



INDUSTRIAL ENGINEERING	
CYCLE	XXXVII
COORDINATOR	Prof. Gianni ROYER CARFAGNI email: gianni.royer@unipr.it Department of Engineering and Architecture
DURATION	3 anni
STARTING DATE OF THE PHD PROGRAM	01/11/2021
PARTNER INSTITUTION FOR UNIVERSITY COOPERATION AGREEMENTS	<ul style="list-style-type: none"> • Universidade Federal de Santa Caterina (Brazil)
RESEARCH TOPICS (The candidate MUST mandatorily indicate one research topic in the ANNEX A)	
<ul style="list-style-type: none"> • Theoretical and applied mechanics, mechanics of materials and structures, material technology, machine design, measurements and diagnostics. • Economic, organizational, managerial, logistics, plants and legal aspects in the field of engineering. • Energy systems, thermo-fluid dynamics, fluid machinery, applied physics. 	
TRAINING OBJECTIVES	
<p>The Industrial Engineering PhD program aims to give participants a deep knowledge in the main topics relevant to industrial engineering. The PhD course presents numerical, analytical and experimental techniques, in order to face any technical or scientific problem of the industrial engineering, with managerial skills, to provide autonomy in work and readiness of inclusion in a collaborative environment with other researchers and technicians. The internationalization phase envisaged in the three-year curriculum allows to forge links with other foreign reality by providing the PhD an additional tool to get into a scientific context not just limited to national borders.</p>	
ADMISSION REQUIREMENTS	<p>Regardless of age and citizenship, applicants holding at least one of the following academic qualifications can apply for admission:</p> <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 <p>Undergraduate applicants may also submit applications with the obligation of getting their degree by October 31st 2021.</p>

POSITION PUT OUT TO COMPETITION	9	With Scholarship	8
		Reserved to holders of scholarship within specific international mobility programs	1
Position with Scholarship			
N°	Funding entity	Research Topic, if any	
2	Scholarship funded by University of Parma (Ministerial funds)	–	
1	Scholarship co-funded by Fondazione Cariparma	–	
Position with Scholarship LINKED TO SPECIFIC TOPICS (art. 11 of the Competition notice)			



During the Oral Exam, applicants may express and / or confirm their interest to the Examination Board in being assigned a scholarship dedicated to a specific research topic.. The Board will express its judgement on eligibility to be assigned the scholarship in consideration of the specific competences, experience and specific aptitudes of the applicants.

N°	Funding entity	BOUND RESEARCH TOPIC
1	Scholarship funded by University of Parma (Ministerial funds)	– Advanced techniques in Control and diagnostics
1	Scholarship funded by University of Parma (University funds)	– New approaches for the design and management of logistics and production systems
1	Scholarship partly financed with UNIVERSITY funds and co-financed by Maffei Engineering S.p.A.	– Advanced modelling of lightweight special structures
1	Scholarship partly financed by Department of Engineering and Architecture co-financed by Casappa S.p.A.	– Development of experimental methodologies and mathematical models to increase the efficiency of positive displacement hydraulic machines
	Scholarship partly financed by Department of Engineering and Architecture co-financed by FMB S.r.l.	– Virtualization approaches for industrial plants control and design
Reserved to HOLDERS OF SCHOLARSHIP WITHIN SPECIFIC INTERNAZIONALE MOBILITY PROGRAMS		
N°	Agreements/Cooperations/Mobility Programs	
1	Reserved to holders under the mobility program PROJECT UE H2020 – MSCA ITN "Innovation Training Networks" INT-ETN HiStabJuice project 956257 "Establishing a strong and lasting international training network for innovation in food and juice industries: a 4D-research approach for fruit juice processing"	

