THE DIRECTOR

- Having regard to the Italian Law of 15 May 1997, no. 127, published in the Italian Official Journal no. 113 of 17 May 1997 and subsequent amendments, dealing with the urgent measures for the simplification of the administrative activities and decision-making and control procedures;

- Having regard to the Decree of the Ministry for University and Scientific and Technological Research no. 270 of 22 October 2004 “Amendments to the regulation containing rules concerning the teaching autonomy of universities, approved by the Decree of the Ministry for University and Scientific and Technological Research of 03 November 1999 no. 509”, and in particular art. 3, clause 9;

- Having regard to the Regulations for Training courses, Professional Refresher trainings and Lifelong Learning Courses and first and second level University Masters of the University of Genoa issued with D.R. no. 551 of 10 February 2015;

- Given the provisions of the Ministry for University and Research relating to the Procedures for the entry, residence and registration of foreign / international students to higher education courses in Italy for the 2021-2022 academic year (http://www.studiare-in-italia.it/studentistranieri);

- Having regard to the Regulations for the research, consultancy and training contracts for third parties (D.R. no. 5321 of 31 October 2018);

- Given the Deliberation of 10 December 2021 of the Electrical, Electronics and Telecommunication Engineering and Naval Architecture Department – DITEN (University of Genoa, Italy) with which the activation of the first edition Postgraduate Course in "ALPGRIDS - Microgrid summer school” was approved for the A.Y. 2021/22

D E C R E E S

Art. 1
General rules

The **Training Course in "ALPGRIDS - Microgrid summer school” 1st edition, AY. 2021/2022**, is activated at the University of Genoa (Italy) at the Department of the Electrical, Electronics and Telecommunication Engineering and Naval Architecture Department (DITEN), in collaboration with the service Centre (CenVIS) for the management of Ventimiglia, Imperia and Savona campuses and with the Internationalization, Research and Third Mission Area, Business and local relations service.

Art. 2
Aims of the course and recipients

The Summer School is part of the Interreg Alpine Space project called ALPGRIDS (Increasing RES uptake through Microgrids in the Alps), link: www.alpine-space.eu/alpgrids .
The main purpose of the course is to provide specific skills in the design and management of energy microgrids, also in the sector of energy communities. During the course, case studies and best practices developed during the ALPGRIDS project will be illustrated and discussed.
The need to train a figure of "Expert in Microgrid & Energy Community Design and Management" originates from the importance that the implementation of the concept of sustainable energy, through the development of polygenerative microgrids and energy communities, is assuming both at European and national level.

Description of the outgoing professional figure. Following the objectives of the European Project "ALPGRIDS", the course satisfies the need to strengthen the skills in the design and operational management of polygeneration microgrids and energy communities characterized by the integration of different energy technologies for distributed generation.

Outgoing professional figure: ***Expert in Microgrid & Energy Community Design and Management***
The professional figure has skills in the design and operational management of polygeneration microgrids and energy communities characterized by the integration of different distributed energy technologies.

Educational objectives and expected learning outcomes. The training course aims to deepen the following topics:

1. Definition of microgrid models serving different types of end-users.
2. Development of strategies and tools for the planning, design and management of polygeneration microgrids.
3. Development of technical-economic analyses for the evaluation of distributed generation systems operating inside the energy communities.
4. Definition of methodologies for the analysis of the regulatory, technical and economic aspects related to the implementation of the microgrid concept based on the integration of distributed electrical and thermal generation systems.
5. Development of possible communication strategies to encourage the involvement of the end users who are part of an energy community.

The course is aimed at developing knowledge and skills relating to five macro-areas of activity:

Main areas of activities	**Associated skills**
1.Polygeneration microgrids	Analysis of the main technical characteristics that define a polygeneration microgrid: electrical and thermal networks, technologies for the production of electrical and thermal energy, monitoring and control systems.
2.Energy communities	Analysis of the regulatory, technical and economic aspects related to Energy Communities. Understanding of European and national legislation. Social and political aspects of citizen involvement.
3. Planning and management of polygeneration microgrids	Acquisition of skills in the sizing of polygeneration microgrids and in the operational management of such infrastructures. Optimization models for the optimal design of microgrids. Energy Management Systems.
4. Electric mobility in microgrids	Analysis of the charging infrastructures for the electric vehicles within microgrids and their integration with power plants fed by renewable sources.
5. Real applications of microgrids and energy communities	Analysis of real case studies of microgrids and energy communities in the Alpine Space regions.

