Finanziato dall'Unione europea NextGenerationEU

Annex A

FORM N. 1

Name of PhD course	**Architecture**
Cycle	**XLI**
Curricula	**1. Architecture: Theory and Design** **2. Urban Regeneration**
Duration	**3 years**
Coordinator	**Professor Concetta Fallanca**
Department	Architettura & Design
PHD Positions	**n. 5 PhD positions**: 4 with scholarship; 1 without scholarship
Scholarships	• **n. 2 scholarships** funded by the University Mediterranea of Reggio Calabria; • **n. 2 scholarships** funded by the "Patti Territoriali" on the theme "*Climate Change Action: Renaturalization of Urban Space and Dialogue Among Cultures*".
Scholarship topics to be indicated in Annex B	- scholarship funded by the University Mediterranea of Reggio Calabria and position without scholarship (free topic); - scholarships funded through the Patti Territoriali (Topic: Innovative methods and tools for the valorization of cultural heritage and the transformation of the built environment in climate change scenarios)
Admission	Admission will be based on: a) Evaluation of research project and qualifications (max 60 points) b) Oral exam and assessment of knowledge of the English language (max 60 points) a) **Evaluation of research project and qualifications**: it is aimed at identifying the preparation and motivation for participation in the doctoral course and will be deduced from the following documents and qualifications: • Curriculum Vitae highlighting the educational path, degree grade and any relevant qualifications held (max 20 points); • A research project in Italian or in English (annex B) focusing on the topic of the scholarship for which candidates intended to compete (see scholarship topics). The project should not exceed 2.000 words, including an abstract of no more than 150 words, and should be divided into the following parts: 1. Objectives and purposes of the research; 2. State of the art of the scientific debate relating to the proposed field of study and any interdisciplinary aspects; 3. Research methodology; 4. Expected results (max 40 points). The oral exam is accessed with a score of at least 42/60 in the evaluation of the research project and curriculum. b) **Oral exam and assessment of knowledge of the English language** • Discussion of the project and assessment of the candidate's aptitude for scientific research. • Assessment of knowledge of the English language. Foreign candidates must demonstrate that they have at least an elementary knowledge of the Italian language. The final ranking is accessed with a score of at least 42/60.

Admission schedule	**Evaluation of the research project and qualifications: <u>September 2, 2025</u>** The ranking of candidates admitted to the oral exam will be published by **<u>September 3, 2025.</u>** **Oral and language exam on <u>September 4, 2025, at 10:00</u>**, at the Architettura & Design Department of the Mediterranean University of Reggio Calabria located in Via dell'Università, 25 - 89124 Reggio Calabria. Candidates residing abroad and those residing more than 700 km from the selection site can request to have the interview via videoconference. This choice must be clearly indicated in the application form specifying an e-mail address to be contacted. This address will be used to communicate the methods and platform chosen by the commission for carrying out the interview. Any changes to the exam schedule will be published on the website at the following link: http://www.unirc.it/ricerca/dottorato-di-ricerca/bando-dottorato-di-ricerca-xli-ciclo **No other forms of notification will be activated by this University.**
Language test	English
Educational Qualification required	For Italian graduates: Laurea magistrale, Laurea specialistica, or Laurea (vecchio ordinamento). For foreign graduates: Master degree level.
Period of training abroad	**For all types of scholarships** provide an optional period of study and research abroad up to a maximum of twelve (12) months. **The position without scholarship** provide an optional period of study and research abroad up to a maximum of six (6) months.
Educational description	The PhD course in "Architecture" is characterized by a strong international dimension that aims to increase the international projection of students. The project aims to provide third-level post-graduate training capable of conferring a title that certifies that the PhD course is capable of carrying out personal, original and high-level scientific research. The PhD Program aims to offer highly structured and personalized training to facilitate the scientific and professional growth of PhDs in both the academic and professional sectors. Training in advanced research is consolidated through theoretical and experimental methods aimed at addressing cutting-edge research topics for the advancement of individual and collective skills. The scientific project prepares PhD students to face contemporary global challenges by providing prestigious international exchange opportunities. To implement this project, the PhD course in "Architecture" integrates basic and applied research methodology with interdisciplinary and intersectoral training, combining the fields of architecture, urban planning, restoration, technology, structures, economic valuation, but also of history, representation and aesthetics, without ever forgetting that the nature of Architecture invests both the human sciences and the hard sciences. The research activities are supported by a strong national and international inter- university network, with the aim of increasing the participation and learning capacity of doctoral students and teachers in a multiple scenario made up of innovation, internationalization and industrialization. The title of PhD is conferred after having carried out three-year training and research activities and having successfully defended the curricular Doctoral Thesis. The ownership of the Research Doctorate clarifies, together with the specific skills cultural backgrounds of the disciplinary areas involved, the scope of operation of the same.
Training Objectives	The PhD course in "Architecture" responds to the growing demand for highly qualified researchers capable of competing at an international level in the formation of knowledge, in order to grasp the productivity of the interrelationships between basic skills and experimentation linked to the needs of potential and future users. The strong interdisciplinary characterization of Architecture defines complex research areas in which the autonomous, critical and highly specialized research capacity requires dialogue between skills and knowledge. Over the three years, the course is divided into areas of collective training and individual learning and research processes for each PhD student. The objectives are included in three areas: 1. Disciplinary contents of the PhD course: - Updated and in-depth knowledge of the general issues that characterize the PhD course in Architecture; - The in-depth study of the different themes of the two curricula in which the PhD course is subdivided (the

	area of the relationship between theories and project, and the area of urban regeneration); - The in-depth study of issues regard the international debate in the architectural and urban fields; - Specific actions regard the topics with possible repercussions on the territory. 2. Actions relating higher education: - Collaborations with internationally recognized scholars for conferences, lectures and seminars on general or trend issue; - Stages in research and training institutions, government and land management structures, design and production companies in the field of construction and infrastructure, cultural and creative businesses related to cultural heritage; 3. Methodological training on doctoral research: - to acquire writing skills in an academic scientific context; - to acquire bibliographic sources and apparatuses skills; - to acquire methodological control useful to organize the issues in question; - the capacity to communicate the scientific results achieved through appropriate forms and to organize reports and lectures; - the capacity, in academic context, to deepen communication regarding the issues of design disciplines; - the capacity to carry out analytical-cognitive studies in field of investigations; - the capacity to draft research hypotheses for a PhD course in Architecture. In order to achieve these objectives and to provide each doctoral student with the opportunity to carry out their activities in the best possible way, the PhD course in Architecture is organized on the basis of the educational credit system (CFU). Successful attendance at the PhD programme corresponds to 180 total CFU which are usually divided into 60 CFU per year. The CFU, listed more precisely in the section relating to each year of the course, can be traced back to the following categories: - training (lectures, conferences, seminars and workshops); - the drafting of the final papers required by the seminars or workshops; - meetings and discussions with the Board of Teachers; - study trips, stages and conferences; the publication of research resultates in volumes or scientific journals; - internship at Italian and foreign research structures.
Expected employment and professional opportunities	The international PhD course in Architecture intends to train researchers with a high scientific profile, theoretical-cultural and experimental-innovative preparation, aimed at certifying: - skills that can be spent in Academic institutions and in Italian and foreign research institutes; - strategic skills, regard to the needs of local territory, also recognized outside the Academy System. The strong international significance of the two curricula: "Architecture, Theory and Design" and "Urban Regeneration", allows PhD students to acquire wide relational skills in a global context. The activities are oriented to the multiscale design of architecture, landscape and the city, intersectoral and interdisciplinary, theoretical analysis, the study of materials, soft-computing and experimentation of the Resilience Building according to the approaches of the Evolutionary Economy and Transition Management strategies. In the public sphere, researchers can find the right placement in institutions and agencies for the government of cities and the territory for building and urban design, territorial and urban planning, energy, environmental sustainability, protection and safety of territories, static security and the enhancement of Cultural Heritage. In the private sector they can find a place in the technical-professional and entrepreneurial world in an international dimension for planning and governance activities.