ADMISSION PROCEDURES	<p>Assessment of QUALIFICATIONS: up to 70 points (a minimum score of 40 points shall be required to be admitted to the Oral Exam)</p> <p>ORAL EXAM: up to 50 points</p> <p>Minimum score for ELIGIBILITY: 70/120</p>
ADMISSION PROCEDURES for positions reserved to holders of scholarship holders within specific international mobility programs	<p style="text-align: center;">Assessment of QUALIFICATIONS: up to 120 points</p> <p style="text-align: center;">Minimum score for ELIGIBILITY: 70/120</p>
Foreign Language	<p>Language the fluency of which shall be assessed during the Oral Exam: ENGLISH.</p> <p>The evaluation of the knowledge of this language will be oral and will consist in reading and translating of a scientific text.</p>
<p>CANDIDATES ADMITTED TO THE ORAL TEXT CAN TAKE THE EXAM IN PRESENCE OR REMOTELY IN AUDIO AND VIDEO TELECONFERENCE</p> <p>(Candidates who intend to take the Oral Exam remotely must submit request, to this purpose, as per the model attached to the competition notice)</p>	
<p>THE INTERVIEW MAY BE HELD ALSO IN ENGLISH</p>	
<p>LIST OF QUALIFICATIONS TO BE SUBMITTED AND THEIR ASSESSMENT</p>	
<p>MANDATORY DOCUMENTS TO BE ATTACHED TO THE ON-LINE APPLICATION</p>	
ANNEX A	(art. 5 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. 4 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)
Qualifications	Certificates and academic transcript of records for both Bachelor' and Master' degrees containing the following details for each degree held: (art. 4 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	The research project shall consist of a maximum of 3 pages, be written in Italian or in English, focused on an original research topic (unpublished, developed personally by the candidate. It should be noted that the Examination Board can use of IT tools useful for verifying the originality of the submitted Project) and it shall be structured as follows: introduction of the problem in the scientific context, significance of the problem, expected results, argumentation. To identify the topic of the aforementioned project, the candidate may contact one of the Members of the Academic Board (available at: https://dia.unipr.it/it/node/2834). The project <u>does not represent a constraint with respect to the following choice of the doctoral thesis</u> , that shall be defined together with the supervisor and approved by the Academic Board.
FURTHER QUALIFICATIONS THAT MAY BE ATTACHED TO THE APPLICATION, IF IN POSSESSION OF THE APPLICANT (only qualifications attested by a document drawn up in Italian or in English)	
Statement of Research interest	Short text – maximum 1 page – 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
Scientific Publications	Articles on national and international journals, contributions presented at conferences or symposia, book chapters. It is necessary to attach a copy to online application
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 (to be attached to the online application)
Other Academic qualifications and other experiences (training, work, research, teaching, etc.)	<ul style="list-style-type: none"> – 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 – Periods of study abroad, outside th country of origin (e.g. Erasmus programme or other similar mobility programmes) – Scholarships, awards, etc.) – 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 cartificates – Other qualifications attesting the suitability of the applicants



EVALUATION CRITERIA		
QUALIFICATION	EVALUTATION CRITERIA	POINTS
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.	Up to 15 points
Graduation mark	Score related to the final mark: - 110 with honours (magna cum laude): 10 points; - 110: 8 points; - From 105 to 109: up to 6 points; - From 100 to 104: up to 3 points; - From 66 to 99: 0 points The scores will be proportionally renormalized in case of equivalent evaluations	Up to 10 points
Average of the exam marks (if the candidate will attain the degree no later than 31 October 2021)	Score related to the average of the exam marks: - 30/30: 10 points; - From 28/30 to 29/30: up to 5 points; - From 26/30 to 27/30: up to 3 points; - From 18/30 to 25/30: 0 points; The scores will be proportionally renormalized in case of equivalent evaluations	Up to 10 points
Graduation thesis	Consistency of the Master's Degree thesis with the doctoral program research topics	Up to 10 points
Research Project	Consistency of the Research Project with the doctoral program research topics	Up to 15 points
Statement of Research Interest	Evaluation of the candidate's motivations to attend the doctoral course and congruity of the research interests with the research topics of the doctoral course.	Up to 5 points
Scientific publications	Articles on national and international journals, contributions presented at conferences or symposia, book chapters. It is necessary to attach a copy to online application	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	Up to 5 points
Other Academic qualifications and other experiences	<ul style="list-style-type: none"> - 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 - Periods of study abroad, outside th country of origin (e.g. Erasmus programme or other similar mobility programmes) - Scholarships, awards, etc.) - 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 - Other qualifications attesting the suitability of the applicants 	Up to 5 points
ORAL EXAM	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	<ul style="list-style-type: none"> o research project presentation o general knowledge of issues connected to the PhD course o knowledge of foreign languages 	Up to 50 points



well as the general knowledge of issues connected to the PhD course		
LIST OF QUALIFICATIONS TO BE SUBMITTED AND THEIR ASSESSMENT Positions reserved to holders of scholarship within specific international mobility programs		
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.	Up to 40 points
Graduation thesis	Consistency of the Master's Degree thesis with the doctoral program research topics	Up to 20 points
Research Project	Consistency of the Research Project with the doctoral program research topics	Up to 40 points
Statement of Research Interest	Evaluation of the candidate's motivations to attend the doctoral course and congruity of the research interests with the research topics of the doctoral course.	Up to 5 points
Scientific publications	Articles on national and international journals, contributions presented at conferences or symposia, book chapters. It is necessary to attach a copy to online application	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	Up to 5 points
Other Academic qualifications and other experiences	<ul style="list-style-type: none"> – 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 – Periods of study abroad, outside the country of origin (e.g. Erasmus programme or other similar mobility programmes) – Scholarships, awards, etc.) – 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 – Other qualifications attesting the suitability of the applicants 	Up to 5 points
SCHEDULE OF THE ADMISSION EXAMS		
ORAL EXAM	DATE	14 September 2021 (with possible extension in the following days)
	TIME	08:30 am (Italian time)
	PLACE	Meeting Room – Building 10 Department of Engineering and Architecture Parco Area delle Scienze, 181/A - Campus 43124 PARMA - ITALY
OTHER INFORMATION	For foreign candidates, the admission examinations may be held in English at the candidate's choice.	