



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

AREA
FORMAZIONE E DOTTORATO

PHD PROGRAMME TABLE

Call for applications for the admission to the PhD programmes (42nd cycle) - A.Y. 2026/2027
Second round

Section "Available Positions and Scholarships" integrated on 27/05/2026

PROGRAMME'S NAME	MECHANICS AND ADVANCED ENGINEERING SCIENCES (DIMSAI)
DURATION	3 years
PROGRAMME START DATE	01/11/2026 (DD/MM/YYYY)
LANGUAGES	Italian, English
COORDINATOR	Prof. Lorenzo Donati (l.donati@unibo.it)
CURRICULA	1. Engineering and Industrial Design, Machine Construction, Metallurgy, and Manufacturing Technologies 2. Fluid Machinery, Energy Systems, Mechanics of Machines, and Industrial Mechanical Plants 3. Thermal Physics, HVAC Systems, Acoustics, Nuclear Technologies and Industrial Applications of Plasmas
PhD POSITIONS	12
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	Co-funded by the University of Bologna general budget and the Department of Industrial Engineering – DIN. PhD scholarship in memory of Prof. Francesco Masi, formerly Professor Emeritus of Applied Mechanics for Machinery at the University of Bologna	3	
2	PhD scholarship	Co-funded by the University of Bologna general budget and the Department of Industrial Engineering – DIN. PhD scholarship in memory of Prof. Francesco Masi, formerly Professor Emeritus of Applied Mechanics for Machinery at the University of Bologna	3	Thermo-acoustofluidic phenomena at the microscale: From fundamental physics to advanced applications

3	PhD scholarship	Co-funded by the University of Bologna general budget and the Department of Industrial Engineering – DIN. PhD scholarship in memory of Prof. Francesco Masi, formerly Professor Emeritus of Applied Mechanics for Machinery at the University of Bologna	3	Investigation of bubble dynamics and two-phase flow regimes in complex micro-geometries
4	PhD scholarship	Co-funded by the University of Bologna general budget and the Department of Industrial Engineering – DIN. PhD scholarship in memory of Prof. Francesco Masi, formerly Professor Emeritus of Applied Mechanics for Machinery at the University of Bologna	2	
5	PhD scholarship	Co-funded by the University of Bologna general budget and the Department of Industrial Engineering – DIN. PhD scholarship in memory of Prof. Francesco Masi, formerly Professor Emeritus of Applied Mechanics for Machinery at the University of Bologna	1	
6	PhD scholarship	Funded by the Department of Industrial Engineering - DIN with fund fund available by Project"APACHE - Advanced maniPulation, grasping and control for enhanced machinery Autonomy and reConfigurability in pHarmaceutical processes and E-commerce packaging - FISA-2023-00210 - CUP J53C25000520001- Avviso FISA D.D. 1233 del 01/08/2023	2	Advanced robotic systems for manipulation and packaging to improve the autonomy and reconfigurability of automated machines and lines
7	PhD scholarship	Funded by EDF, EDISON, ENEA	3	Advanced modelling and simulation of SMRs through the coupling of thermohydraulic codes and Modelica-based system models
8	PhD scholarship	Funded by Tech S.p.A.	2	Design of rehabilitation devices using advanced joint and musculoskeletal models
9	PhD scholarship	Funded by ENEA - Agenzia Nazionale per le Nuove Tecnologie, l'Energia e lo Sviluppo Economico Sostenibile	2	Analysis, simulation and control of innovative thermal network
10	PhD scholarship	Funded by ENEA - Agenzia Nazionale per le Nuove Tecnologie, l'Energia e lo Sviluppo Economico Sostenibile	3	Innovative control logics for heat pumps
11	PhD scholarship	Funded by GD S.p.A.	2	Reconfigurable cable-driven parallel robots for industrial manipulation
12	PhD scholarship	Funded by Orthofix Srl	2	Automatic registration techniques between clinical images and three-dimensional models

The yearly gross amount of the scholarships awarded for the PhD Programme in “Mechanics and Advanced Engineering Sciences” is €19,700.76.

