

CIVIL, CHEMICAL, ENVIRONMENTAL AND MATERIALS ENGINEERING

Section "Positions and scholarships" integrated on 20/05/2020

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Starting date of the PhD Programme	01/11/2020
Duration	3 calendar years
Language of the PhD Programme	Italian and English
Mandatory stay abroad	Yes (6 months)
Curricula	Research topics
1. Engineering of infrastructure, resources and territory	- Hydraulics and Hydraulic works - Sanitary engineering - Roads and Transport systems - Topography and cartography - Geoengineering and georesources - Applied geology
2. Structural and Geotechnical Engineering	- Continuum mechanics - Structures - Geotechnics
3. Chemical and process engineering	- Principles of chemical engineering - Chemical plants - Fundamental of Chemical Process Development - Industrial and technological chemistry
4. Materials engineering and industrial biotechnology	- Fundamental Chemistry of Technologies - Materials Science and Technology - Industrial, food and environmental biotechnologies

PhD positions and scholarships

Position n.	Financial support	Description	Curriculum	Positions linked to research subjects
1	PhD Scholarship	Totally funded by the University of Bologna general budget	1	
2	PhD Scholarship	Totally funded by the University of Bologna general budget	1	
3	PhD Scholarship	Totally funded by the University of Bologna general budget	1	
4	PhD Scholarship	Totally funded by the University of Bologna general budget	2	
5	PhD Scholarship	Totally funded by the University of Bologna general budget	2	
6	PhD Scholarship	Totally funded by the University of Bologna general budget	3	
7	PhD Scholarship	Totally funded by the University of Bologna general budget under the "Departments of Excellence" initiative	4	
8	PhD Scholarship	Totally funded by the University of Bologna general budget under the "Departments of Excellence" initiative	4	

9	PhD Scholarship	Funded by the University of Bologna general budget and co-funded by Department of Civil, Chemical, Environmental, and Materials Engineering	3	
10	PhD Scholarship	Funded by the Department of Civil, Chemical, Environmental, and Materials Engineering	1	Engineering of infrastructures, resources and territory
11	PhD Scholarship	Funded by MIUR under the "Departments of Excellence" initiative	4	Materials engineering and industrial biotechnology
12	PhD Scholarship	Funded by MIUR under the "Departments of Excellence" initiative	4	Synthesis and characterization of recycled and/or biobased materials for industrial applications
13	PhD Scholarship	Funded by MIUR under the "Departments of Excellence" initiative	1	Engineering of infrastructures, resources and territory
14	PhD Scholarship	Funded by I.M.A. - Industria Macchine Automatiche S.p.A.	4	Microplastics in food, the role of the packaging process
15	Research Grant	Provided by the Department of Civil, Chemical, Environmental, and Materials Engineering with funds made available by the EU projecta H2020 "Usable Packaging". The research grant will have a duration of 12 months, renewable for up to 36 months, and a gross percipient amount of 24.426 €.	4	Sustainable chemistry and biopolymers: formulations for new uses and strategies of recycling
16	PhD Scholarship	Funded by the Department of Civil, Chemical, Environmental, and Materials Engineering, in co-tutelle with the Norwegian University of Science and Technology (NTNU).	3	Data analytics for process safety

Each position is reserved for one of the Curricula of the PhD programme.

The above positions shall be awarded on the basis of the Curriculum for which the candidate has expressed preference in the statements made at the time of filling in the application and / or during the oral examination. Only the candidate that has been assessed eligible by the Commission, can be awarded the position. In the event that a candidate has not indicated the Curriculum, the Commission will proceed to assign her/him a Curriculum on the basis of the research project submitted.

Positions linked to specific research subjects: during the oral test, applicants may express their interest in one or more positions linked to specific research subjects. Considering the expressions of interest above, the Admission Board shall express its view on the suitability of the interested applicants, taking into account their specific skills, experience and aptitude.

Admission requirements

Please, see art. 2 of the Call for applications

Mandatory documents to be attached to the application

Please, see art. 3 of the Call for applications

Further qualifications that may be attached to the application, if in possession of the applicant (only qualifications attested by documents drawn up in Italian, English, French, German and Spanish shall be considered as valid and assessed by the Admission Board)

- Abstract of the second cycle master's degree thesis. Undergraduate applicants may submit the draft of the thesis approved by their supervisor (please, note that abstracts cannot exceed 5.000 characters, including spaces and formula possibly used. The above figure does not include: the title of thesis, the outline, and images such as graphs, diagrams, tables etc. - where present).
- Multi-annual research project, with special emphasis on the activities to be completed during the first-year course. The proposal must meet the following requirements:
 - o **It must indicate in the cover page the selected Curricula (1, 2, 3 or 4)** of the PhD Programme, for which the applicant is applying
 - o It cannot exceed 20.000 characters, including spaces and formula possibly used. This figure does not include: the title of project, the outline, references and images (such as graphs, diagrams, tables etc - where present)
 - o It must include: the state of the art; description of the project; expected results; lead-time for implementation; (proposed) criteria to be used to assess the findings obtained; references.

The research projects that successful applicants shall carry out during their doctoral career may possibly differ from the project proposed at the application stage. This shall be defined together with the supervisor and approved by the Academic Board.