ARCHITECTURE: THEORY AND DESIGN	The activity conducted within the "Architecture: Theory and Design" curriculum aimed at training scholars who are able to operate at different levels of scientific research: from the theoretical dimension to the operational application of the knowledge achieved and vice versa. In this context, design experimentation, which is a synthetic expression of different knowledge, takes on a decisive importance both as regards the tools and techniques, and as regards the advancement of disciplinary knowledge. The research themes revolve around the most advanced architectural paradigms, including: - Architectural space: structure and composition - Housing models - Representation of the built heritage - Energy efficiency - Theory and history of architecture - Building and structural requalification - Safety assessment of buildings - Theoretical and operational aspects of the architectural project. The Curriculum combines the contributions of the various disciplines, which are integrated into a complex vision. The name "Architecture: Theory and design" identifies the general framework in which the training takes advantage of the different knowledge in the fields of theories and design that identify and support architecture at different scales, in its multi-dimensions both material and immaterial. The researches are distinguished by being both theoretical and , in which theoretical experimentation is flanked by both case studies of in-depth and systematic conceptual hypotheses, and modeling determinations elaborated by the virtuous reciprocity between application and declination in specific real areas
URBAN REGENERATION	The Curriculum in "Urban Regeneration" aims to broaden the knowledge and skills of PhD students on the concepts of innovative approaches to urban regeneration, increasing the potential of place-based innovation towards local economic development. The mission is to encourage in-depth research and promote critical and theoretical reflection in accordance with the following research themes: - Urban planning and policy; -Urban and territorial planning; - Urban landscape; - Urban regeneration; - Economic and social development; - Economic policy and planning; - Enhancement of cultural heritage and historical centres; - Restoration of the integrity of the places, the city and the territory; - Ecological transition and climate change; - Local entrepreneurial processes. The resulting research results aim to seek new methodologies to deliver and implement integrated urban policy approaches and local economic development strategies aligned with the integrated sustainable urban development paradigm.
Documents to be attached to the application form	Candidates must upload the following documentation on the Esse3 platform when submitting their application: **a) A research project in Italian or in English (annex B) focusing on the topic of the scholarship for which candidates intended to compete (see scholarship topics). The project should not exceed 2.000 words, including an abstract of no more than 150 words, and should be divided into the following parts:** 1.Objectives and purposes of the research; 2. State of the art of the scientific debate relating to the proposed field of study and any interdisciplinary aspects; 3. Research methodology; 4. Expected results **b)** ***Curriculum Vitae*** European format **c) Self-certification of the University degree (Under article 46 of Presidential Decree no. 445/00)** **d) Copy of the identity document.** ONLY FOR NON-EU CANDIDATES: The foreign qualification may be declared admissible by the Evaluation Board, solely for the purposes of admission to the selection procedure. **The degree certificate must contain the study plan and the exams taken with the relative marks**. Additional documents deemed useful for the purpose of assessing the suitability of the qualification may be attached. If the certificate and other documents are drawn up in a language other than Italian or English, it must be translated and legalized by the Italian Embassy or Consulate in the country of origin.

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FORM N. 2

PhD programme	**Law and Economics**
Cycle	**XLI**
Curricula	**1. Private Law (IUS/01 - private law; IUS/0 3 - agricultural law; IUS/04 - commercial law; IUS/0 7 - labor law; IUS/18 - Roman law)** **2. Public Law (IUS/08 - constitutional law; IUS/10 - administrative law; IUS/11 - canon and ecclesiastical law; IUS/13 - international law; IUS/14 - European Union law; IUS/16 - law criminal procedure; IUS/17 - criminal law; IUS/18 - Roman law;** **3. Economics and quantitative methods (SECS/P01 - political economy; SEC/P02 - economic policy; SECS/P03 - financial sciences; SECS/P07 - business economics; SECS/P12 - economic history; SECS/S06 - mathematical methods of economics and actuarial and financial sciences)**
Duration	**3 years**
Coordinator	**Prof. Giuseppe Tropea**
Department	Giurisprudenza, Economia e Scienze Umane (DIGIES)
PhD positions	n. 5 places of which n. 4 places with bag and n. 1 place without scholarship
Scholarships	• **n. 2 scholarships funded by the University Mediterranea of Reggio Calabria;** • **n. 2 scholarships funded by the "Patti Territoriali"** on the themes: "*Decision Support Systems per la logistica e la Supply Chain*", "*Intelligenza Artificiale (IA) e Modelli previsionali per l'analisi dei flussi turistici e gli impatti socio-economici sul territorio*".
Topic of the scholarships to be indicated in annex B	- scholarship funded by the University Mediterranea of Reggio Calabria and position without scholarship, on free topic. - scholarships funded through the Patti Territoriali on the topic "*Artificial intelligence and applied mathematical methods*".
Admission procedures	Admission will be based on: a) A written test (max 60 points) b) Oral and language test (max 60 points) a) The written test (max 60 points) consists of the elaboration of a topic, chosen by the candidate, on one of the three curricula (Private Law/Public Law/Economics and Quantitative Methods) as better detailed in the "Brief descriptions" of the three curricula in this sheet. b) Oral and language test (max 60 points) consists of the discussion of the paper and the evaluation of the overall preparation in the reference area and the motivation of the candidate.
Exam diary	**The written test will be held on September 11rd, 2025 at 9:30** at the DiGiES Department, of the Mediterranean University of Reggio Calabria, located in Via dell'Università, 25 ex Salita Melissari – 89124 Reggio Calabria. The ranking of those admitted to the oral test will be published by September 19rd, 2025 **Oral and language test: will be held on September 22rd, 2025 at 9:30,** at the DiGiES Department, of the Mediterranean University of Reggio Calabria, located in Via dell'Università, 25 ex Salita Melissari – 89124 Reggio Calabria.

	Candidates residing abroad and those residing more than 700 km from the selection location can request to carry out the interview via videoconference. This choice must be clearly indicated in the application form by specifying an e-mail address at which you can be contacted. This address will be used to communicate the methods and platform chosen by the commission to carry out the interview. Any changes to the test calendar will be published on the website at the following link: http://www.unirc.it/ricerca/dottorato-di-ricerca/bando-dottorato-di-ricerca-xli-ciclo There will be no other form of notice
Language test	English, Spanish (candidate's choice)
Required qualification	LMG/01 Class of master's degrees in law LM-56 Economic sciences LM-63 Public administration sciences LM-76 Economic sciences for the environment and culture LM-77 Economic and business sciences LM/SC-GIUR Legal Sciences 22/S (specialists in law) 64/S (specialists in economic sciences) 71/S (specialists in public administration sciences) 84/S (specialists in economic and business sciences)
Training period abroad and in enterprises	**For all types of scholarships** provide an optional period of study and research abroad up to a maximum of twelve (12) months. **The position without scholarship** provide an optional period of study and research abroad up to a maximum of six (6) months.
Description of the project	The international doctorate in "Law and Economics", due to its interdisciplinary nature, aims to allow the in-depth study of themes belonging to the respective disciplines included in the basic scientific disciplinary sectors. The research topics of the course are aimed at deepening legal, economic and business knowledge, also according to the comparative methodology and with a view to European harmonisation, with reference to the regulatory systems, theories and practices of the legal discipline of business and Work. The co-financed grant will tend to promote cultural, educational and scientific in-depth initiatives, including those of a multidisciplinary nature, aimed at studying the possible declinations of the concept of "sustainability" on the regulation of intersubjective relationships also in relation to the processes of digitalisation of contractual activities and business. Particular attention will be paid to identifying the main theoretical and operational problems linked to the use of digital in the public sector, to issues of national relevance such as sustainability, technological modernisation, energy reconversion, rationalization of healthcare spending with digitalisation and efficiency of systems, new tax ratio - taxpayer. The course aims to train scholars who are not only able to "read" the regulatory and economic reality, but also equipped to conduct a critical-reconstructive investigation of it. In this sense, internal specializations must not constitute disciplinary "fences", as training that is as interdisciplinary as possible is necessary, capable of grasping today's complexities and transitions, from the ecological to the digital, without forgetting the fundamental contribution of classical reconstructions in individual sectors.
Educational objectives	The dual approach of legal and economic analysis allows for the creation of effective interdisciplinarity and promotes the training of professional figures suitable for teaching and research. As regards co-financed scholarships, as there is a tradition at an international level, especially in common law countries, in the economic analysis of law (Economic Analysis of Law) which constitutes one of the bases of the training course aimed at the acquisition of technical-scientific skills, it is it will have to guarantee a vision of the economic phenomenon as a whole with reference to the very production of the rules that govern "the market", aiming to achieve the efficiency and effectiveness of administrative action. To be admitted to the final exam, PhD students must conduct study and research activities full-time for at least three years.

