



PhD School of Politecnico di Milano

Regulations of the

PhD Programme in Architecture, Built Environment
and Construction Engineering (ABC-PhD)

Cycle XLI

Campus: Milano Leonardo

Course start: September 2025

Table of contents

1. General Information	4
1.1 Executive summary	4
1.2 The ten pillars and the main organization principles	4
1.3 Scientific Sectors, Disciplines and ERC Panel structure reference	5
2. General Presentation – The ABC-PhD Programme	5
2.1 Research lines	5
2.2 Objectives	6
2.3 The mission	6
2.4 The vision	6
3. Professional opportunities and job market	6
3.1 PhD Statistics	6
3.2 The ABC-PhD Doctor	7
3.3 Actions for PhD Holders	7
4. Enrolment in the ABC-PhD Programme	7
4.1 Admission requirements	7
4.2 Admission deadlines and vacancies	8
5. Contents of the ABC-PhD Programme	8
5.1 Requirements for the attainment of the title	8
5.1.1 <i>Plan of Doctoral activities and PhD Agreement</i>	8
5.1.2 <i>Choosing and carrying out training activities</i>	9
5.1.3 <i>Research and other activities</i>	9
5.1.4 <i>Research stay abroad</i>	10
5.1.5 <i>The PhD Dissertation</i>	10
5.1.6 <i>TA activities</i>	11
6. Development and monitoring of Doctoral activities	11
6.1 Before the official start	13
6.2 MILESTONE A – State of the Art	13
6.3 MILESTONE B – Research Project	14
6.4 MILESTONE C – Research progress and definition of PhD Dissertation Index	14
6.5 MILESTONE D – Research progress and Draft of the Final PhD Dissertation	14
6.6 Thesis EVALUATION	15
6.7 FINAL EXAM	15
7. Objectives and general framework of the teaching activities	16
7.1 RESEARCH and TRANSFERRABLE SKILLS Courses offered by the PhD School	16
7.2 ABC-PhD Courses	17
7.3 MILESTONE TRAININGS	17
7.4 Presentation and approval of the Candidate’s PhD Agreement	18
7.5 Instructions for the yearly Evaluation Milestones and other reviews	18
7.6 Knowledge of the Italian language	18
8. Services and Benefits	18
8.1 ABC-PhD Office	18
8.2 Budget for the research activity	19
8.3 Financial aids and benefits	19
8.4 Laboratories	19
9. Internationalisation and other activities	20
9.1 Visiting periods, joint/double supervision, joint/double PhD titles	20
9.2 ABC PhD OPENTalks	20
9.3 ABC NEST project	20
9.4 ABC calls for funding cultural activities and social responsibility actions	20
10. Other rules	21
10.1 Publication policy	21
10.2 Ethics	21

10.3	Intellectual Property Management and Technology Transfer.....	22
10.4	Candidates' Document Management.....	22
	Attachment A1 – ABC-PhD Programme Board (Collegio dei Docenti).....	23
	Attachment A2 – ABC-PhD Advisory Board.....	24
	Attachment A3 – Figures and responsibilities of ABC-PhD Programme.....	25
1.	The PhD Candidate.....	25
2.	The ABC-PhD Board of Professors.....	25
3.	The Head of the ABC-PhD Programme.....	25
4.	The Tutor.....	26
5.	The Supervisor.....	26
6.	The Evaluation Committee.....	26
7.	The Final Exam Committee.....	26
8.	The ABC-PhD Office.....	26
9.	The Candidates' representative.....	27
10.	The PhD Agreement.....	27
11.	The Doctoral Courses.....	27
12.	The Course Catalogue.....	27
13.	The PhD Thesis.....	27

1. General Information

1.1 Executive summary

The Doctoral Program in Architecture, Built environment and Construction engineering (ABC-PhD) was established in 2013, as a merge of five prior programs active since the very first Italian Dottorato di Ricerca cycle (1988 through 2016). The goal was to create a reference point for training researchers and experts in the following fields:

- sustainable digital and green transformations, management and evaluation of the built environment;
- the engineering of the built environment's components (buildings, structures and infrastructures, materials, technologies and service systems);
- the organization of the industrial systems designing, implementing, managing, and transforming the built environment, as well as of the Public Administration that sets the rules for these systems.

1.2 The ten pillars and the main organization principles

The Program pursues ten pillars, which are strongly coherent with the Salzburg Principles (2005) and Recommendations (2010).

