manufacturing and construction not further defined
	071 Engineering and engineering trades	0710 Engineering and engineering trades not further defined 0711 Chemical engineering and processes 0712 Environmental protection technology 0713 Electricity and energy 0714 Electronics and automation 0715 Mechanics and metal trades 0716 Motor vehicles, ships and aircraft 0719 Engineering and engineering trades not elsewhere classified
	072 Manufacturing and processing	0720 Manufacturing and processing not further defined 0721 Food processing 0722 Materials (glass, paper, plastic and wood) 0723 Textiles (clothes, footwear and leather) 0724 Mining and extraction 0729 Manufacturing and processing not elsewhere classified
	073 Architecture and construction	0731 Architecture and construction not further defined 0731 Architecture and town planning 0732 Building and civil engineering 0739 Architecture and construction not elsewhere classified
	078 Inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction	0788 Inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction
	079 Engineering, manufacturing and construction not elsewhere classified	0799 Engineering, manufacturing and construction not elsewhere classified
08 Agriculture, forestry, fisheries and veterinary	080 Agriculture, forestry, fisheries and veterinary not further defined	0800 Agriculture, forestry, fisheries and veterinary not further defined
	081 Agriculture	0810 Agriculture not further defined 0811 Crop and livestock production 0812 Horticulture 0819 Agriculture not elsewhere classified
	082 Forestry	0821 Forestry
	083 Fisheries	0831 Fisheries
	084 Veterinary	0841 Veterinary
	088 Inter-disciplinary programmes and qualifications involving agriculture, forestry, fisheries and veterinary	0888 Inter-disciplinary programmes and qualifications involving agriculture, forestry, fisheries and veterinary
	089 Agriculture, forestry, fisheries and veterinary not elsewhere classified	0899 Agriculture, forestry, fisheries and veterinary not elsewhere classified

Broad field	Narrow field	Detailed field
09 Health and welfare	090 Health and welfare not further defined	0900 Health and welfare not further defined
	091 Health	0910 Health not further defined 0911 Dental studies 0912 Medicine 0913 Nursing and midwifery 0914 Medical diagnostic and treatment technology 0915 Therapy and rehabilitation 0916 Pharmacy 0917 Traditional and complementary medicine and therapy 0919 Health not elsewhere classified
	092 Welfare	0910 Welfare not further defined 0921 Care of elderly and of disabled adults 0922 Child care and youth services 0923 Social work and counselling 0929 Welfare not elsewhere classified
	098 Inter-disciplinary programmes and qualifications involving health and welfare	0988 Inter-disciplinary programmes and qualifications involving health and welfare
	099 Health and welfare not elsewhere classified	0999 Health and welfare not elsewhere classified
10 Services	100 Services not further defined	1000 Services not further defined
	101 Personal services	1010 Personal services not further defined 1011 Domestic services 1012 Hair and beauty services 1013 Hotel, restaurants and catering 1014 Sports 1015 Travel, tourism and leisure 1019 Personal services not elsewhere classified
	102 Hygiene and occupational health services	1020 Hygiene and occupational health services not further defined 1021 Community sanitation 1022 Occupational health and safety 1029 Hygiene and occupational health services not elsewhere classified
	103 Security services	1030 Security services not further defined 1031 Military and defence 1032 Protection of persons and property 1039 Security services not elsewhere classified
	104 Transport services	1041 Transport services
	108 Inter-disciplinary programmes and qualifications involving services	1088 Inter-disciplinary programmes and qualifications involving services
	109 Services not elsewhere classified	1099 Services not elsewhere classified
99 Field unknown	999 Field unknown	9999 Field unknown