PHD PROGRAMME TABLE
Announcements of competition for admission to PhD Courses
41st cycle, Academic Year 2025/2026

PhD Course: MODELS AND METHODS FOR MATERIAL AND ENVIRONMENTAL SCIENCES
Available positions: 8
Evaluation Methods: based on academic and research records and interview

Available positions:

Place n.	Description	Financial support	Specific research topic
1	Scholarship	University scholarship	-
2	Scholarship	University scholarship	-
3	Scholarship	University scholarship	-
4	Scholarship	University scholarship funded by Fondazione di Modena	-
5	Scholarship	Scholarship funded by NOVAC srl	Development of solid-state electrolytes for optimizing the performance of Li-ion batteries
6	Scholarship	Scholarship funded by Emilia Romagna Region in implementation of the program "High-Level Skills to Address the Challenges of the Technological, Cultural, Economic, and Social Transition Towards Sustainability"- PR ESF+ 2021/2027 CUP E83C25002380002	Circular economy applied to nature-based solutions for biomass carbon capture and storage in sustainable agriculture, effects of an innovative compost on soil organisms and plants
7	Scholarship	Scholarship funded by Department of Chemical and Geological Sciences co-funded by 2024 departmental development FAR	Organometallic complexes bearing salmen and salben ligands and their application in catalysis
8	Scholarship	Scholarship funded by Department of Chemical and Geological Sciences co-funded by 2024 departmental development FAR	Multiparametric analytical approaches for the characterization of agri-food supply chains

Areas of the PhD Programme: The Course aims to train experts in advanced research methodologies in environmental and material sciences, in respect of the research fields of the teaching staff (http://www.m3es.unimore.it/site/home.html). The research doctor will be able to operate in one or more of the following fields: processes regulating the transfer of elements and compounds from geosphere to hydro- and biosphere forecasting; prevention and mitigation of natural risks; identification and optimal use of resources; study, conservation and appraisal of cultural assets;

environmental impact of human activities; chemical sustainable strategies; preparation and characterization of materials with innovative functional properties; devices and methodologies for electrochemical sensing suitable to work in real systems; computational multi-scale strategies; chemometrics, multivariate analysis of signals and images and themes related to Big Data and 'Industry 4.0'.
Official language of the programme: English. However, all PhD students are encouraged to learn Italian during the course.
Further information is available on the PhD Programme website at: http://www.m3es.unimore.it/site/home/research/phd-thesis-proposals.html which contains the themes proposed for 41st cycle.

Admission requirements: Italian second cycle master's degree ("Laurea Magistrale", under D.M. 270/04 or "Laurea Specialistica", under D.M. 509/99) or Italian degree obtained prior to D.M. 509/99 (the previous Italian regulations) or Second cycle non-Italian Master's degree, equivalent to the Italian degrees mentioned above, in accordance with Article 2 of this Call.

Documents to be attached to the application:

1) In order to express interest in also competing for the scholarships linked to a specific research topic, candidates must complete and attach the file "Declaration of priority interest to compete for scholarships linked to a specific research topic"
2) Degree certificate (or self-certification for Italian degrees) and Transcript of Records including the full list of examinations. Applicants with a non-Italian degree must attach their certificate (including the full list of examinations with corresponding marks) and a legalized translation or Diploma Supplement and, if available, the Declaration of Value ("Dichiarazione di Valore in loco") issued by the competent Italian diplomatic-consular Representation, or the certificates issued by the CIMEA - ENIC-NARIC centre. If the degree certificate is not yet available or if the degree has not yet been obtained, the candidate must attach a description of the degree with a list of the examinations taken using Annex A;
3) a curriculum vitae including their scientific and teaching activities in Italian or English; any qualifications listed in the curriculum must also be properly certified or self-certified in the appropriate section for qualifications;
4) a summary, in Italian or English, of the Master's thesis (or equivalent), consisting of a minimum of two and a maximum of four pages, and structured as follows: thesis motivations, research methods, and results achieved; this summary must also be submitted by candidates who have not yet completed their final degree examination;
5) statement of Research Interest: a short text, no longer than two pages and written in English, divided into two sections:
   a) Motivation, outlining the candidate's reasons for applying to the PhD Program (max ½ page);
   b) A description of a hypothetical research project based on one of the PhD topics listed on the website: http://www.m3es.unimore.it/site/home/research/phd-thesis-proposals.html, which includes the proposed research topics for the 41st cycle. The project should reflect the candidate's specific research interests.