Our Candidates:

1. are chosen in a transparent, efficient and supportive selection process;
2. are independent, constantly mentored, early stage researchers;
3. are trained for research through research;
4. have a Research and Training plan tailored to their topics and objectives;
5. are systematically and independently, periodically reviewed and assessed;
6. are involved in the Department Research activities and all its competencies;
7. network with other researchers, at a national and international level;
8. are invited to discharge their research in scientific journals and at conferences;
9. establish relations with relevant stakeholders;
10. actively join a growing Quality Management System for the improvement of the Program.

Obtaining the ABC-PhD title implies three requirements for the Candidates:

- implement a three-year (with few exceptions for specific four-year plans), full-time activity in doctoral research and training;
- attend with a pass mark planned Doctoral Courses;
- write a PhD thesis showing original advancement on a specific topic, present and successfully defend it in a Final Exam.

Coursework is not core to ABC-PhD Program, despite its diversified educational offer.

Supervisors offer continuous mentoring of Candidates' daily activities. At the same time, Tutors, Board Members and external Reviewers guarantee a periodic deep review of Candidates advances during regular Milestones (Subs. 6.2).

Taken together, these procedures guarantee an excellent placement for Ph.D. graduates, on both the regular and the academic job market.

1.3 Scientific Sectors, Disciplines and ERC Panel structure reference

ABC-PhD comprises four Main Areas and twenty different Disciplines as defined by the official Italian List for University Research and Teaching:

- Area 08 – Civil engineering and architecture
 - CEAR-03/B – Transportation
 - CEAR-04/A – Geomatics
 - CEAR-05/A – Geotechnics
 - CEAR-06/A - Mechanics of Solids and Structures
 - CEAR-07/A - Structural Analysis and Design
 - CEAR-08/A - Architectural Engineering
 - CEAR-08/B - Production and Management of Built Environment
 - CEAR-08/C - Technological and Environmental Design of Architecture
 - CEAR-09/A - Architectural and Urban Design
 - CEAR-09/B - Landscape Architecture
 - CEAR-09/C - Interior Architecture and Exhibition Design
 - CEAR-10/A - Drawing
 - CEAR-11/A - History of Architecture
 - CEAR-11/B - Architectural Conservation
 - CEAR-12/A - Urban and Regional Planning
 - CEAR-12/B - Urban and Landscape Planning
 - CEAR-03/C - Real Estate Appraisal and Project Evaluation
- Area 09 – Industrial and information engineering
 - IIND-07/B - Building Physics and Building Energy Systems
- Area 13 – Economics and statistics
 - ECON-04/A - Applied Economics
- Area 06 – Medicine
 - MEDS-24/B - Hygiene and Public Health
- Area 10 - Antiquities, philology, literary studies, art history
 - STAA-01/B - Egyptology and Coptology

Websites: <http://www.polimi.it/phd> (PhD School)

<https://www.dabc.polimi.it/en/education/phd-programme/> (Department)

2. General Presentation – The ABC-PhD Programme

The Dottorato di Ricerca is the highest level of education degree within the Italian academic system. PhD Degrees are awarded by Italian Doctoral Schools established in each university, and organized in Doctoral Programmes.

2.1 Research lines

Research and training activities are planned according to the [Strategic Research Plan](#) of the ABC Department, regularly updated on a three-year basis. Minor revisions to the Strategic Research Plan may be introduced to account for important global events, societal changes, or major directives. The current Strategic Research Plan was established in 2023. The Plan is currently structured along the following five strategic lines of research:

1. Sustainability: decarbonised, resilient, adaptative and regenerative Built Environment.

2. Twin transition: competitive, digitalised and circular value chain for construction industry and built environment.
3. Well-being: safe, secure, inclusive and healthy Built Environment.
4. Advanced products: Advanced materials and components, clean tech, and innovative manufacturing and construction technologies/processes.
5. Conservation: Science and management of cultural heritage.

2.2 Objectives

ABC PhD graduates are expected to generate outstanding research, to effectively transfer knowledge, and adapt it to different contexts, audiences, and communication situations. This enables them to work in teams, and disseminate research results both within their specific community and to more diverse crowds.

Scientific communication skills are also enhanced by courses offered by the PhD School, including Technical Communication classes. Additionally, candidates participate in activities promoting experiential learning.

ABC PhD aims at developing research-oriented candidates, nurturing high-level skills, in a specific research field and for related applications. This implies the acquisition of analytical and problem-solving capabilities. ABC PhD graduates are problem settlers, trained to model complex environments and apply critical thinking.

2.3 The mission

The ABC-PhD Programme trains researchers endowed with high-level scientific knowledge, gaining significant experience in R&D activities as well communication and management skills, applied to R&D activities. The ABC-PhD Programme aims to act as a hinge between academic institutions (on top of which, the ABC Department) and non-academic entities, stimulating knowledge flows across both areas.