- Motivational letter. This must 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 (3000 characters maximum, including spaces).
- Degree information summary (using the form attached to this Phd programme table).
- List of the publications (monographs, articles published on scientific journals, volume's chapters).
- List of the minor publications (conference papers, etc.).
- List of the abstracts and posters presented during national and international conferences, etc.
- Professional Master courses completed in Italy (1st or 2nd level) relevant to the PhD Programme.
- Postgraduate vocational training programmes/specialisation programmes relevant to the PhD Programme.
- Teaching activity carried out at university 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.
- Vocational internships.
- Curricular and non-curricular training and guidance internships.
- Documents attesting the knowledge of foreign languages.
- Study periods completed by students 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).

Admission exams (art. 4 of the call for applications)

Examination type	Schedule (please, note that applicants shall not receive any communication concerning the exams schedule)	Examination results publication (please, note that applicants shall not receive any communication concerning the publication of results)
Qualifications and research project evaluation	Non-presential.	The results of the qualifications and research project evaluation shall be available online starting from the 05/06/2020 at the page http://studenti.unibo.it (please, select "summary of the requests in progress" - "see detail" and open the pdf file "risultati valutazione titoli e progetto")
Oral examination	Date	The results of the oral examination shall be available on the webpage http://studenti.unibo.it starting from 30/06/2020 (please, select "summary of the requests in progress" - "see detail" and open the pdf file "risultati prova orale")
	Time	
<p>17/06/2020 In case that the oral examination cannot be completed in one day due to the large number of applicants, the oral exam schedule shall be made available at the webpage http://studenti.unibo.it together with the results of the qualifications and research project evaluation</p> <p>9:00 a.m. (local time)</p> <p>Applicants shall take the exam remotely. For further details please refer to the relevant provision laid down in art. 4 of the Call for applications.</p>		

Evaluation criteria

Points will be allocated to applications out of a total of 100 on the basis of the following weighting:

1. Qualifications and research project

- Minimum for admission to the oral exam: 30 points
- Maximum: 50 points

Only qualifications relating to the last 5 calendar years prior to the calendar year of publication of the Call for applications shall be taken into consideration, with the exception of the University Degree (Diploma di laurea). Please, note that qualifications must be consistent with the PhD Programme.

Points relating to qualifications shall be allocated on the basis of the following criteria:

- Graduation final mark. Undergraduates shall be evaluated on the basis of the Weighted Average Mark (WAM): max 20 points
- Publications: max 3 points
- Other qualifications: max 2 points

Points relating to the research project shall be allocated on the basis of the following criteria:

- Scientific value and ground-breaking nature of the proposal: max 12 points
- description and structure of the proposal: max 8 points
- proposal feasibility: max 5 points

2. Oral examination

- Minimum for inclusion in the final ranking list :30 points
- Maximum: 50 points

Oral examination includes the presentation of the research project and is intended to assess the suitability of the applicant in respect of the pursuing of scientific research as well as the general knowledge of issues connected to the PhD Programme. During the oral examination, knowledge of English language shall be assessed. The oral examination is carried out in Italian or in English.

Points relating to the oral examination shall be allocated on the basis of the following criteria:

- knowledge of the English languages: max 5 points
- research project presentation: max 25 points
- general knowledge of issues connected to the PhD Programme: max 20 points

Possible evaluation sub-criteria will be available on the [Unibo website](#), selecting the relevant PhD Programme → “PhD programme information” at the bottom of the page in the section “Notices”.

Final ranking list and enrolment (arts.6 and 7 of the Call for applications)

After the publication of the results of the oral exam, the final ranking list will be available on the [Unibo website](#), selecting the relevant PhD Programme → “PhD programme information” at the bottom of the page in the section “Notices”.

Following the publication of the final ranking list, successful applicants must enroll on <http://studenti.unibo.it> by the deadline indicated on the [Unibo website](#), selecting the relevant PhD Programme → “PhD programme information”.

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

Name _____

Surname _____

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**

BACHELOR'S DEGREE (if you hold more than one, repeat this section as needed)

Degree in: _____

Year of completion of the degree: _____

University: _____

Country: _____

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

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

Grading criteria for individual exams used by your University

Minimum passing grade _____

Maximum possible grade _____

Average grade achieved by students (if available ¹): _____;

Reference set used for the average grade above

(e.g. program / subject area / university): _____

Some university systems (e.g. in Italy) provide an overall final grade at the moment of graduation (calculated on the basis of both exams and thesis work). This is different from GPA and grade of your final thesis. If your university provided such overall final grade or an equivalent system of classes (e.g. first class honors) provide such information below:

Grade / class: _____

Grading/class scale adopted; minimum and maximum achievable grade/class (expand as needed):

MASTER'S DEGREE OR SINGLE-CYCLE MASTER'S DEGREE (if you hold more than one, repeat this section as needed)

Degree in: _____

Year of completion of the degree: _____

University: _____

Country: _____

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

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

Grading criteria for individual exams used by the University

Minimum passing grade _____

Maximum possible grade _____

Average grade achieved by students (if available ¹): _____;

Reference set used for the average grade above

(e.g. program / subject area / university): _____

Some university systems (e.g. in Italy) provide an overall final grade at the moment of graduation (calculated on the basis of both exams and thesis work). This is different from GPA and grade of your final thesis. If your university provided such overall final grade or an equivalent system of classes (e.g. first class honors) provide such information below:

Grade / verbal class: _____

Grading/classification scale adopted; minimum and maximum achievable grade/class (expand as needed):

¹ The information on average grade and reference set are not mandatory.

The average grade or the 50% percentile (median) grade can be reported [specify which one].