	As part of the study activities, specific courses organized by the Teaching Board or by the Doctoral School of the Mediterranean University or courses, conferences and seminars organized by other institutions must be attended for at least 120 hours in total over the three-year period with prior authorization from the Board of Directors. Teachers. At the beginning of the Course, the Teaching Committee assigns each doctoral student a tutor to supervise and assist the student throughout the entire course of study. The tutor must belong to the teaching body. Every year, each student, in agreement with their tutor, presents a training plan which summarizes the courses that the student intends to follow and the other activities envisaged in compliance with current regulations. As a rule, the interdisciplinary and methodological courses organized by the Doctoral School of the Mediterranean University of Reggio Calabria are compulsory during the first and second year of the course; each doctoral student, in agreement with their tutor, will instead be able to choose, up to within the expected number of hours, which of the courses proposed by the Teaching Board to attend. The training plan is approved by the teaching body and can be amended during the year, at the student's request and with the approval of the board, for proven needs. As part of the Doctorate, national and international mobility will be stimulated so that students can conduct experiences in laboratories and research centers of excellence in Italy and abroad.
Job Opportunities	The doctorate intends, through a multidisciplinary preparation open to free and reasoned criticism, to introduce young graduates to scientific research, as a fundamental and essential moment for the possible subsequent teaching and/or research activity. Furthermore, it aims to provide the means for the acquisition of professional and/or managerial skills in private enterprise and public administrations, also integrating, for improvement, with the contemporary masters for public administrations organized by the Department. The aim of the course is also to give the young scholar an organic and coherent research method, which is able to make the free thought and creativity of the doctoral student interact harmoniously with the precious help of artificial intelligence, but without the latter mortifying or supplanting the former. It also aims to contribute to the training of new professional figures with specific skills in the areas of civil and public law interest, which can lead to a reasonable implementation of the principles of equal opportunities and non-discrimination, especially in cases involving the needs of protection of the elderly, people with disabilities, and in any case of fragile people. It also aims to build new professional figures capable of analyzing and evaluating public policies related to issues of national relevance such as sustainability, technological modernization, energy conversion, digitalization of the Public Administration. After completing the doctorate, you will have a higher qualification that is also useful for those who decide to undertake the classic liberal professions (lawyer, notary, accountant) or professions such as the judiciary, because never before has it been necessary to read the complexity with the lenses of research and in-depth analysis that a course such as the doctorate can provide and/or help to refine, in order to grasp in an overall vision the legal and economic problems that arise. To this end, it will also be necessary to work intensely on perfecting the "writing" (legal and economic) of the doctoral student, not always adequate at the end of the degree course.
Short description of the curriculum: DIRITTO PRIVATO	The private law curriculum is aimed at promoting cultural, educational and scientific initiatives, including multidisciplinary ones, aimed at deepening the possible multiple declinations of the concept of "sustainability" on the regulation of intersubjective relationships, also with reference to the digitalization processes of contractual and business activities. Particular attention will be paid to the strengthening of skills in the sectors of civil law interest that interfere with the implementation of the principles of equal opportunities and non-discrimination, with the needs of protection of fragile and more exposed people (consumers, disabled people, migrants, elderly people, etc.). This does not exclude, however, the deepening of other issues, even more classic ones, especially if they can have repercussions on the level of the main systematic nodes of contemporaneity
Short description of the curriculum: DIRITTO PUBBLICO	The curriculum is aimed, first but not exclusively, at identifying the main theoretical and operational problems related to the use of digital in the public sector, in order to identify the most suitable system of digitalization of the Public Administration to meet the needs of efficiency and effectiveness of public bodies while respecting the fundamental freedoms of the person. More generally, this objective requires the in-depth study of further issues, even more classical and procedural, especially if they present evident repercussions on the level of the main systematic nodes of contemporaneity, starting from the various forms of transition (ecological, digital, etc.), passing through the different profiles of regulation of the economy, up to the diversified needs of protection of the most fragile subjects (migrants, prisoners, etc.), as well as the study of the impact on the legal system of ongoing conflicts.

Short description of the curriculum: ECONOMIA E METODI QUANTITATIVI	This curriculum deals in particular with verifying theoretical models of decision making, behavioral economics, business economics and analysis and evaluation of public policies relating to issues of national relevance such as sustainability, technological modernization, energy reconversion, rationalization of healthcare spending, digitalization and efficiency of the Public Administration, new tax-taxpayer relationship. Of fundamental importance will be the empirical verification through adequate econometric models applied to the relevant databases of the results obtained from the economic policies introduced. The topics specific to the Economics and Quantitative Methods curriculum will be associated with courses aimed at strengthening knowledge of explainable artificial intelligence, machine learning and deep learning with the related models and methods also in use in the industrial and professional fields, always considered the scientific substrate specific to the reference field.
Documents to be attached to the application form	The application must be submitted through the Esse3 platform, attaching the following documentation: - self-certification of the degree diploma pursuant to the Presidential Decree 445 of 28 December 2000; - photocopy of a valid identification document. ONLY FOR NON-EUROPEAN CANDIDATES: The suitability of the qualification obtained from foreign universities can be ascertained, solely for the purposes of admission to the selection, by the judging commission. The degree certificate presented must include the study plan and the exams taken with the relevant grade. Additional documents deemed useful for assessing the suitability of the qualification may be attached. If the certificate and additional documents are drawn up in a language other than Italian or English, it must be translated and legalized by the Italian Embassy or Consulate in the country of origin.

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FORM N. 3

Name of PhD course	**Civil, Environmental and Industrial Engineering**
Cycle	**XLI**
Curricula	**1. Energy production from renewable sources** **2. Natural, environmental and anthropogenic risks** **3. Sustainable and resilient infrastructures and structures** **4. Processes, technologies and materials for the ecological transition**
Duration	**3 years**
Coordinator	**Prof.ssa Matilde Pietrafesa**
Department	Civil, Energy, Environment and Materials Engineering (DICEAM)
Places	**n. 5 places**, of which n. 4 positions with scholarship and n. 1 position without scholarship
Scholarships	**- n. 2 scholarships on University funds,** of which n. 1 co-financed on funds from the DICEAM Department and n. 1 co-financed by the Posytron Engineering s.r.l. Company; **- n. 2 scholarships on funds provided by the Patti Territoriali** on the theme "*Approfondimento di Ingegneria Civile, Ambientale ed Industriale*", both co-financed on funds from the DICEAM Department
Scholarship topics to be indicated in Annex B	**- n. 2 scholarships on University funds, as indicated below:** scholarship n. 1 on the topic: "*Use of new methods and technologies in geotechnical works*" scholarship n. 2 on the topic: "*Advanced Applications of Artificial Intelligence in Mobility as a Service: Innovation, Sustainability and Integration with Smart Cities*" **- n. 2 scholarships on funds provided by the Patti Territoriali, as indicated below:** scholarship n. 3 on the topic: "*Engineering of innovative materials for environmental applications*" scholarship n. 4 on the topic: "*Theoretical-experimental analysis of renewable energy conversion devices in marine environment*" **- n. 1 place without scholarship on free theme**
Admission procedures	Admission will take place on the basis of: a) evaluation of a research project and qualifications (max 60 points) b) oral and language exam (max 60 points) **a) evaluation of a research project and qualifications.** It is aimed at identifying the preparation and motivation for participation in the PhD course and will be deduced from the following documents and qualifications: ***- A research project in Italian or in English (annex B)*** focusing on the topic of the scholarship for which candidates intended to compete (see scholarship topics). The project should not exceed 2.000 words, including an abstract of no more than 150 words, and should be divided into the following parts: 1. Objectives and purposes of the research; 2. State of the art of the scientific debate relating to the proposed field of study and any interdisciplinary aspects; 3. Research methodology; 4. Expected results (max 40 points). - ***curriculum vitae***, reporting the degree grade, the educational course and any qualifications held (up to 20 points).