2.4 The vision

Our vision wishes:

- ABC-PhD Doctors to become self-sufficient and independent, and to reach outstanding positions at international level;
- The ABC-PhD Programme to become the European point of reference for training experts in all critical subjects related to the sustainable transformation and management of the Built Environment.

3. Professional opportunities and job market

3.1 PhD Statistics

The most recent (2018) ISTAT employment statistics document the competitive edge granted by the PhD title on the job market. More than 95 per cent of PhDs are employed within four years after PhD graduation, with a growing share of fixed-term contracts (>45%). A vast majority of all contracts deal with R&D activities (>70%).

Focusing on ABC PhDs, over the past three years employment is mainly in Italy (80%). Most (54%) work in Research and Academic Institutions for the first three years, while later this share decreases to roughly 30%, while 46% of PhD Holders work in SMEs or as professional free-lancers, in public institutions, or large companies (very often in R&D).

3.2 The ABC-PhD Doctor

The ABC-PhD Programme has tight relations with the ABC Department and the Politecnico di Milano Schools.

Three years of research within the Department and in joint foreign institutions forge a deep knowledge of the academic world. PhD candidates have a chance to take part in knowledge transfer processes; reach out to relevant stakeholders; face actual societal needs; understand the value and the complexities of innovation; manage a budget for carrying out the research activities.

This qualifies PhDs for positions in top international universities and research centres as well as in other private and public institutions. PhD Holders are trained within the academic world; however, their skills can be exploited outside academic institutions.

ABC PhDs have knowledge and creativity that can be applied to trigger disruptive change. These skills make the PhD experience a competitive advantage for many different professions related to construction processes, transformation and the management of the built environment.

After the completion of the program, ABC PhDs are expected to become international investigators, as post-Doc, research fellows and young lecturers; highly qualified R&D personnel in private firms or Technology Transfer Centres; esteemed professionals; entrepreneurs; project or construction, or facility managers; or independent consultants

3.3 Actions for PhD Holders

Politecnico di Milano's PhD School and the ABC-PhD Program boast an active [Career Service](#), supporting PhD holders in their post-doctoral period in activities outside academy (for instance in preparing their CVs, training them for job interviews, enforcing their soft-skills and their understanding of jobs in private firms, from the last period before their final exam (see the PhD School' web site "[After the PhD](#)").

4. Enrolment in the ABC-PhD Programme

4.1 Admission requirements

Italian and foreign graduates, with a decent proficiency of the English Language, can apply to the ABC-PhD Programme, following requirements, rules and suggestions described in the PhD School' web site and in each Call.

They are requested to have graduated in accordance with the laws D.M. 3.11.1999 n. 509, or to hold a Master of Science degree in accordance with D.M. 3.11.1999 n. 509, or a Master of Science in accordance with D.M. 22.10.2004 n. 270, or similar academic title obtained abroad, equivalent in terms of duration and content to the Italian title, with an overall duration of the university studies of at least five years.

Certified knowledge of the English language is a prerequisite for admission.

The admission to the programme will be established according to the evaluation of the (1) candidates' CV, (2) individual motivation letters, and (3) a proposal for a possible PhD research, which will be sent by the candidates together their application to the Call. Beyond the specific content of the research proposal, this will be evaluated to understand the attitude of the candidate to do research, and will be potentially modified with the proposed Supervisor after the effective beginning of the PhD carrier.

An Evaluation Committee will assess the admission to the programme as specified in the admission procedure. This may include an (optional) oral discussion, which can take place either in person or online. The Evaluation Committee may interview the Candidate, asking questions meant to better understand their research proposal, as well as to assess their knowledge of the English language.

Please refer to the [PhD School website](#) for details.

4.2 Admission deadlines and vacancies

Four Calls for PhD applications are released each year. Each call comes with two main typologies of openings, i.e. general calls and calls concerning specific topics. As for the former, calls may cover any Scientific Sector and research topic within the ABC Department. Tentative topics may be included in each Call. As for the latter, calls have a predefined research topic jointly with a proposed Supervisor. Candidates applying for a thematic topic should prepare a research proposal in accordance with it.

In both cases, positions may be possibly granted a scholarship, depending on the final applicants ranking.

5. Contents of the ABC-PhD Programme

These Regulations define:

1. general requirements for the attainment of the title;
2. procedures for the development and monitoring of Doctoral activities;
3. objectives and general framework for teaching activities;
4. procedures for the presentation and approval of the personal research and development plan;
5. other procedures about yearly evaluations and other deep review activities (Milestones).

