





INDUSTRIAL ENGINEERING	
CYCLE	XLI
COORDINATOR	Prof. Alessandro TASORA email: alessandro.tasora@unipr.it Department of Engineering for Industrial systems and Technologies
DURATION	3 years
STARTING DATE OF THE PHD PROGRAM	November 1st 2025
POSITIONS PUT OUT TO COMPETITION	8 (Modified with Rector Decree no. 1257 of July 21, 2025)
ADMISSION PROCEDURES	Assessment of QUALIFICATIONS and Research Project Oral Exam in PRESENCE or REMOTELY
ADMISSION REQUIREMENTS	Regardless of age and citizenship, applicants holding at least one of the following academic qualifications can apply for admission: <ul style="list-style-type: none">– Laurea specialistica or Laurea magistrale (second cycle master's degree)– Laurea Vecchio Ordinamento (degree obtained under the previous Italian regulations);– Second cycle Master's degree obtained abroad, equivalent to the above mentioned Italian degrees and recognized as suitable for the admission to doctoral program Undergraduates can also apply for admission to the selection, with the obligation to obtain the degree by 31.10.2025
TRAINING OBJECTIVES	
<p>The PhD Program in Industrial Engineering aims to provide participants with an in-depth understanding of the covered topics, with the goal of achieving a cultural and professional preparation suitable both for integration into industrial production units and into public or private research and development organizations. The PhD program focuses on advanced numerical, analytical, and experimental techniques, enabling the PhD graduate to address technical and scientific challenges in Industrial Engineering. It also fosters managerial and organizational skills that ensure professional autonomy and the ability to quickly integrate into collaborative environments alongside other researchers and professionals within institutions or companies. The internationalization phase included in the three-year curriculum allows for the establishment of relationships with foreign institutions, offering PhD graduates the opportunity to engage in a scientific context that goes beyond national borders.</p>	
RESEARCH AREAS	
<ul style="list-style-type: none">• Theoretical, applied and material mechanics; material technology; continuum and structural mechanics; machine design; measurements and diagnostics;• Economic, organizational, managerial, logistical, plant-related and legal aspects in engineering;• Energy systems, thermodynamics and fluid dynamics, machinery, technical physics;• Industry 4.0 and future developments.	

Position with Scholarship		
N°	Funding entity	Research Topic, if any
1	Scholarship co-funded by Fondazione Cariparma	



Position with Scholarship LINKED TO SPECIFIC TOPICS (art. 6 of the Competition notice)

***Modified with Rector Decree no. 1257 of July 21, 2025**

N°	Funding entity	BOUND RESEARCH TOPIC
1	Scholarship partly financed with UNIVERSITY funds and co-financed by the Company Kosme S.r.l.	Characterization of chemical-mechanical properties of plastic materials for stretch-blow moulding process used in the beverage sector
1	Scholarship partly financed with MINISTERIAL funds and UNIVERSITY funds and co-financed the Company System Logistics S.p.A.	Characterization of the mechanical behavior (static/dynamic) of materials at very low temperatures and evaluation of different types of structural joints, in particular welds, at such temperatures.
1	Scholarship partly financed with MINISTERIAL funds and UNIVERSITY funds and co-financed by the Company Casappa S.p.A.	Development of hydraulic pumps for electro-actuated solutions operating over very wide rotation speed ranges.
1	Scholarship partly financed with MINISTERIAL funds and co-financed by the Department of Engineering for Industrial systems and Technologies	Development of advanced tools for modeling, design and optimization of industrial systems, such as numerical simulation (FEM and CFD), modular and scalable design, intelligent automation and development of digital twins (Digital Twin)
1	Scholarship funded by EMILIA ROMAGNA REGION (PR.FSE + 2021/2027 – DGR n. 344 del 10/03/2025) CUP D92J25000110002 	Enhancing digitalization and sustainability in manufacturing through machine learning and data-driven optimisation
1	Scholarship funded by EMILIA ROMAGNA REGION (PR.FSE + 2021/2027 – DGR n. 344 del 10/03/2025) CUP D92J25000110002 	Design, production and characterization of polymer matrix materials for sustainable packaging
1	Scholarship financed by the Department of Engineering for Industrial systems and Technologies	Advanced Optimization of Logistic and Production Systems through Sim-Heuristic Techniques and Artificial Intelligence

ADMISSION PROCEDURES

Assessment of QUALIFICATIONS: up to 70 points

(a minimum score of 40 points shall be required to be admitted to the Oral Exam)

ORAL EXAM: up to 50 points

Minimum score for ELIGIBILITY: 70/120

ORAL EXAM PROGRAM

Applicants admitted to the ORAL EXAM can take it either in PRESENCE or REMOTELY in Audio and Video Teleconference

(Applicants who intend to take the Oral Exam remotely must submit a formal request, using the form attached to the competition notice)

The ORAL test involves the presentation and discussion of the research project by the candidate and is aimed at verifying the candidate's aptitude for scientific research and his general preparation on topics related to the research topics of the doctoral course