	The access to the oral exam is achieved with a score of at least 42/60 in the evaluation of the research project and curriculum. **b) oral test and assessment of knowledge of the English language.** It consists of: • ***discussion of the project*** and evaluation of the candidate's aptitude for scientific research • ***assessment of the knowledge of the English language***. Foreign candidates must demonstrate that they have at least basic knowledge of the Italian language. Access to the final ranking is achieved with a score of at least 42/60 in the oral exam
Exam diary	**Evaluation of the research project and qualifications: September 23rd, 2025 at 10:30** The ranking list of the candidates admitted to the oral exam will be published by: **September 24th, 2025** **Oral and language test: September 25th, 2025 at 10:30** Both tests will take place at the **DICEAM Department** of the Mediterranean University of Reggio Calabria, located in Via Zehender, Feo di Vito, 89122 Reggio Calabria. Candidates residing abroad and those residing more than 700 km from the selection location can request to carry out the interview via video-conference. This choice must be clearly indicated in the application form by specifying an e-mail address to be contacted at. This address will be used to communicate the methods and platform chosen by the commission to carry out the interview. **Any changes to the exam calendar will be published on the website at the following link: http://www.unirc.it/ricerca/dottorato-di-ricerca/bando-dottorato-di-ricerca-xli-ciclo** **No other forms of notice will be activated by this University.**
Test language	English
Required qualification	LM-3 Landscape architecture LM-3 R Landscape architecture LM-4 Architecture and building engineering-architecture LM-4 R Architecture and building engineering-architecture LM-4 c.u. Architecture and construction engineering-architecture (five-year) LM-4 c.u. R Architecture and building engineering-architecture (five years) LM-17 Physics LM-17 R Physics LM-20 Aerospatial and astronautic engineering LM-20 R Aerospatial and astronautic engineering LM-21 Biomedical Engineering LM-21 R Biomedical Engineering LM-22 Chemical engineering LM-22 R Chemical engineering LM-23 Civil engineering LM-23 R Civil engineering LM-24 Construction engineering LM-25 Automation engineering LM-26 Safety engineering

	LM-26 R Safety engineering LM-27 Telecommunications engineering LM-28 Electrical engineering LM-29 Electronic engineering LM-30 Energy and nuclear engineering LM-31 Management engineering LM-32 Computer engineering LM-33 Mechanical engineering LM-34 Naval engineering LM-35 Environmental engineering LM-40 Mathematics LM-53 Material engineering LM-54 Chemistry LM-71 Industrial chemistry LM-74 Geology LM-75 Environmental and land sciences 20/S Physics 26/S Biomedical engineering 27/S Chemical engineering 28/S Civil engineering 29/S Automation engineering 30/S Telecommunications engineering 31/S Electrical engineering 32/S Electronic engineering 33/S Energy and nuclear engineering 34/S Management engineering 35/S Computer engineering 36/S Mechanical engineering 37/S Naval engineering 38/S Environmental engineering 45/S Mathematics 61/S Material engineering 62/S Chemistry 81/S Industrial chemistry 82/S Environmental and land sciences
Training period abroad and in the company	**All types of scholarships** provide for an optional period of study and research abroad up to a maximum of twelve (12) months. **The position without scholarship** provides for an optional period of study and research abroad up to a maximum of six (6) months.
Description of the project	The PhD in Civil, Environmental and Industrial Engineering is part of and completes the training offer of the Department of Civil, Energy, Environmental and Materials Engineering (DICEAM), which already provides I level courses in L-7 and L -9 classes and II level courses in LM-23 and LM-30/35 (interclass course) classes. The Department, since its foundation in 2012, has been characterized by a strong interdisciplinarity which is fully reflected in the Doctorate project (in the teaching body there are teachers belonging to the CUN areas 01, 02, 03, 08 and 09). The training course allows doctoral students to train in the world of research focused on theoretical, methodological and technological elements related to the macro-disciplinary areas of Civil, Environmental and Industrial Engineering, with particular reference to geotechnical, hydraulic, structural, transport, health-environmental, of chemical processes, of materials and of energy engineering. In the frame of the ecological and digital transition underway and of the transition from a linear to a circular economic model, the fundamental and transversal elements of the PhD course will be the

	attention to the new technologies and to the environmental, economic and social sustainability of the technological solutions object of the teaching activities and of research. From a strictly educational point of view, the main objective of the PhD is to introduce students to the world of research by providing them with solid methodological foundations. At the same time, the activities will be aimed both at enriching the scientific and technological knowledge of doctoral students, developing their critical sense, and at expanding their relational skills through the promotion of teamwork both in Italy and abroad, with particular attention to the development of communication and dissemination skills. PhD students will be strongly stimulated to tackle the chosen research topic with an interdisciplinary approach that, in particular, connects the methodological aspects typical of one or more engineering disciplines with those of the basic scientific ones (mathematics, physics, chemistry), which are fundamental and essential components of the PhD. The Doctorate will benefit from the excellent endowment of the Department's 17 research laboratories and facilities (https://www.diceam.unirc.it/laboratori.php), which will allow to better support the research activities of the expected number of students. The declared intention is to attract students of excellence in the areas of reference of the course and to make the Doctorate a center of initiatives of national and international appeal while maintaining strong links with the territory. In addition to this, all students will be encouraged to spend periods of study and research in laboratories of excellence in Italy and abroad. The topics covered in the doctorate both in the teaching and research activities are fully consistent with the provisions of the PNRR. The activities carried out as part of the Doctorate comply with the principle "do not cause significant damage" (DNSH) pursuant to art. 17 of Regulation (EU) 2020/852, in coherence with the technical guidelines prepared by the European Commission (Communication from the European Commission 2021/C58/01).
Educational objectives	The PhD Program in Civil, Environmental and Industrial Engineering aims to train young researchers with solid methodological and technical-scientific bases, who are competitive in the reference sectors at a global level. The training objective is the transfer of knowledge on specific topics of Civil, Environmental and Industrial Engineering to train highly specialized figures able to tackle complex research or application issues. The training objectives are aimed at advancing knowledge: - of basic sciences, technologies and complex systems at the service of the civil, environmental and industrial engineering sector; - of the design, management, control, safety and monitoring of civil and industrial infrastructures and structures that interact with the environment and the territory; - of the engineering aspects related to the production of energy from renewable sources, of new advanced materials and in the management and enhancement of civil and industrial waste in a context of circular economy. Characteristic elements of the training course are: interdisciplinarity, in particular as a link between the basic scientific disciplines (mathematics, physics and chemistry) and the areas of Civil, Environmental and Industrial Engineering object of study and research (geotechnical, hydraulic, structural, transports, health-environmental, materials and energy engineering), attention to new technologies, in particular digital ones, and to aspects related to environmental, social and economic sustainability of the innovative solutions under study, connection with the territory of reference of the Course, internationalization. Due to the interdisciplinary nature of the topics, the Doctorate is organized in training courses, with both general and specialized courses, aimed at transferring the basic knowledge of each subject area (mainly during the 1st and 2nd year of the course) and at the development of specific research topics, subject of the doctoral theses (in particular during the 2nd and 3rd year). The training will be complemented by experiences in the laboratories of the DICEAM Department of the Mediterranean University of Reggio Calabria, with the possibility of carrying out research periods abroad at prestigious international institutions. To be admitted to the final exam, PhD students must conduct full-time study and research activities for at least three years. As part of the study activities, specific Courses organized by the Board of Professors or by the Doctoral School of the Mediterranean University or Courses, Conferences and Seminars organized by other Institutions and subject to the authorization of the Board of professors, must be attended for at least 120 total hours in the three-year period. At the beginning of the course, the Board of Professors assigns each PhD student a tutor to supervise and assist the student during the entire course of study. The tutor must belong to the teaching staff. Each year, each student, in agreement with his/her tutor, presents a training plan which presents, in a concise manner, the courses that the student intends to follow and the other planned activities. Normally, the interdisciplinary and methodological courses organized by the Doctoral School of the Mediterranean University of Reggio

