

PHD PROGRAMME TABLE
Call for Applications for further PhD positions
funded by Next Generation EU – NRRP ex M.D. 629/2024 and 630/2024
and from other sources - PhD programmes (40th cycle)
A.Y. 2024/2025

PROGRAMME'S NAME	CIVIL, CHEMICAL, ENVIRONMENTAL AND MATERIALS ENGINEERING
DURATION	3 years
PROGRAMME START DATE	01/11/2024 (DD/MM/YYYY)
LANGUAGES	Italian, English
COORDINATOR	Prof. Alessandro Tugnoli (a.tugnoli@unibo.it)
CURRICULA	1. Engineering of Infrastructure, Resources and Territory 2. Structural and Geotechnical Engineering 3. Chemical and Process Engineering 4. Materials Engineering and Industrial Biotechnology
PHD POSITIONS	6
ADMISSION PROCEDURE	Qualifications and research proposal evaluation Oral examination

Available Positions and Scholarships

Pos. n.	Financial Support	Description	Curriculum	Positions linked to a specific research topic
1	PhD Scholarship PNRR ex M.D. 630/2024	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (M.D. 630/2024) and by Herambiente S.p.A.	3	Development of processes for decarbonization in solid waste treatment
2	PhD Scholarship PNRR ex M.D. 630/2024	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (M.D. 630/2024) and by Centro Ceramico	4	Formulation and characterization of innovative building materials as carbon sink
3	PhD Scholarship PNRR ex M.D. 630/2024	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (M.D. 630/2024) and by Caracol S.r.L.	2	Selection, analysis, testing, characterization and development of process parameters for compatible and functional materials to be used in 3D welding/printing processes based on WAAM technology (CMT and PWA principles), aimed at enabling the production of new large-format industrial components for highly regulated industries (e.g. energy and aerospace sectors)

4	PhD Scholarship PNRR ex M.D. 630/2024	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (M.D. 630/2024) and by Ferrovie Stato S.p.A.	1	Hybrid models and digital twin for transportation systems
5	PhD Scholarship PNRR ex M.D. 630/2024	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (M.D. 630/2024) and by Plax S.p.a.	4	Research on circular economy with focus on products for the bio-medical sector
6	PhD Scholarship PNRR ex M.D. 630/2024	Funded by the EU - NextGenerationEU with funds made available by the National Recovery and Resilience Plan (NRRP) Mission 4, Component 2, Investment 3.3 (M.D. 630/2024) and by Tecnocupole Pancaldi S.p.A.	4	Ecodesign of domes and smoke and heat exhaust ventilation systems, with peculiar attention to the environmental aspects, recyclability, extension of the service life of the product and its ability to capture CO2

All PhD positions winners shall fulfill the learning and research obligations decided by the Academic Board and the obligations foreseen in the relevant regulations, funding schemes and eventual agreements, in the Call for Applications, and in the MM.DD. 629/2024 and 630/2024.

Admission Exams

	DATE AND TIME	RESULTS
Qualifications evaluation	Applicants' participation is not required	Available from 28/08/2024
Oral examination	Date: starting from 03/09/2024 – 9.30 a.m. CEST Place: Remotely, using Microsoft Teams.	Available from 04/09/2024

The results of the qualifications and research proposal evaluation shall be available on the webpage [Studenti Online](#) (select "summary of the requests in progress" > "see detail" and open the .pdf file at the bottom of the page) together with the oral examination detailed schedule. **No personal written communication will be sent to applicants concerning the examinations results.**

During the oral examination, applicants may express their interest in one or more positions linked to specific research topics.

Required and Supporting Documents to be attached to the application

All the documents listed below **shall be drawn up in English or in Italian**. In case of documents originally issued in any other language (e.g. identity document, qualifications), an official translation is required. Only qualifications obtained **during the last 5 calendar years** shall be taken into consideration, except for the University Degree. The Admission Board will assess the relevance of the supporting documents to the PhD Programme.

REQUIRED DOCUMENTS	
Identity document	Valid identity document with photo (i.e. identity card, passport)
Curriculum Vitae	No specific CV format is required. Applicants are required to attach the CV Summary, as first page of the CV (see form at the bottom of the present document).
Degrees	Documents attesting the awarding of the first and second cycle degrees, the exams taken and the marks obtained (see Art. 3 of the Call for Applications)
Research proposal	Multi-annual research proposal, with special emphasis on the activities to be completed during the first year of the programme . The proposal must meet the following requirements: - it must mention on the cover page the Curriculum (1,2,3 or 4) the applicant is interested to and the proposal is about;