Recipients.
The course is addressed to recently graduated students (BSc and MSc) who have obtained their qualification no more than 3 years ago in a university based in the Alpine Space regions (https://www.alpine-space.eu/about-us/cooperation-area/).

QUALIFICATIONS REQUIRED FOR THE ADMISSION TO THE COURSE
Attention: Equivalence will be required for qualifications obtained abroad (refer to art. 5, section "In the case of qualifications obtained abroad")

- **Degree in the following classes:**
L07 B.Sc. in Civil and Environmental Engineering, L08 B.Sc. in Information Technology Engineering, L09 B.Sc. in Industrial Engineering, L18 B.Sc. in Business Administration, L31 B.Sc. in Computer Science, L33 B.Sc. in Economics, L35 B.Sc. in Mathematics, LM17 M.Sc. in Physics, LM18 M.Sc. in Computer Science, LM23 M.Sc. in Civil Engineering, LM25 M.Sc. in Automation Engineering, LM26 M.Sc. in Safety Engineering, LM27 M.Sc. in Telecommunications Engineering, LM28 M.Sc. in Electrical Engineering, LM29 M.Sc. in Electronic Engineering, LM30 M.Sc. in Energy and Nuclear Engineering, LM31 M.Sc. in Management Engineering, LM32 M.Sc. in Computer Systems Engineering, LM33 M.Sc. in Mechanical Engineering, LM35 M.Sc. in Environmental Engineering, LM40 M.Sc. in Mathematics, LM44 M.Sc. in Mathematical Modelling for Engineering, LM48 M.Sc. in Regional, Urban and Environmental Planning, LM56 M.Sc. in Economics, LM66 M.Sc. in Computer Systems Safety, LM76 M.Sc. in Environmental and Cultural Economics, LM77 M.Sc. in Management, or equivalent.

- **Any other requirements:** knowledge of English is required

Art.3
Didactic organization and contents

The course includes **136 hours of training and 6 hours of verification**, divided as follows:

- 35 hours of lectures
- 25 hours of project work
- 76 hours of individual study
- 6 hours of verification: 1 hour dedicated to learning outcome 1 (module 1), 1 hour dedicated to learning outcome 2 (module 2) and 4 hours dedicated to the final evaluation of project work.

The course recognizes **5 ECTS**, divided as reported in the course's didactic program (Annex 1).

Educational program:

The training activity is reported in the teaching plan shown in **Annex 1** which is part of this announcement.

The classroom phase will take place **from June 6th to June 10th 2022** and will last 1 week, full time, blended learning.

Attendance and teaching methods used: Full time for a week (from Monday to Friday), for about 7/8 hours a day. The course will be held in blended learning, face-to-face and, simultaneously, remote lessons (the candidate must opt only for one mode of attendance by choosing it when signing the application).

Course venue: University Campus of Savona, University of Genoa, Via Magliotto 2, 17100 - Savona (SV). For the students who will choose to follow the course remotely, the lessons will be available on the MS Teams platform - using the credentials provided by the the University of Genoa after enrolling in the course.

% absences allowed: 20%

Teaching and assessment language: English

Type of intermediate tests (compulsory if required ECTS, evaluation on a scale out of thirty/suitability): individual multiple choice test

Final exam type: project work discussion

At the beginning of the course, students will be given a glossary (in .pdf format) showing the terms of reference and the notation related to the main topics addressed in the course. In addition, before the start of the course, each student will have to fill out a short cognitive questionnaire aimed at identifying previous knowledge on the subject of microgrids and energy communities. This questionnaire will be useful to better calibrate the contents and methodologies of the lessons.