Foreign Language the fluency of which shall be assessed during the Oral Exam		ENGLISH	The evaluation of the knowledge of this language will be oral and will consist in reading and translating of a scientific text
SCHEDULE OF THE ADMISSION EXAMS			
ASSESSMENT OF QUALIFICATIONS		It is the candidate's responsibility to verify the outcome of the evaluation of qualifications, which can be consulted in their reserved area by connecting to the page http://unipr.esse3.cineca.it/Home.do in the days preceding the date of the Oral Exam	
ORAL EXAM	DATE	8 th September 2025 (with possible extension in the following days)	
	TIME	09:00 am (Italian Time)	
	PLACE	Master Room – Building 3 Department of Engineering for Industrial Systems and Technologies Parco Area delle Scienze, 181/A - Campus 43124 PARMA - ITALY	
FURTHER INFORMATION		The choice of the Research Topic to be expressed in Annex A is not binding on the assignment of the research project, and it is intended to assess candidates skills during the admission exam. The PhD research topic will be assigned by the Academic Board.	
		THE INTERVIEW MAY BE HELD ALSO IN ENGLISH	For foreign candidates, the admission examinations may be held in English at the candidate's choice.

LIST OF QUALIFICATIONS TO BE SUBMITTED AND THEIR ASSESSMENT	
MANDATORY DOCUMENTS TO BE ATTACHED TO THE ON-LINE APPLICATION	
ANNEX A	(art. 3.2 of the Competition notice)
Identification Document	Scanned Copy of a valid identity document with photo (i.e. identity card, passport)
Curriculum Vitae et studiorum	No specific CV format is required (see art. 3.2 of the Competition notice)
Abstract of degree thesis	Abstract of the second cycle master's degree thesis. Undergraduate applicants must submit the draft of the thesis approved by their supervisor (abstract/draft of the thesis: 10.000 characters including spaces)
Academic Qualifications	Certificates and academic transcripts of records for both Bachelor and Master degrees containing the following details for each degree held: (art. 3.2 of the Competition notice): University that granted the degree - Type of degree (first cycle/second cycle/single cycle) Name of the degree program - Date of graduation - Final mark - List of exams and corresponding scores (academic transcript of records) - Translation into Italian or English (only for degrees issued in languages other than Italian or English).
Research Project	Written in Italian or in English, according to the format attached to the competition notice. It will have to focus on an original research topic (unpublished, developed personally by the candidate, PENALTY NOT EVALUATION. It should be noted that the Examination Board can make use of IT tools useful for verifying the originality of the submitted Project) <u>It does not represent a constraint with respect to the following choice of the doctoral thesis, which will be assigned by the Academic Board</u>



LIST OF EVALUABLE QUALIFICATIONS (only qualifications attested by a document drawn up in Italian or in English)		
Curriculum Vitae et studiorum	Including academic career and postgraduate experience, accompanied by a statutory declaration in lieu of the certification of the exams passed with the relevant marks, as well as the final graduation mark. The marks of the exams and the graduation mark will be the most relevant element of the evaluation.	Up to 25 points
Graduation thesis	Consistency of the Master's Degree thesis with the doctoral program research topics	Up to 10 points
Research Project	Points relating to the research project shall be allocated on the basis of the following criteria: <ul style="list-style-type: none"> ○ Scientific value and or originality of the proposal ○ description and structure of the proposal ○ proposal feasibility 	Up to 15 points
Statement of Research Interest	Short text – maximum 2 pages – in Italian or in English, aimed at explaining the candidate's reasons to attend the PhD program and at describing her/his specific research interests	Up to 5 points
Scientific Publications	Articles on national and international journals, papers presented at conferences or symposia, book chapters etc.	Up to 5 points
Reference Letters	A maximum of 2 written by professors or researchers at the University of origin of the candidate or from other universities or from experts in the research areas working in public or private research facilities. They must be uploaded directly by the signatory to the REFERENCE LETTER folder. The file must be named "Candidate's Surname and Name – Reference Letters - PhD in Industrial Engineering". The candidate, therefore, must not upload them through the procedure of online registration for the competition.	Up to 5 points
Other Academic qualifications	First or second level Master's degree obtained in Italy and/or specialization degree in subjects consistent with the research topics of this PhD program	Up to 2 points
Other experiences (training, work, research, teaching, etc.)	<ul style="list-style-type: none"> – Research activity (basic, applied, translational, etc.) carried out in any capacity, including when covered by research grant, and as a staff member of research units – Working activity – Professional and/or training internship – Language proficiency certificates – Periods of study abroad, outside the country of origin (e.g. Erasmus program or other similar mobility programs) – Other qualifications attesting the suitability of the applicants (scholarships, awards, etc.) 	Up to 3 points
EVALUATION ORAL EXAM		
Interview Program	Evaluation CRITERIA	POINTS
The ORAL EXAM includes the presentation of the research project and is intend to assess the suitability of the applicant to pursue scientific research as well as the general knowledge of issues connected to the PhD course	<ul style="list-style-type: none"> ○ research project presentation ○ general knowledge of issues related to the PhD course ○ knowledge of foreign languages 	Up to 50 points