All winners of PhD positions must fulfil the study and research obligations decided by the Academic Board, as well as the obligations set out in the relevant regulations, in the call for applications, in the funding schemes and in any agreements relating to specific positions.

Admission Exams

	DATE AND TIME	RESULTS
Qualifications and research proposal evaluation	Applicants' participation is not required	Available from 30/06/2026
Oral examination	Date: starting from 08/07/2026– h. 9:00am CEST Place: In presence, Sala del Consiglio – Second Floor, School of Engineering, Viale Risorgimento 2, Bologna. Remotely, using Microsoft Teams	Available from 13/07/2026

The results of the qualifications and research proposal evaluation, as well as the oral examination detailed schedule, shall be available on the webpage [Studenti Online](#) (select “requests in progress” > “see detail” and open the .pdf file at the bottom of the page). **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

Only documents **in Italian or English** will be considered valid and will be assessed by the Admission Board. Identity documents and diplomas/degree certificates issued in a language other than Italian or English must be accompanied by an official translation. The translation must be carried out by an authorized body or by the awarding university. Reference letters will not be evaluated.

Only qualifications **obtained in the last 5 years** will be taken into account, with the exception of university degrees. The Admission Board will assess the relevance of the supporting documents to the PhD programme. Only qualifications certified by an official document will be considered. Qualifications listed solely in the CV and not supported by uploaded documentation will not be considered.

REQUIRED DOCUMENTS	
Identity document	Valid identity document with photo (i.e. identity card, passport)
Curriculum Vitae	No specific CV format is required
Degrees	Documents attesting the awarding of the first and second cycle degrees, the exams taken and the marks obtained (see Art. 3.2 of the Call for Applications)
Research proposal	Multi-annual research proposal, with special emphasis on the activities to be completed during the first-year course. The proposal must meet the following requirements: - it must be related to a single research topic, possibly divided into several objectives, consistent with the Curriculum of the PhD programme selected at the time of application; - it cannot exceed 20,000 characters, including spaces and formula possibly used. This figure 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; references. In accordance with the University's policy on the ethical and responsible use of Generative Artificial Intelligence in teaching and research activities, candidates must explicitly state whether they have used Generative Artificial Intelligence systems in the production of the research proposal attached to their application form, specifying which tools were used and for which parts of the document. During the oral examination, the Admission Board will assess the candidate's full mastery of the content included in the document and their ability to justify the methodological and scientific choices made in the project.

SUPPORTING DOCUMENTS	
Thesis abstract	Abstract of the second cycle degree thesis . Graduands applicants may submit an abstract of the thesis to be defended. 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.
Publications	Lists of publications (i.e. monographs, articles on scientific journals) and minor publications (i.e. conference papers)
Other documents	- Research activity of any kind - whether basic, applied, translational - carried out in any capacity, including when covered by research grants, and as a staff member of research projects - Documents attesting the applicant's foreign languages proficiency (IELTS, Cambridge, TOEFL, CLA-Unibo) - Periods of study abroad, 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 (i.e. scholarships, prizes, vocational programmes, professional experiences) and consistent with the PhD programme's main research areas

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: 26 points, Maximum score: 40 points

Qualifications evaluation	First (Bachelor's) and second cycle (Master's) degrees final marks. Graduands shall be evaluated according to the Weighted Average Mark (WAM)	14 points max
	Publications and other evaluable documents	4 points max
Research proposal evaluation	Scientific value and ground-breaking nature of the proposal	10 points max
	Clarity and structure of the proposal	4 points max
	Proposal feasibility	8 points max

2. Oral examination

Minimum score for eligibility: 40 points, Maximum score 60 points

English language proficiency	6 points max
Applicant's suitability for academic research and knowledge of the topics connected to the research proposal	24 points max
General knowledge of the PhD programme's main research topics and knowledge/skills specific to the research area in which the research proposal will be conducted	30 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. The applicant is preliminarily asked to declare any intention to compete for one or more topic-specific positions, if present in the list 'Available Positions and Scholarships'. The oral examination includes a discussion of the research topics for which the candidate is applying and any in-depth questions concerning the candidate's knowledge and mastery of the main research areas of the PhD programme. **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".