	Calabria are mandatory during the first and second year of the course, each doctoral student, in agreement with his/her tutor, can instead choose, up to the completion of the expected number of hours, which among the courses proposed by the Board of professors, to attend. Study and research activities, including laboratory activities, constitute the preponderant part of the training course. The training plan is approved by the Board of professors and can be amended during the year, at the request of the student and upon approval by the Board, for proven needs. As part of the PhD program, national and international mobility will be stimulated so that students can conduct experiences in laboratories and research centers of excellence in Italy and abroad. Training activities common to the curricula will be aimed, in collaboration with the Doctoral School, in particular at an in-depth study of: 1) English language improvement 2) Enhancement and dissemination of intellectual property results and open access to research data and products 3) Management of research and knowledge of European and international research systems 4) Fundamental principles of ethics, gender equality and integrity.
Occupational and professional opportunities	The figure formed by the PhD Course in Civil, Environmental and Industrial Engineering is characterized by the ability to integrate the specialized skills acquired in the various areas of design, construction and management of structures and infrastructures, of environmental monitoring and protection, of the analysis and prevention of natural and anthropogenic risks, of the production of materials and energy, of innovative industrial technologies, with the characterizing elements of the ecological transition, of the sustainable development, of the circular economy and of the opportunities offered by new technologies. The professional figure to be trained, in addition to holding highly professional positions in productive sectors with a strong technological value, will have professional skills and abilities capable of leading research groups operating in the public or private sector. Therefore, the Doctorate aims to train highly qualified professionals capable of holding key positions in public and private research centers, top management positions in Authorities, Public Administrations and Engineering companies engaged in the design, planning and management of structures and infrastructures, environmental remediation, soil protection, waste management, waste and raw materials management, prevention and management of natural and anthropogenic risks, production and management processes of low environmental impact energy, sustainable mobility. There are many employment and professional opportunities: the PhD in Civil, Environmental and Industrial Engineering will be able to find employment as well as in research centers and national and international universities, especially in all small, medium and large enterprises and public administrations that provide for the management, coordination and execution of highly qualified research activities aimed at the development of innovative technologies in all sectors of civil, environmental and industrial engineering. In addition, the entrepreneurial activity of doctoral students who, in the course of their research, will achieve results with a high degree of innovation, also through the use of academic spin-offs, will be strongly encouraged.
Short description of the curriculum: ENERGY PRODUCTION FROM RENEWABLE SOURCES	The production of energy from renewable sources plays a key role in the ecological transition process, in particular with a view to achieving the almost complete decarbonisation of the country by 2050. Replacing fossil energy sources requires the design of new technologies and the improvement of existing ones. In this curriculum, the teaching and research activities will be aimed at studying the techniques for exploiting solar, wind, geothermal, hydroelectric, sea waves, tides, biomasses energy for the production of electrical and thermal energy and related storage systems, including innovative ones based on the use of hydrogen. As part of this Curriculum, teaching and research activities will be carried out with particular attention to: ° Photovoltaic systems and solar collectors ° Onshore and offshore wind farms ° Geothermal plants ° Offshore foundations ° Plants and systems for the exploitation of wave energy and tides ° High-performance hydroelectric plants ° Storage systems that use hydrogen as an energy vector ° Smart Grid for sustainability and efficiency. The subject of the analysis will also be the comparison of the various technologies in terms of efficiency and production costs, as well as the assessment of their suitability for implementation for distributed generation. Finally, the effect of a widespread penetration of these sources to replace fossil

	fuels in various areas (construction, transport and industry) will be estimated in terms of greenhouse gas emissions reduction, the main causes of climate change, and urban pollution.
Short description of the curriculum: NATURAL, ENVIRONMENTAL AND ANTHROPIC RISKS	The Curriculum aims to deepen and develop knowledge of natural phenomena and their interactions with ecosystems, human activities and infrastructures present in the area, in order to characterize, predict and mitigate natural, environmental and anthropogenic risks. The course is aimed at the integration of knowledge acquired on risk phenomena, technological innovation, systems capable of monitoring the environment in an integrated way, networks for data management and environmental, structural, hydraulic and geotechnical modeling for the assessment of impacts in terms of anthropogenic pollution and calamitous events at different scales. The didactic and research activities addressed will concern: ° Remediation of contaminated sites ° Controlled landfills ° Innovative treatments of civil and industrial wastewater ° Integrated and sustainable management of the urban waste cycle ° Seismic risk assessment methods ° Seismic protection of buildings, infrastructures, historical and monumental assets ° Methods for estimating extreme events at sea both in the short and long term ° Models for coastal risk assessment ° Hydraulic protection of coastal, river and urban areas ° Problems related to the design and sizing of filtering transitions in embankment works ° Analysis, estimation and management and mitigation of landslide, erosion and coastal flooding and flood risk ° Principles, theories and analytical, computational and experimental methodologies for the physical-mechanical modeling of soils and rocks, also aimed at risk mitigation ° Assessment and mitigation of the risk of land liquefaction ° Local Seismic Response Analysis ° Techniques for improving and strengthening soils and rock masses ° Innovative structural and geotechnical monitoring systems ° Environmental impact assessment of infrastructures
Short description of the curriculum: SUSTAINABLE AND RESILIENT INFRASTRUCTURES AND STRUCTURES	Sustainability and resilience are fundamental objectives in the construction of new infrastructures and in the adaptation of existing ones. In this Curriculum particular attention will be paid to the issues of resilience, safety and reliability of buildings and infrastructures, the use and optimization of sustainable design solutions (which include the use of geosynthetics), the design and development of new materials with advanced mechanical performance, innovative solutions for the structural and technological sustainability of structures at sea. Therefore, teaching and research activities of present Curriculum will relate to: ° Metamaterials for structural engineering ° Innovative infrastructures at sea ° Study of hydraulic phenomena in pressurized pipelines, in Fire Protection Systems (FPS) and in aqueduct networks ° Sustainable and resilient geotechnical works ° Performance analysis of the static and seismic behavior of geotechnical works ° Eco-sustainable technologies and materials ° Sustainable mobility ° Functional adaptation of the infrastructural heritage ° Innovative mobility systems and intelligent infrastructures
Short description of the curriculum: PROCESSES, TECHNOLOGIES AND MATERIALS FOR THE ECOLOGICAL TRANSITION	The ecological transition and the transition from a linear to a circular economic system require a complete rethinking of production activities. The challenges for environmental sustainability involve the identification of new production methods, the development of materials that require lower consumption of raw materials, energy and water resources and the enhancement of agricultural, urban and industrial waste and waste. As part of this Curriculum, therefore, teaching and research activities will be developed relating to: ° New materials and technologies for increasing the energy efficiency of public and private buildings to achieve the "nZEB" standards - nearly Zero Energy Buildings and energy-plus buildings and the construction of energy districts and communities; ° Green hydrogen production, to be used as a sustainable energy vector both in fuel cells for the production of electricity and as fuel in internal combustion engines, also with a view to achieving zero-emission mobility; ° Bio-refining of waste and biodegradable waste for the production of compounds for basic chemistry, biofuels, fertilizers and energy.

	° Green chemical materials and processes ° Reuse of waste materials in civil engineering works ° Use of innovative synthetic materials in civil and environmental engineering works to promote the ecological transition process ° Behavior of constructions over time (life cycle, degradation of materials, fatigue, etc.). ° Circular economy in transport infrastructure. ° Evaluation and non-destructive tests for modeling and diagnostics of materials for Industry 4.0 ° Artificial Intelligence methods for engineering applications ° Microgrid models for energy sustainability ° Organization and management techniques of production processes ° Energy management and energy market ° Industrial process automation and DCS systems
Documentation to be attached to the application	Candidates when submitting the application on the **esse3** platform must insert the following documentation: **- A research project *in Italian or in English (annex B)* focusing on the topic of the scholarship for which candidates intended to compete (see scholarship topics).** The project must not exceed 2.000 words, including an abstract of no more than 150 words, and must be divided into the following parts:1. Description of the research topic and the state of the art of the scientific debate relating to the proposed field of study, with bibliographical references; 2. Objectives and purposes of the research; 3. Research methodology; 4. Expected results - **European format curriculum vitae;** - **self-certification of the degree diploma pursuant to the 445 D.P.R. of 28/12/2000;** **- photocopy of a valid identification document.** ONLY FOR NON-EUROPEAN CANDIDATES: the suitability of the qualification obtained from foreign universities can be ascertained, solely for the purposes of admission to the selection, by the judging commission. The degree certificate presented must include the study plan and the exams taken with the relevant grade. Additional documents deemed useful for assessing the suitability of the qualification may be attached. If the certificate and additional documents are drawn up in a language other than Italian or English, they must be translated and legalized by the Italian Embassy or Consulate in the country of origin.

Finanziato dall'Unione europea NextGenerationEU

FORM N. 4

PhD Program	**Information Engineering**
Cycle	**XLI**
Curricula	= = = =
Duration	**3 years**
Coordinator	**Prof. Tommaso Isernia**
Department	Ingegneria dell'Informazione, delle Infrastrutture e dell'Energia Sostenibile (DIIES)
PhD Positions	**n. 6 PhD positions**: 5 with scholarship; 1 without scholarship
Scholarships	• **n. 2 scholarships** funded by the University Mediterranea of Reggio Calabria **n. 2 scholarships** funded by the "Patti Territoriali" on the theme "*ICT for Sustainability and Sustainable ICT*" • **n. 1 scholarship** funded by DIIES (Dip. di Eccellenza)
Topics associated to the scholarships (to be specified in Annex B)	- **scholarships funded by the University Mediterranea of Reggio Calabria and position without scholarship**: free topic provided it agrees with the general scope and goals of the PhD Course; - **scholarships funded through the Patti Territoriali**: topic in the area of "*Information and Communication Technologies (ICT) and digital systems for sustainability : smart environments, 6G, e-health*" - **scholarship funded by DIIES**: topic in the area of "*Smart, Secure and Connected Systems and Society"*
Admission phases	The PhD admission is organized in two phases: a) Evaluation of the candidate's qualifications and research project (**max 60 points**) b) Interview and verification of knowledge of the English language (**max 60 points**). In detail: a) **Evaluation of the candidate's qualifications and research project:** it is based on the following documents that must be attached to the application: • **Curriculum Vitae** of the applicant with a detailed breakdown of the studies carried out and the scores obtained, as well as any publication and other relevant titles (**max 20 points**); • **Research project**, written in Italian or English of no more than 2.500 words, including an abstract of no more than 150 words, coherent with the research topics of the scholarship(s) to which the candidate intends to apply (see section Thematic description of the scholarships). The project can be organized as follows: 1. Objectives and relevance of the proposed research; 2. State-of-the-art within the reference field and related bibliography; 3. Methodologies and tools that the candidate plans to use; 4. Expected results (**max 40 points**). Only candidates with a score of **at least 42/60** are admitted to the interview **b) Interview and verification of knowledge of the English language** • Discussion, in Italian or English, of the project and titles/publications and assessment of the candidate's aptitude for scientific research. • Assessment of knowledge of the English language. The final ranking is accessed with a score of **at least 42/60.**