	<ul style="list-style-type: none"> - it cannot exceed 20,000 characters, including spaces and formula possibly used. This character count does not include: the title of proposal, the outline, references and images (such as graphs, diagrams, tables, etc. - if present); - it must include: the state of the art; description of the proposal; expected results; outline of the proposed findings assessment criteria; references. <p>The research proposal that successful applicants shall carry out during their PhD career may possibly differ from the one proposed at the application stage. This shall be defined together with the supervisor and approved by the Academic Board.</p>
SUPPORTING DOCUMENTS	
Thesis abstract	Abstract of the second cycle degree thesis . Graduands applicants may submit the draft of the thesis. Abstracts cannot exceed 5,000 characters, including spaces and formula possibly used. The above figure does not include: the title of the thesis, the outline, references, and images such as graphs, diagrams, tables etc.
Personal Statement	The statement shall include the reasons prompting the applicant to attend the PhD Programme and those relevant experiences and research interests , that make the applicant suitable for the specific PhD Programme (3,000 characters maximum, including spaces).
Publications	Lists of publications (i.e. monographs, articles on scientific journals), minor publications (conference papers, etc.), abstracts and posters presented during national and international conferences, etc.
Other documents	<ul style="list-style-type: none"> - Postgraduate vocational training programmes relevant to the PhD Programme main research topics - Teaching activities carried out at academic level - Research activity of any kind - whether basic, applied, translational, etc. - carried out in any capacity, including when covered by research grants, and as a staff member of research projects - Work activity - Curricular or non-curricular professional internships - Documents attesting the applicant's foreign languages proficiency - Study periods completed by applicants outside their countries of origin (e.g. Erasmus programme or other similar mobility programmes) - Other qualifications attesting the suitability of the applicants (scholarships, prizes, etc.)

Evaluation criteria*

Scores will be expressed in points out of 100, as follows.

1. Qualifications and research proposal evaluation

Minimum score for admission to the oral examination: 30 points, Maximum score: 50 points

Qualifications evaluation	University degree final mark and Weighted Average Mark (WAM). Graduands shall be evaluated according to the Weighted Average Mark (WAM)	20 points max
	Publications	3 points max
	Other evaluable documents	2 points max
Research proposal evaluation	Scientific value and ground-breaking nature of the proposal, and relevance for the specific research topics of the present call	12 points max
	Structure of the proposal	8 points max
	Proposal feasibility in the context of the PhD programme	5 points max

2. Oral examination

Minimum score for eligibility: 30 points, Maximum score 50 points

English language proficiency	5 points max
Research proposal presentation	25 points max
General knowledge of the PhD programme's main research topics and of the research topics linked to the available PhD positions	20 points max

Oral examination aims to assess the suitability of the applicant for scientific research as well as the general knowledge of the PhD programme's main research topics and of the research topics linked to the available PhD positions.

During the oral examination, the applicant's English language proficiency shall be assessed.

The oral examination is carried out in Italian or in English.

* Possible further evaluation criteria will be available on the [University website](#), selecting the relevant PhD Programme > "More information".

CV SUMMARY OF THE CANDIDATE (to be attached to the CV)

Surname _____

First name _____

Place and date of birth _____

Curriculum of interest for the Doctorate in Civil, Chemical, Environmental and Materials Engineering (select one):

- 1. Engineering of infrastructure, resources and territory**
- 2. Structural and geotechnical engineering**
- 3. Chemical and process engineering**
- 4. Materials engineering and industrial biotechnology**

TRAINING

Bachelor's degree (if more than one, repeat this section as needed)

Degree in: _____

Year of graduation: _____

University: _____

Country: _____

Formal duration of the course: _____ (years or fractions)

Weighted average of the marks obtained in the exams (GPA): _____

Minimum mark for sufficiency _____

Maximum possible mark _____

Average mark achieved by students¹: _____; reference set considered (e.g. degree course / subject area / university): _____

If the course provides for an overall final grade / verbal judgment (exams + final test) other than the GPA of the exams and the final test only:

Evaluation / mark achieved: _____

Grading scale adopted / minimum and maximum achievable mark: _____

Master's degree or single-cycle master's degree (if more than one, repeat this section as needed) Master in:

Year of graduation: _____

University: _____

Country: _____

Formal duration of the course: _____ (years or fractions)

Weighted average of the marks obtained in the exams (GPA): _____

Minimum mark for sufficiency _____

Maximum possible rating _____

Average mark achieved by students¹: _____; reference set (e.g. degree course / subject area / university): _____

If the course provides for an overall final grade / verbal judgment (exams + final test) other than the GPA of the exams and the final test only:

Evaluation / mark achieved: _____

Grading scale adopted / minimum and maximum achievable mark: _____

NOTES

¹ If the information is available. The average mark or the mark of 50% percentile (median) can be reported [specify which one].