The course will start on June 6th, 2022 both in presence and on MS teams platform. The calendar of the lessons will be available on the webpage: https://campus-savona.unige.it/progetti/alpgrids before the course starts.

Teaching and assessment language: English.

Art. 4
Assessment

At the end of the classroom phase, students in good standing with the formal and substantial aspects (documentation, attendance, etc.) will be asked to take a final exam with a mark out of thirty, useful for evaluating and monitoring the learning and skills acquired by the students. and valid for the acquisition of the corresponding credits.

Art. 5
Applications and selection

The application for the admission to the course must be submitted through the online procedure available at the address http://servizionline.unige.it/studenti/post-laurea/corsiperfezionamentoformazione/domanda **by May 20th 2022 at 12:00**.

The date of submission of the application is certified by the computer system. This latter, upon expiry of the deadline for submission, will no longer allow the access and the submission of the application.

At first access, students without UNIGE credentials will need to request them by clicking on the User Registration (*Registrazione utente*). Once they have obtained their credentials, they will be able to access the application page.

The application for the admission to the course must be accompanied by the following documents (to be attached in pdf format trough the online procedure):
1. front/back copy of the identity document;
2. curriculum vitae;
3. any documents of equivalence of the qualifications held, following what is indicated in the following paragraph.

When submitting the application, each student has to enter mandatory whether he/she wants to attend the course in person or remotely (it is not possible to attend in mixed mode, days in presence and days at a distance)

IN CASE OF QUALIFICATIONS OBTAINED ABROAD

If the qualification has not already been recognized as equivalent, the interested party must request the equivalence for the only purpose of the competition, attaching the following documents to the application:
- qualification translated and legalized by the competent Italian diplomatic or consular representation of the country in which the qualification was obtained;
- "declaration of value" of the qualification made by the same representation.
The equivalence provision will be adopted solely for the purposes of admission to the competition and enrolment at the Course.
If the competent Italian diplomatic or consular representation has not issued such documentation in time for the presentation of the admission application, all available documentation must be attached to the application. Any equivalence provision will be adopted under the condition that the legalized translation and the "declaration of value" are submitted within the deadline for enrolment at the course by the admitted candidates. The issue of the aforementioned documentation and any residence permit for participation in any selection tests and for the attendance of the Course to foreign citizens is governed by the note of the Italian Ministry for University and Research dated 28 February 2017 (Rules for access of foreign students to courses for the 2021/2022 academic year).

In case of false information and mendacious declarations provided in the application, the penalties contained in art. 76 of the decree of the President of the Italian Republic no. 445 of 28 December 2000 will be applied.
If the legislation on substitutive declarations is not applicable (Presidential Decree no. 445/2000 and subsequent amendments), the candidate in any case assumes responsibility (civil, administrative and criminal) for the declarations made.

The Administration reserves the right to carry out the checks and investigations required by the provisions in force. Candidates who will make false declarations, will automatically forfeit their registration, without prejudice to the application of additional administrative and/or criminal sanctions set by the current regulations.
The University Administration assumes no responsibility for the case of loss of communications due to inaccurate indications of residence and address by the applicant or from failure or late communication of the change of the same, nor for any postal or telegraphic errors not ascribable to fault of the Administration itself.

A maximum of 40 students are admitted to the Course (20 attending in presence + 20 attending remotely). The minimum number for activation is 5 enrolled students following the lesson in presence.

The Management Committee will evaluate the possibility of reducing the management costs to a level corresponding to that of the proceeds, as a condition for carrying out the Course.

ADMISSION METHOD

Candidates having the requirements indicated in Art. 2, will be admitted to the training course in order of arrival.
If the maximum number of admissible applications will exceed the maximum value, 5 places will be reserved for the first 5 students enrolled in a Degree Course (B.Sc., M.Sc. or Ph.D.) belonging to the Electrical, Electronics and Telecommunication Engineering and Naval Architecture Department (DITEN) that have applied for this course.