Calendar	**a) Evaluation of the candidate's qualifications and research project: September 17th, 2025** The results will be published by September 19th, 2025 **b) Interview and verification of knowledge of the English language: on September 25th, 2025 at 10.00 am (Italian time).** Interviews of the admitted candidates will be carried out on line (videoconference). The video interview, which is public, must ensure the reciprocal visibility and the creation and sharing of handwritten documents. At the beginning of the interview a valid ID must be exhibited. **Details of the calendar and platform for online interviews, and any changes to the exam calendar will be published on the website at the following link: http://www.unirc.it/ricerca/dottorato-di-ricerca/bando-dottorato-di-ricerca-xli-ciclo** **No other forms of notification will be activated by this University.**
Language tested	ENGLISH
Degree Qualification requested according to Italian classification **(LM or /S stands for Master degree)** **Equivalent degrees achieved abroad are also admissible**	LM-8 Biotecnologie industriali LM-17 Fisica LM-18 Informatica LM-20 Ingegneria aerospaziale e astronautica LM-21 Ingegneria biomedica LM-22 Ingegneria chimica LM-23 Ingegneria civile LM-24 Ingegneria dei sistemi edilizi LM-25 Ingegneria dell'automazione LM-26 Ingegneria della sicurezza LM-27 Ingegneria delle telecomunicazioni LM-28 Ingegneria elettrica LM-29 Ingegneria elettronica LM-30 Ingegneria energetica e nucleare LM-31 Ingegneria gestionale LM-32 Ingegneria informatica LM-33 Ingegneria meccanica LM-34 Ingegneria navale LM-35 Ingegneria per l'ambiente e il territorio LM-40 Matematica LM-44 Modellistica matematico-fisica per l'ingegneria LM-48 Pianificazione territoriale urbanistica e ambientale LM-53 Scienza e ingegneria dei materiali LM-54 Scienze chimiche LM-55 Scienze cognitive LM-56 Scienze dell'economia LM-66 Sicurezza informatica LM-70 Scienze e tecnologie alimentari LM-71 Scienze e tecnologie della chimica industriale LM-75 Scienze e tecnologie per l'ambiente e il territorio LM-82 Scienze statistiche LM-91 Tecniche e metodi per la societa dell'informazione LM-92 Teorie della comunicazione LM-93 Teorie e metodologie dell'e-learning e della media education

	LM Sc. Mat. Scienze dei materiali LM-53. Ingegneria dei materiali 8/S (specialistiche in biotecnologie industriali) 20/S (specialistiche in fisica) 23/S (specialistiche in informatica) 25/S (specialistiche in ingegneria aerospaziale e astronautica) 26/S (specialistiche in ingegneria biomedica) 27/S (specialistiche in ingegneria chimica) 28/S (specialistiche in ingegneria civile) 29/S (specialistiche in ingegneria dell'automazione) 30/S (specialistiche in ingegneria delle telecomunicazioni) 31/S (specialistiche in ingegneria elettrica) 32/S (specialistiche in ingegneria elettronica) 33/S (specialistiche in ingegneria energetica e nucleare) 34/S (specialistiche in ingegneria gestionale) 35/S (specialistiche in ingegneria informatica) 36/S (specialistiche in ingegneria meccanica) 37/S (specialistiche in ingegneria navale) 38/S (specialistiche in ingegneria per l'ambiente e il territorio) 45/S (specialistiche in matematica) 48/S (specialistiche in metodi per l'analisi valutativa dei sistemi complessi) 50/S (specialistiche in modellistica matematico-fisica per l'ingegneria) 54/S (specialistiche in pianificazione territoriale urbanistica e ambientale) 61/S (specialistiche in scienza e ingegneria dei materiali) 62/S (specialistiche in scienze chimiche) 78/S (specialistiche in scienze e tecnologie agroalimentari) 81/S (specialistiche in scienze e tecnologie della chimica industriale) 82/S (specialistiche in scienze e tecnologie per l'ambiente e il territorio) 92/S (specialistiche in statistica per la ricerca sperimentale) 100/S (specialistiche in tecniche e metodi per la società dell'informazione) 101/S (specialistiche in teoria della comunicazione)
Period of training abroad and in enterprises	**For all types of scholarships** provide an optional period of study and research abroad up to a maximum of twelve (12) months. **The position without scholarship** provide an optional period of study and research abroad up to a maximum of six (6) months.
PhD program description	The PhD program in Information Engineering, within the Department of Excellence DIIES (Department of Information Engineering, Infrastructures and Sustainable Energy) of University Mediterranea of Reggio Calabria, aims to form professionals with high qualification and advanced multidisciplinary skills in the area of **Information and Communication Technologies (ICT) and their applications**. The PhD program focuses on Information Engineering's technologies, methods and systems, inherently transversal to many highly innovative application contexts. Therefore, the PhD program encourages **interdisciplinary** studies within the **Key Enabling Technologies (KETs) -** ranging from ICT to nanotechnologies and nanoelectronics, to advanced materials, photonics, and biotechnologies. It offers a wide and differentiated training program that aims to provide the means to develop innovative theoretical and practical research topics, including both methodological aspects of fundamental scientific disciplines (mathematics, physics, and chemistry) and Artificial Intelligence, and in-depth analysis of Information Engineering-related topics (from computer science to electronics to telecommunications). The objective is to form, in a multidisciplinary context, PhDs with solid competences in Information Engineering, capable of innovating, through solutions, methods and key enabling technologies, in strategic scenarios such as **agri-industry, renewable energy, biomedicine, public administration, environmental and infrastructure monitoring, Industry 5.0, e-Health, smart cities and sustainable mobility**.

Training Objectives	The PhD training objectives concern: - deepening the theoretical foundations of the disciplines related to the reference scientific sectors for Information Engineering and its related application contexts, with a special focus on the sustainability aspects; - strengthening of methodological training in the areas of mathematics-physics-chemistry, statistics, artificial intelligence, with reference to the methods of largest interest for Information Engineering; - critical analysis of results and perspectives in the sector of interest of the PhD student; - development of advanced research, including possible unconventional applications of ICT and other KETs. Furthermore, the PhD candidate will have the ability to: - plan and carry out experimental and/or numerical tests and verifications; - analyse technological innovation needs of companies and public and private, national and international organizations; - identify funding opportunities; - planning research and technology transfer projects. The training program is organized in the following activities: **Mini-courses**. Typically of 8 or 12 hours, of both methodological and informative types, for fundamental and advanced training. They can be selected by the PhD student in a large pool of multi-disciplinary courses to create a flexible and customized training plan. **Transversal skills.** Acquired by attending courses offered by the Doctoral School on the following main topics: European and international research project management; dissemination; intellectual property rights and open science; ethics, gender equality and integrity; language skills. PhDs are requested to develop third-mission activities, by developing communication capabilities towards different target groups. **External courses.** Offered by PhD programs in other national and international research Institutions; or by attending seminars from experts in Universities, Research Centres and Industries; or by participating in national and international PhD Schools in the ICT and KET areas. PhD students devote most of their time to research (study of the related literature, paper writing, conference participation, thesis preparation, etc.), under the supervisioning of one or more tutors, spending part of the time in other research institutions in Italy or abroad.
Expected employment and professional opportunities	PhD candidates who go through the program will be able to choose between various employment opportunities, namely: 1. **Academic research.** A high percentage of research doctors have been recruited as Researchers / Professors from Italian universities, and others are permanently employed in foreign Universities; 2. National (CNR, CIRA, ENEA, ASI, INFN, CNIT) and international (EURATOM, CERN, AFRL, IPP, ESA) **research institutes and consortia**; 3. Design, research and development activities in **national and international companies** in the ICT sector and KETs. In this regard, it should be noted that the ICT industry is constantly looking for personnel with a post graduate level of specialization to be included in the R&D departments. 4. **Management of technological innovation** in companies, public and private institutes active in the sector of services or innovative start-ups.
Documents to be attached to the application	Candidates must attach on the esse3 platform when submitting the application the following documents: • **A research project (annex B) focusing on the topic of the scholarship for which candidates intended to compete (see scholarship topics).** The project will preferably be organized as follows: 1. Objectives and relevance of the proposed research; 2. State-of-the-art within the reference field and related bibliography; 3. Methodologies and tools that the candidate plans to use; 4. Expected results. • **Curriculum vitae of the applicant in European format** with a detailed breakdown of the studies carried out and the scores obtained, as well as any publication and other relevant titles.