6) possible certificates of English competence (TOEFL, CAE/Proficiency or others), if available;
7) maximum three letters of introduction/recommendation/reference; in the online application, applicants must enter all the personal details of the professor/researcher/expert who will be sending the letter of recommendation. Once the application has been submitted, the computer system will send an automatic e-mail to the contact person requesting the letter of recommendation. The deadline for uploading letters is June 30th 2025, 11.59 pm (CET); applicants can check on the application summary page whether the contact person has sent the cover letter/recommendation. Within the aforementioned deadline, applicants may send a reminder to the contact person who has not yet done so by selecting the 'reminder' item from the application summary page;
8) any other document considered useful for the candidate's assessment and/or scientific publications; candidates must provide a full list of all the documents and publications attached;
9) a copy of a valid identity document.

Evaluation criteria:

In the evaluation, the Selection Committee assigns scores up to a total of 60 points, as follows:

- Academic and research records: from 0 to 30 points

- Curriculum vitae of studies and congruity of the exams taken and the topics of the dissertation respect to the PhD topics: from 0 to 15 points;
- Publications, conference presentations, patents: from 0 to 5 points;
- Other qualifications (certification of proficiency in English, letters of introduction, study periods abroad, and description of her/his specific research interests (Statement of Research Interest): from 0 to 10 points.

Candidates will be admitted to the interview if the evaluation of their presented qualifications has reached a score of at least 20 points out of the 30 available.

- Interview: from 0 to 30 points

A valid identity document or passport must be submitted.
The interview will focus on the description of a hypothetical research project chosen by the candidate. The evaluation will be based on the scientific soundness of the project, its feasibility, and its relevance to the PhD program topics.
Part of the interview will be conducted in English.
The list of the candidates admitted to the interview, and any variation in the selection procedure, will be published before July 15th, 2025 at the following University website: https://www.unimore.it/en/bando-phd-41.
Candidates may opt to have their interview in English.
A pass is achieved where candidates are awarded a minimum score of 40/60.
Once the evaluation of the qualifications and the interview have been completed, the Commission will draw up a merit-based ranking list on the basis of the marks awarded to the candidates. Candidates who obtain a minimum score of 40/60 are deemed eligible.

For the thematic scholarship "Circular economy applied to nature-based solutions for biomass carbon capture and storage in sustainable agriculture, effects of an innovative compost on soil organisms and plants", the committee will express a judgment of

eligibility exclusively for candidates who have indicated their interest, based on the following evaluable criteria:

- Master's degree ("laurea magistrale", under D.M. 270/04) in one of the following classes: LM-6 Biology, LM-60 Natural Sciences, LM-69 Agricultural Sciences and Technologies, or LM-75 Environmental and Territory Sciences and Technologies; or equivalent Italian second cycle master's degree ("laurea specialistica", under D.M. 509/99) in the following classes: 6/S Biology, 68/S Natural Sciences, 77/S Agricultural Sciences and Technologies, or 82/S Environmental and Territory Sciences and Technologies; Italian degree obtained prior to D.M. 509/99 (the previous Italian regulations) in Biological Sciences, Natural Sciences, Agricultural Sciences, Tropical and Subtropical Agricultural Sciences, or Environmental Sciences; or Second cycle non-Italian Master's degree, equivalent to the Italian degrees mentioned above, in accordance with Article 2 of this Call.
- Relevance of the candidate's academic background to the scholarship topic.

For the thematic scholarship "Organometallic complexes bearing salmen and salben ligands and their application in catalysis", the committee will express a judgment of eligibility exclusively for candidates who have indicated their interest, based on the following evaluable criteria:

- Master's degree ("laurea magistrale", under D.M. 270/04) in one of the following classes: LM-54 Chemical Sciences or LM-71 Industrial Chemistry and Technology; or equivalent Italian second cycle master's degree ("laurea specialistica", under D.M. 509/99) in the following classes: 62/S Chemical Sciences or 81/S Industrial Chemistry and Technology; Italian degree obtained prior to D.M. 509/99 (the previous Italian regulations) in Chemistry or Industrial Chemistry; or Second cycle non-Italian Master's degree, equivalent to the Italian degrees mentioned above, in accordance with Article 2 of this Call.
- Relevance of the candidate's academic background to the scholarship topic.

INTERVIEW SCHEDULE

In-person interview: July 17th 2025, 9:30 am. Interviews could continue on July 18th 2025, 9:30 am., should there be a high number of candidates.
The interview will take place in the **room U0.2 at the Department of Chemical and Geological Sciences, Via Giuseppe Campi, 103, Modena**.
Interview via Microsoft Teams (allowed for each candidate, regardless of residence): July 17th 2025, 9:30 am, Interviews could continue on July 18th 2025, 9:30 am, should there be a high number of candidates.

Link to Microsoft Teams dedicated: Admission interview for the XLI cycle of the PhD Programme in Models and Methods for Material and Environmental Sciences