The ranking for the admission to the Course will be published by the Organizing Secretariat on the webpage https://servizionline.unige.it/studenti/post-laurea/corsiperfezionamentoformazione and on the webpages

https://campus-savona.unige.it/progetti/alpgrids and www.perform.unige.it on **May 27th, 2022**.
Individual communications will not be sent to the candidates.

In the case of a tie, preference will be given to the youngest candidates.
The University may adopt, even after the publication of the admission ranking, exclusion measures against candidates who do not meet the required requirements.

Art. 6
Registration methods and fee

The training program is fully funded by the Interreg Alpine Space project called ALPGRIDS (Increasing RES uptake through Microgrids in the Alps). Candidates admitted to the Summer school will not have to incur any participation costs.

Candidates admitted to the "ALPGRIDS - Microgrid summer school" **must complete their registration** using the **online procedure** available at https://servizionline.unige.it/studenti/post-laurea/confermaPL (by clicking on "confirm registration post-graduate degree "and choosing the course whose enrollment must be confirmed) by **May 31st 2022 at 12:00.**

Candidates who fail to register by the deadline indicated above are considered to have withdrawn.

REGISTRATION ON THE OFFICE 365 UNIGE PLATFORM
Participants who have chosen to follow the course in REMOTE mode are required to access the MS Teams platform using the credentials provided to students by the University of Genoa.
After completing the registration, candidates enrolled in the course will be able to obtain their MS Office 365 Unige account, necessary for the use of remote lessons, **by following the instructions on the website**: Office 365 | CeDIA (unige.it).
Candidates are required to carry out the above procedure and to verify the functionality of their technical equipment (stable internet connection, access to the MS Teams application via Unige account and the possibility of using the software with active microphone and webcam), **no later than June 1nd 2022**. Any problems may be reported to the address: ivana.tagliafico@unige.it by that date, indicating a telephone number at which to be contacted.

Pursuant to art. 8 paragraph 3 of the Student Regulations issued with D.R. 228 of 25/09/2001 and subsequent amendments, the student enrolled in a university training program is not entitled to a refund of the fees and contributions paid, even if he interrupts his studies or moves to another university.
In the event of failure to start the course, only the contribution may be returned (stamps excluded pursuant to art. 37 of Presidential Decree 26 October 1972 no. 642).

In the event of the start of the Course, a daily meal voucher for lunch, to be consumed at the Savona Campus canteen, will be offered to all the participants attending the course "face to face".

Art. 7
Issue of the certificate of attendance

At the end of the Training Course, students who, in the opinion of the Management Committee, have carried out the activities and complied with the obligations, will be issued by the Director of the Course a certificate of participation that does not constitute an academic qualification, pursuant to art. 8 of the Regulations for advanced, professional updating and permanent training courses and courses for first and second level university masters.

Art. 8
Management Committee and Director

Director: Prof. Stefano Bracco

Management Committee:
Internal members: Prof. Renato Procopio (DITEN), Prof. Mansueto Rossi (DITEN), Eng. Paola Laiolo (CenVIS)
External members: Eng. Francesca Verardo (IRE LIGURIA)

The structure entrusted with the administrative-accounting management of the course is the Internationalization, Research and Third Mission Area, Business and Territory Relations Service, Lifelong Learning Sector, Piazza della Nunziata 2 - 16124 - Genoa (website: www.perform.unige.it)
Referring person of the structure: Dr. Ivana Tagliafico, e-mail: ivana.tagliafico@unige.it

For information about the organization of the course: Paola Laiolo, e-mail paola.laiolo@unige.it and Stefano Bracco, e-mail: stefano.bracco@unige.it

For assistance with enrolment procedures: Ivana Tagliafico, e-mail: ivana.tagliafico@unige.it

Art. 9
Treatment of personal data

The personal data provided by the candidates will be collected by the University of Genoa, Department of Electrical, Electronics and Telecommunication Engineering and Naval Architecture, and processed for the purposes of managing the selection and related procedural activities, according to the methods established by EU Regulation 679/2016 "General Regulation on data protection" and by the Italian Legislative Decree no. 196/2003 as amended by Legislative Decree 10/08/2018, no. 101, in compliance with the principles of lawfulness, correctness, transparency, purpose limitation, data minimization, accuracy, conservation limitation, integrity, confidentiality and accountability