	• **Self-certification of the degree diploma** pursuant to the D.P.R. 445 of 28 December 2000. • **Copy of a valid identity document**, which will then be shown, for identification purposes, during the interview. **Master's degree and academic transcripts will be assessed by the Commission of admittance.** These titles shall provide the list of exams and related scores. Candidates who have received the degree (or other titles) from a non-Italian institution must present titles **translated in one of the following languages (Italian or English)**, otherwise Master's degree and academic transcripts must be translated and legalized by the Italian Embassy or Consulate in their country of origin.

Finanziato dall'Unione europea NextGenerationEU

MUR Ministero dell'Università e della Ricerca

Università degli Studi di Reggio Calabria Mediterranea

FORM N. 5

PhD programme	**Agricultural, Food and Forestry Science (SAAF)**
Cycle	**XLI**
Curricula	==========
Coordinator	**Prof. Leonardo SCHENA**
Department	Agraria
Duration	3 years
PhD positions	**5 PhD positions (4 with scholarship, 1 without scholarship).** One position with scholarship is priority reserved to foreign candidates.
Scholarships	• **n. 2 scholarships** funded by the University Mediterranea of Reggio Calabria • **n. 2 scholarships** funded by the "Patti Territoriali" on the theme "*Il Green Deal europeo per la sostenibilità dei Sistemi Agroalimentari*".
Topic of the scholarships to be indicated in annex B	- scholarship funded by the University Mediterranea of Reggio Calabria and position without scholarship (Topic consistent with the EU strategy "Farm to Fork", "Green Deal" and/or "One-Health"); - scholarships funded by the "Patti Territoriali" (Topic consistent with the EU strategy "Farm to Fork", "Green Deal" and/or "One-Health")
Admission	**Admission to the PhD course is based on two steps:** **A) EVALUATION OF A RESEARCH PROJECT PROPOSED BY THE CANDIDATE AND EVALUATION OF ITS QUALIFICATION** *(up to 60 points)* **- The research project (annex B) focusing on the topic of the scholarship for which candidates intended to compete (see scholarship topics).** *The project must be written in English or Italian and should not exceed 25,000 characters (including spaces). It should include the following parts: i) Title, ii) Abstract, iii) Introduction, iv) Objectives, v) Planned activities and methods, vi) Expected results and their relevance, vii) Bibliography.* A maximum of 45 points can be awarded for the project. **-** ***Curriculum vitae*** containing details on the studies carried out and marks obtained in each discipline, any qualifications relating to the topic of the doctorate and any scientific publications. A maximum of 15 points can be awarded for the curriculum. A score of at least 42/60 is needed in the evaluation of research project and curriculum to be admitted to the oral exam. **B) ORAL EXAM AND ASSESSMENT OF KNOWLEDGE OF THE LANGUAGE** *(up to 60 points)* **- Interview** in English or Italian focusing on the discussion of the research project, evaluating the candidate aptitude to scientific research and his/her general scientific knowledge. **- Assessment of the English language**. For foreign candidates a basic knowledge of the Italian language will be also evaluated. A score of at least 42/60 is needed to be admitted the final ranking

Admission schedule	**Evaluation of research projects and CVs: Thursday, September 18th, 2025** The list of admitted to the oral exam will be published by Monday, September 22nd **Interview and language test: Thursday, September 25th starting at 9:00 AM.** The interview will take place at the **Department of Agriculture** of the *Mediterranea* University of Reggio Calabria, Località Feo di Vito - 89122 Reggio Calabria. Candidates who are resident or temporary based outside Italy, and those who reside more than 700 km away from the venue where interviews will take place, can request to be interviewed remotely. These candidates must clearly indicate their choice in the application form, specifying an **e-mail address** to be contacted to schedule the remote interview. **Schedule variations will exclusively be published at the following link: http://www.unirc.it/ricerca/dottorato-di-ricerca/bando-dottorato-di-ricerca-xli-ciclo** **Candidates will not receive communications under any other form.**
Language test	English (English and Italian for foreigner candidates)
Training period abroad and in enterprises	**For all types of scholarships** there is an optional period of study and research abroad up to a maximum of twelve (12) months. **The position without scholarship** there is an optional period of study and research abroad up to a maximum of six (6) months.
Degree Qualification requested according to Italian classification. **Equivalent degrees obtained abroad are also admissible**	LM-3 Architettura del paesaggio LM-4 Architettura e ingegneria edile-architettura LM-4 c.u. Architettura e ingegneria edile-architettura (quinquennale) LM-6 Biologia LM-7 Biotecnologie agrarie LM-8 Biotecnologie industriali LM-9 Biotecnologie mediche, veterinarie e farmaceutiche LM-13 Farmacia e farmacia industriale LM-17 Fisica LM-18 Informatica LM-22 Ingegneria chimica LM-23 Ingegneria civile LM-24 Ingegneria dei sistemi edilizi LM-25 Ingegneria dell'automazione LM-26 Ingegneria della sicurezza LM-27 Ingegneria delle telecomunicazioni LM-29 Ingegneria elettronica LM-30 Ingegneria energetica e nucleare LM-31 Ingegneria gestionale LM-32 Ingegneria informatica LM-33 Ingegneria meccanica LM-35 Ingegneria per l'ambiente e il territorio LM-40 Matematica LM-41 Medicina e chirurgia LM-42 Medicina veterinaria LM-48 Pianificazione territoriale urbanistica e ambientale

	LM-49 Progettazione e gestione dei sistemi turistici LM-53 Scienza e ingegneria dei materiali LM-54 Scienze chimiche LM-56 Scienze dell'economia LM-60 Scienze della natura LM-61 Scienze della nutrizione umana LM-69 Scienze e tecnologie agrarie LM-70 Scienze e tecnologie alimentari LM-71 Scienze e tecnologie della chimica industriale LM-73 Scienze e tecnologie forestali ed ambientali LM-74 Scienze e tecnologie geologiche LM-75 Scienze e tecnologie per l'ambiente e il territorio LM-76 Scienze economiche per l'ambiente e la cultura LM-82 Scienze statistiche LM-86 Scienze zootecniche e tecnologie animali LM/GASTR Scienze economiche e sociali della gastronomia 3/S (specialistiche in architettura del paesaggio) 4/S (specialistiche in architettura e ingegneria edile) 6/S (specialistiche in biologia) 7/S (specialistiche in biotecnologie agrarie) 8/S (specialistiche in biotecnologie industriali) 9/S (specialistiche in biotecnologie mediche, veterinarie e farmaceutiche) 14/S (specialistiche in farmacia e farmacia industriale) 20/S (specialistiche in fisica) 23/S (specialistiche in informatica) 27/S (specialistiche in ingegneria chimica) 28/S (specialistiche in ingegneria civile) 29/S (specialistiche in ingegneria dell'automazione) 32/S (specialistiche in ingegneria elettronica) 34/S (specialistiche in ingegneria gestionale) 35/S (specialistiche in ingegneria informatica) 36/S (specialistiche in ingegneria meccanica) 38/S (specialistiche in ingegneria per l'ambiente e il territorio) 45/S (specialistiche in matematica) 47/S (specialistiche in medicina veterinaria) 50/S (specialistiche in modellistica matematico-fisica per l'ingegneria) 61/S (specialistiche in scienza e ingegneria dei materiali) 62/S (specialistiche in scienze chimiche) 64/S (specialistiche in scienze dell'economia) 68/S (specialistiche in scienze della natura) 69/S (specialistiche in scienze della nutrizione umana) 74/S (specialistiche in scienze e gestione delle risorse rurali e forestali) 77/S (specialistiche in scienze e tecnologie agrarie) 78/S (specialistiche in scienze e tecnologie agroalimentari) 79/S (specialistiche in scienze e tecnologie agrozootecniche) 81/S (specialistiche in scienze e tecnologie della chimica industriale) 82/S (specialistiche in scienze e tecnologie per l'ambiente e il territorio) 83/S (specialistiche in scienze economiche per l'ambiente e la cultura) 84/S (specialistiche in scienze economico-aziendali)