5.1 Requirements for the attainment of the title

Completion of the PhD in Architecture, Built Environment and Construction Engineering entails three full-time years of study and research activities (with a few exceptions for programs following a four years structure).

During the PhD, Candidates will:

1. attend and pass Doctoral Courses needed to complete their skills and to enhance their knowledge in their research area, as well as those transferable skills useful for their future as researchers;
2. write a PhD thesis showing original advancements on a specific Research Topic;
3. present, discuss and defend the thesis in a Final Exam.

The length of the doctoral Programme may be extended for a maximum of one extra-year, without scholarship, if requested by the PhD Board. Candidates may also obtain the suspension of attendance for motivated reasons, as reported in Politecnico di Milano's PhD Regulations.

The redaction of a detailed research and training activities planning is a fundamental duty of PhD Candidates. Approving and monitoring the plan is a duty of the Candidates' Supervisors and the ABC-PhD Board, as specified in the following sections.

5.1.1 *Plan of Doctoral activities and PhD Agreement*

Candidates shall plan their research and training activities, in accordance with their Supervisors, in a research and training plan, giving evidence of their aims and of the global amount of time to be spent on each activity. This will enter a PhD Agreement, establishing duties and rights of PhD Candidates and their Supervisors.

The PhD Agreement will be endorsed by Candidate's Supervisor and reviewed and approved by the ABC-PhD Head. The total amount of time spent in each activity must be realistic and coherent with their effective outcomes.

Time schedules and manner for preparing and modifying PhD Agreements will be promptly communicated by the ABC-PhD Office after the beginning of PhD activities.

5.1.2 *Choosing and carrying out training activities*

The PhD Agreement is complemented by the Study Plan, including Training Activities.

Candidates from the 40th Cycle are requested to include a minimum of 40 ECTS¹ of Training Activities covering both advanced knowledge concerning their research topics, as well as skills needed for writing PhD theses. Training Activities belong to three categories, each of which to be fulfilled without possibilities of mutual compensation:

1. 10 ECTS from Doctoral Courses on transversal skills within the PhD School Catalogue;
2. 15 ECTS from ABC-PhD Doctoral Courses, or from other Politecnico di Milano PhD-Programmes (including the PhD School Catalogue). MSc courses might also be chosen, although these will not contribute to the achievement of the minimum of 40 CFUs (*corsi in sovrannumero*);
3. 15 ECTS assigned after attending a cycle of six seminars organized by ABC-PhD to train candidates on different stages of the PhD development, in view of periodical Milestones: literature review and state-of-the-art, organization of a research project, scientific writing, scientific communication and public speaking, dissertation writing, dissemination of research outcomes. These courses are mandatory and included in the Study Plan one each year: in the first year, Milestone Training for Milestones A-B (5 ECTS); state-of-the-art and research project; in the second year: Milestone Training for Milestones C and Scientific Writing (5 ECTS); in the third year: Milestone Training for Milestones D and public communication (5 ECTS).

Should a Candidate have already attended a course (typically, from the PhD School Catalogue) covering those topics, the attendance of this training will be optional, pending the approval of the PhD Head.

Class choices will have to be approved by each candidate's supervisor and the ABC-PhD Board. Doctoral Courses must not exceed a grand total of 65 ECTS.

ABC-PhD Candidates can also choose elective courses offered outside the ABC-PhD Catalogue, with the approval of their Supervisors. Requests of attending classes offered by other programs must be authorized *ex ante* by the ABC-PhD Board, which will evaluate the specific programme and whether this fits each candidate's needs. For credits recognition, a final evaluation should follow all attended courses. Should this not be available, the course will be registered in the Study Plan with an evaluation "N.D." (not available), and these classes will not contribute to the achievement of the minimum requirements 40 ECTS of Training Activities, although they will grant extra credits.

Eventually, the Board may ask Candidates to attend specific preparatory courses when they need to fill gaps between their competencies and the advanced skills needed to complete the chosen research projects or to face a specific topic. In this case, some extra-credits to be acquired are assigned. The credits acquired in this way will be considered as extra. As Research Topics may be also defined before the official start of the Programme (e.g., for Thematic Scholarships), the Head (or Delegates) may interact with registered Applicants, also before the official start of their Program, to draft their proposed Study Plan and to let them attend Doctoral Courses, as soon as possible.

5.1.3 *Research and other activities*

Research Activities must be detailed in Candidates' PhD Agreement and planned under the guidance of the Supervisor.