THE DIRECTOR OF THE DEPARTMENT
Prof. Michele Viviani

Responsible for the procedure: Dott.ssa Ilaria Burlando
For any information: Ivana Tagliafico, tel. 010/2099466, e-mail: ivana.tagliafico@ unige.it

Annex 1: Training activities

Module	SSD	ECTS	Tot h per module and Responsible of the module (teaching + verification)	h UNIGE teaching	h external teaching	h individual study	h verification
PROPAEDEUTIC DIDACTIC MODULE **Technical and economic aspects - (basic knowledge)**							
1A. Technical Alignment*	ING-IND/33	0,3	3 hours Marco Invernizzi (DITEN)	3	0	6	0
oppure							
1B. Economic Alignment*	SECS-P/06	0,3	3 hours Claudio Ferrari (DIEC) Alessio Tei (DIEC)	3	0	6	0
* Alternative teachings (1A. for economics graduates, 1B. for technical graduates)							
LEARNING OUTCOME 1: MODULO INTRODUTTIVO – Energy and regulatory framework							
2. Polygeneration microgrids	ING-IND/33	0,7	3 hours Stefano Bracco (DITEN)	3	0	6	0,5
3. Energy communities	ING-IND/33		2 hours Matteo Zulianello (RSE)	0	2	4	
LEARNING OUTCOME 2: Microgrid design and management							
4. Methods and tools for microgrid optimal design	ING-IND/33	2	2 hours Stefano Bracco (DITEN) 2 hours Barbara Bonvini (CenVIS)	2	2	8	1
5. Methods and tools for microgrid management	ING-IND/33		2 hours Renato Procopio (DITEN) 2 hours Massimo Brignone (DITEN)	4	0	8	
6. Microgrids and energy markets	ING-IND/33		2 hours Mansueto Rossi (DITEN)	2	0	4	
7. ICT technologies and safety in microgrids	ING-INF/03		3 hours Mario Marchese (DITEN)	3	0	6	
8. Business plan analysis for microgrids	SECS-P/08		2 hours Giovanni Satta (DIEC) 1 hour Francesco Vitellaro (DIEC)	3	0	6	
9. Energy sustainability solutions: communication and strategies for community awareness raising	M-PSI/06		2 hours Fabrizio Bracco (DISFOR)	2	0	4	

LEARNING OUTCOME 3: Analysis of case studies							
10. Alpgrids project	ING-IND/33	1	1 hour Patrick Biard (Auvergne-Rhône-Alpes Energie Environnement)	0	1	2	0,5
11. Microgrid projects at the Savona Campus	ING-IND/33		1 hour Stefano Bracco (DITEN) 1 hour Barbara Bonvini (CenVIS)	1	1	4	
12. Thannhausen Microgrid - from model to implementation	ING-IND/33		1 hour Thomas Nacht (4ward Energy Research GmbH)	0	1	2	
13. Udine pilot: an extensive application of Italian regulation on energy communities	ING-IND/33		1 hour Pasquale Motta (DeMEPA)	0	1	2	
14. AURA-EE experience in setting up energy communities	ING-IND/33		2 hours Noémie Poize (Auvergne-Rhône-Alpes Energie Environnement)	0	2	4	
15. Microgrids, smart grids, and renewable energy communities: the quest for a green economic model	ING-IND/33		2 hours Paolo Gangemi (MAPS Spa)	0	2	4	
Final exam		0					2
Final project work		1	0	0	0	25	4
Total		**4**	**35**	**23**	**12**	**101**	**6**

ACTIVITY	N. HOURS	ECTS
Lessons	35	4
Individual study	76	0
Stage	0	0
Project work	25	1
Final exam	6	0
TOTAL	142	5

According to the "Provisional regulatory provisions for the University's e-learning courses", the recognition of teaching hours in a 2:1 ratio with respect to the frontal one (each hour of teaching is counted as two hours of face-to-face lessons).