

PhD Programme in INDUSTRIAL ENGINEERING	
DISCIPLINARY SCIENTIFIC AREA	09 - INDUSTRIAL AND INFORMATION ENGINEERING; 08 - CIVIL ENGINEERING AND ARCHITECTURE
COORDINATOR	PROF. SARA SULIS
HEAD DEPARTMENT	DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING
DURATION	3 years
LEARNING OUTCOMES AND RESEARCH TOPICS	<p>The goal of the PhD programme is to train students who are aiming to become research-oriented staff members at academic institutions, research centres and industries, and who will be able to develop new projects with high scientific and technological content. The role of the Doctor in Industrial Engineering arises mainly from the request of the industrial sector to combine technical needs typical of the development, design and management of complex systems with the needs of research and technological innovation in the sectors of manufacturing and process industry, production, energy transformation and distribution, environmental sustainability.</p> <p>The PhD involves: the completion of a literature review, developing original research with the collection of results, producing a thesis, submitting it as a written study, and elaborating the thesis in an oral exam or presentation to the PhD evaluation board.</p> <p>Specific courses with final exams are also included in the programme.</p> <p>The main topics (as ERC subsector) of the PhD programme in Industrial Engineering are the following:</p> <p>PE7_1 Control engineering</p> <p>PE7_2 Electrical and electronic engineering: semiconductors, components, systems</p> <p>PE7_4 Simulation engineering and modelling</p> <p>PE6_6 Informatics and information systems</p> <p>PE8_2 Chemical engineering, technical chemistry</p> <p>PE8_6 Energy systems (production, distribution, application)</p> <p>PE8_8 Mechanical and manufacturing engineering (shaping, mounting, joining, separation)</p> <p>PE2_3 Nuclear physics</p> <p>LS7_1 Medical engineering and technology</p> <p>PhD students will have to carry out a period of study and research abroad, lasting a minimum of 6 months, at universities or research centres, in order to deepen their theoretical/applicative knowledge and gain training experience both from a linguistic point of view and in terms of technical and cultural growth.</p> <p>The training path of the PhD programme promotes and stimulates the acquisition of multidisciplinary and transversal skills and knowledge, with the aim of training professional figures capable of operating in the design, optimization and management of advanced engineering systems. The collaboration of the Academic Board members with national and international companies and bodies, and within consolidated networks, guarantees training in an environment in close contact with the reality of industrial research and their easy job placement once the PhD students have obtained the qualification.</p> <p>Through annual presentations of the research activity carried out, participation in seminars and study days, the writing of works for presentation at conferences or for publication in specialized journals, the drafting of the thesis, the doctoral students will also acquire the communication skills necessary for a more effective entry into the world of work.</p>

<p>ELIGIBILITY AND OTHER REQUIREMENTS FOR CANDIDATES (ART. 2 - NOTICE OF COMPETITION)</p>	<p>LM-4 Architettura e ingegneria edile-architettura LM-13 Farmacia e farmacia industriale LM-17 Fisica 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-53 Scienza e ingegneria dei materiali LM-54 Scienze chimiche 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 And equivalent "Lauree specialistiche"</p> <p>Candidates with other master's degrees: Foreign academic degrees equivalent to the Italian degrees mentioned above (the equivalence with the Italian regulations will be assessed by the PhD admission board).</p>
<p>ADMISSION TESTS FOR CANDIDATES APPLYING FOR THE ORDINARY POSITIONS</p>	<p>ASSESSMENT OF QUALIFICATIONS AND CURRICULUM VITAE, AND IN-PERSON INTERVIEW</p> <p>The interview will be aimed at verifying the candidate's ability to orient himself/herself on the main fields of study related to the Doctorate and to verify his/her knowledge in chemical sciences and technologies, skills of analysis, elaboration and communication, and can take place, at the request of the candidate, also in English.</p> <p>During the interview, the candidate will discuss his/her 3-year research project. The project (preferably written in English) must be uploaded along with the documents listed in art. 3 of the PhD notice of competition, within the deadline (file name: progetto_di_ricerca_surname_name).</p> <p>During the interview, the candidate's language skills in English will be assessed. Candidates who are unable, for justified reasons, to take the interview at the established location, may be given the opportunity to conduct it by teleconference, on the same date and time established for face-to-face interviews, according to the instructions of the notice of competition.</p>
<p>ADMISSION TESTS FOR FOREIGN CANDIDATES APPLYING FOR THE RESERVED POSITION</p>	<p>ASSESSMENT OF QUALIFICATIONS AND CV, ONLINE INTERVIEW</p> <p>The interview will focus mainly on the experiences gained by the candidate in the topics specific to the Doctorate and on the topics that he/she would propose as a possible object of the activity to be developed during the three-year PhD programme.</p> <p>During the interview, the candidate will discuss a three-year research project, which must be submitted in addition to the documents required in art. 3 of the notice of competition (<i>certificate attesting the award of a 2nd level foreign degree</i></p>

	<p><i>needed to access a PhD programme, including exams and marks, with a translation in Italian or English; certificate attesting the award of a 1st level foreign degree, including and marks, with a translation in Italian or English; signed Curriculum Vitae preferably in EU format, in English or Italian; additional qualifications, certifications, publications (up to 5) and work experiences, detailed in English or in Italian; two-sided coloured scanned copy of a valid passport, with a clear photo), within the deadline (file name: research project_surname_name).</i></p> <p>During the interview, the candidate's language skills in English will be assessed.</p> <p>The application will be supported by a maximum of 3 reference letters in English, to be written using the form available on the webpage https://web.unica.it/unica/en/studenti_s01_ss05.page (How to apply for PhD selection: Guidelines and forms - Annex D), by a university professor or an expert in the research fields of the PhD programme, on letterhead of their institution, dated and signed. Evaluators will send their letters directly to the email address phdcall_referenceletter@unica.it (object: surname and name of the candidate being evaluated and name of the PhD programme for which he/she is applying).</p>
POSITIONS	<p>10, 1 of which without scholarship, and 2 reserved as follows:</p> <ul style="list-style-type: none"> • 1 for a foreign candidate with a 2nd level degree awarded abroad • 1 for a scholarship holder under Grant Agreement no. 101168796 - FITNESS project - HORIZON-MSCA-2023-Doctoral Networks (DN) - 01 - CUP F23C24000620006 - Positions DC7 (Contact person and co-PI: Gianni Celli)
SCHOLARSHIPS	<p>8:</p> <ul style="list-style-type: none"> - 1 funded by the University of Cagliari (funds from Regional Law no. 7 of 7.8.2007, allocated to the University pursuant to Regional Council Resolution no. 45/84 of 27.11.2024) – CUP F23C24001130002 - 1 funded with funds from the Department of Electric and Electronic Engineering (SINTEF - progetto SecurEL) - 6 funded with funds from PR FSE+ 2021-2027 (PNR 2021-2027 research and innovation area: Industry, Aerospace, Energy, Environment - Specialisation Area S3: Aerospace; Biomedicine; Smart networks for efficient energy management; ICT; Agroindustry; Tourism and Cultural Heritage): <ul style="list-style-type: none"> • 3 on Line A, reserved for university female and male graduates under 35 years at the time of application • 3 on Line B, reserved exclusively for university female graduates under 35 years at the time of application
CONTACT PERSON	<p>PROF. SARA SULIS</p> <p>EMAIL: sara.sulis@unica.it - TEL. +39 0706755875</p>
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