	85/S (specialistiche in scienze geofisiche) 86/S (specialistiche in scienze geologiche) 92/S (specialistiche in statistica per la ricerca sperimentale)
Description of the PhD program	The PhD program in Agricultural, Food and Forestry Sciences (SAAF) embraces numerous research topics in a wide range of scientific fields, spanning the agricultural, food and forestry sectors. The main goal is to train the next generation of students that will improve the efficiency of production processes with particular attention to innovation and sustainability. The PhD course take advantage of skills from a Board of 40 professors of the Department of Agriculture including 33 full and associate professors, 3 permanent researchers and 4 fixed-term researchers of type B (RTDB) belonging to the scientific disciplinary sectors AGRI-01/A, AGRI-02/A, AGRI-03/A, AGRI-03/B, AGRI-03/C, AGRI-04/A, AGRI-04/B, AGRI-04/C, AGRI-05/A, AGRI-05/B, AGRI-06/A, AGRI-06/B, AGRI-07/A, AGRI-08/A, AGRI-09/B and BIOS-01/C. The board also includes a full professor from the Department of Veterinary Sciences of the University of Messina (SSD AGRI-04/C) and 4 professors working in foreign universities or research centers with advanced skills in: 1) Study of the microbiome and its impact on plant growth and health; 2) Management of forest resources and hydrology of forest soils in the post-fire phase; 3) Participatory development and economic evaluation of EU policies on forest, biodiversity and bioenergy; 4) Agroecology, analysis of ecosystem services in olive growing, soil biodiversity, nutrient cycling and organic farming. Furthermore, the collaboration with qualified professors and researchers from the same Department of Agriculture and/or other universities and/or research institutions, not belonging to the board, it will be possible to draw on further specific skills to support the doctorate in training activities. Topics included within the PhD program are: - Agronomy, arboriculture, chemistry and agricultural genetics. Soil-plant-atmosphere relationships, water use efficiency, adaptation of herbaceous and/or tree crops to abiotic stresses, polycultural systems and agrobiodiversity, agricultural genetics and breeding methods, sustainable agriculture, soil chemistry and plant physiology, recycling of agro-industrial biomass for agronomic purposes. - Economics, Appraisal and Policy of Agri-food and Forestry systems. Economic, management and estimation studies of the production, transformation, distribution and consumption of products in the primary sector (food and no-food), analysis of policies and methodologies for the assessment of environmental, economic and social sustainability of agri-food and forestry production processes. - Water and territorial planning. Analysis of the quality and management of water resources in agriculture, irrigation systems, analysis and territorial planning of the rural landscape, protection of agricultural and forest soil, hydrology, Geographic Information Systems and remote sensing for the analysis and monitoring of rural systems, construction systems and settlements in rural areas, buildings for agro-industry, construction systems for rural buildings. - Forestry and ecology. Forest ecology, sustainable management and environmental protection, study and modeling of plant growth, impact of climate change, risk and management of forest fires, technological characteristics of wood. - Crop protection. Study of phytopathogenic microrganisms and arthropods of agricultural, food and forestry interest, interactions between plants and harmful phytopathogens/insects, beneficial microorganisms and insects, plant microbiome and sustainable control strategies. - Food technologies and microbiology. Identification and selection of micro-organisms for bioremediation and food and beverage improvement, development and optimization of food processes, food packaging, food preservation, food safety, optimization of production processes, production of novel foods and evaluation of shelf-life, composition of food products, analytical methods for monitoring production processes and determination of nutraceutical compounds. - Mechanics and mechanization of biosystems. Engineering approaches applied to the agricultural, food and forestry sectors. Precision systems for the production, conversion, use and save of energy in agro-industrial production systems. - Animal husbandry. Characterization of feed for animal husbandry. Study of the food/animal interaction and evaluation of the effects of diets on production performance and product quality. Evaluation of alternative foods. - Biodiversity and conservation of vascular flora
Educational objectives	The main objective of the SAAF PhD program is to train students in advanced scientific and technological disciplines. The program aims at providing basic theoretical and practical skills on

	analytical and experimental methodologies, that will help students to develop their scientific profile together with problem-solving scientific communication skills. The final objective is to train students on solving the important challenges on the efficiency, quality and sustainability of agricultural and forestry production processes. The SAAF PhD program is designed to be extremely dynamic in order to guarantee the training of professional figures capable of responding to the needs of production systems, proposing solutions in different social and territorial contexts, and in particular, within the Mediterranean area. The SAAF PhD program aims to provide solid training for researchers, through the acquisition of tools and methodologies typical of the scientific approach. These tools can be primarily used within institutions focusing on both fundamental and applied research (Universities and Research Centers, public and private). In addition, the program also promotes the acquisition of skills that can be used outside academia, for example within agricultural, food, and forestry industries. The PhD program aims to stimulate the development of critical thinking skills and the ability to work within interdisciplinary fields, both in national and international contexts. In particular, the PhD program trains researchers capable of: a) develop independent research paths on relevant scientific issues ; b) develop and propose public and private research projects on a local, national and international scale; c) identify research needs and their scientific, social and economic relevance; d) transfer knowledge through the presentation of research results in national and international contexts and through the implementation of educational activities; e) develop networking skills with academic and/or private partners operating in their sector; f) apply interdisciplinary approaches derived from the study of different components of the agri-food and forestry biosystems; g) knowing how to orient oneself towards scientific qualification and productivity, as essential elements for professional opportunities in research institutions or in other professional fields; h) transfer the research results to potential public and private stakeholders; e) communicate and disseminate scientific culture nationally and internationally. In addition, PhD students will acquire the ability to develop research products in the form of scientific articles to be published in high-impact international journals (indexed on the Web of Science and/or Scopus platforms), book chapters and/or informative articles necessary to spread knowledge in a context of third mission within the reference territory.
Job Opportunities	Skills acquired by SAAF PhD students will facilitate their hiring as researchers in public or private centers as well as highly qualified technicians and/or managers in companies operating in the primary sector and in the management of the environment. They may also act as manager in processing companies. Agribusiness is a driving sector for the country's economy with a positive growth trend, characterized by high quality products, sustainability and territorial identity. To support high-quality productions, the support of technicians capable of providing answers and solutions to problems and planning research and development projects is essential. In the context of forest and territorial planning, increasing importance is given to the so-called "sustainable forest management", also aimed at improving the multifunctionality of woods and forests trough a continuous advancement of the scientific research. Graduate doctors will be able to enter areas requiring skills for the production, marketing, technological innovation, and distribution processes, as well as for the management and valorization of forest and wildlife resources. It will find space in private production companies (agri-food production, processing, and import-export companies), research centers, other organizations (Parks, Hospitals, Protection Consortia, Certification Bodies), non-governmental institutions focusing of sustainable development and in spin-off activities linked to research organizations. Finally, the training courses will aim at stimulating the entrepreneurial spirit of graduating students to encourage the creation of new companies with a high content of technological innovation or, in general, to enhance ideas possibly born during the PhD program through their patenting and/or the development of spin-offs and/or startups.
Documents to be attached to the application form	Candidates must upload the following documentation on the Esse3 platform when submitting their application: **a) A research project (annex B) focusing on the topic of the scholarship for which candidates intended to compete (see scholarship topics).** *The project must be written in English or Italian and should not exceed 25,000 characters (including spaces). It should*

	include the following parts: i) Title, ii) Abstract, iii) Introduction, iv) Objectives, v) Planned activities and methods, vi) Expected results and their relevance, vii) Bibliography. **b)** ***Curriculum Vitae*** European format **c) Self-certification of the University degree (Under article 46 of Presidential Decree no. 445/00)** **d) Copy of the identity document.** ONLY FOR NON-EU CANDIDATES: The foreign qualification may be declared admissible by the Evaluation Board, solely for the purposes of admission to the selection procedure. **The degree certificate must contain the study plan and the exams taken with the relative marks**. Additional documents deemed useful for the purpose of assessing the suitability of the qualification may be attached. If the certificate and other documents are drawn up in a language other than Italian or English, it must be translated and legalized by the Italian Embassy or Consulate in the country of origin.