Each candidate must experiment three modes of technical-scientific communication:

1. Oral presentation to experts in the field and topic, aimed at developing the ability to communicate advanced content within a limited timeframe, highlighting key aspects of the research/project and justifying methodological choices, to an audience with high evaluation skills. This experience, aimed at

¹ ECTS (*European Credit Transfer and Accumulation System*) is a [Bologna Process](#) tool aiming EU National Academic systems compatible and comparable, in terms of workload and learning outcomes. ECTS is based on assuming that 60 ECTS correspond to one full-time academic year. This implies that the workload for a standard 5 ECTS PhD course, in Politecnico di Milano, account for about 35 hours of formal lectures, seminars and workshops activity, plus the individual study required to achieve the defined learning outcomes and to produce the stated home-work (one credit corresponds to 25 to 30 hours of work; see the *ECTS Users' guide*, downloadable [here](#))

sharing projects among colleagues, is achieved by participating in at least one conference or workshop where research results are presented.

2. Oral presentation to stakeholders with expertise in the field but not in the specific topic, transferring contents with appropriate details in unlimited timeframes. This skill, aimed at the ability to transfer research/project content to non-expert collaborators, is gained through specific training experiences with specific goals and typical timelines of academic and corporate settings.
3. Written communication for a community of experts. This skill is aimed at the ability to organize the document content, shorter than a book or thesis but still broad in scope, with an appropriate level of technical-scientific detail. This mode, typical of internal reports or technical notes, is experienced by creating written documents addressed to a relevant scientific community such as scientific or technical articles.

Each candidate is required to participate as a speaker in at least one international conference or workshop, complete at least one training activity, and publish at least one scientific or technical contribution aimed at an expert community. Any exceptions must be justified and authorized by the Faculty Board.

In addition, candidates are also expected to take part in:

- networking and technology transfer activities (encouraged as opportunities for profitable confrontation with the stakeholders of research activity, from the earliest moments);
- submitting and attending the preparation of proposals for internal (the ABC Department periodically promotes some calls for funding activities to support the scientific research and the third mission) and external funding.

Candidates' publication activity must be guided and reviewed, as well as any other public activity, and authorized by their Supervisor. Monitoring is mandatory during their entire Program and whenever they present themselves as ABC-PhD Candidates or Politecnico di Milano PhD Students.

PhD candidates are encouraged to join any activity that may contribute to promote the individual research and transversal/soft skills. These activities, when officially recognized by the ABC-PhD Board of Professors, can be included in the final Diploma Supplement.

On the other hand, it is important that the focus on the main research project is maintained by each PhD candidate. For this reason, the participation to any activity that is not strictly related to the main research programme, should be preventively authorized by the Head of ABC-PhD, who anyway should be always informed. In case the Candidate pursues some activities that are not declared but influenced (directly or indirectly) the PhD activities, the ABC-PhD Board of Professors will consider this omission in the EoY evaluation, and it may imply the repetition of the year.

5.1.4 Research stay abroad

A period spent in external institutions (international research centres or labs, Italian or foreign firms, other external research bodies and universities) with other working groups, as visiting PhD is warmly encouraged (although not strictly mandatory, with the exception listed below) to acquire a deeper insight of Candidates' research topics. While the length of staying abroad should be preferably between 3-6 months, a longer external period is possible up to 12 months but must be authorized by the ABC-PhD Board. An increase in the amount of the Scholarship may be allowed up to a maximum of six months (please check the call about the availability of this option and its duration).

Some scholarships may include special requirements for the period abroad, as stated in the description linked to the call. These may entail a longer period abroad in a partner institution, and/or the mandatory character of the staying abroad for a predefined period. The acceptance of a scholarship with these special rules will imply the total acceptance of the period abroad for the predefined time stated in the call.

5.1.5 The PhD Dissertation

PhD Candidates are expected to produce a significant, original contribution to their field, to organize this contribution in a PhD Dissertation, and to successfully defend it publicly in front of a committee of experts during the Final Exam.

At the end of the third year (or later), after the Admission to the Final Exam (FEA), the Candidate's PhD Dissertation will be reviewed, and its original contribution assessed, by two independent academic External Examiners.

Later, the Final Exam will be organized. An examination Committee, composed by three members, of which at least two External Evaluation Members; external evaluation members may be optionally selected from the External Examiners. The committee will evaluate the PhD Dissertation, and assess its defense.

WARNING: Candidates may partially anticipate the results of their work in publications, but the PhD Dissertation must be something more than a simple collection of articles. As the value of a PhD Holder is assessed based on the original advancements achieved during their Programme, PhD Candidates must, as soon as possible, focus on their PhD Dissertation or, in alternative, must start weaving through their activities and their results (publications but not only) a sort of red thread that will make them visible as a unique one.

5.1.6 *TA activities*

PhD Candidates may take part in academic teaching activities about subjects close to their PhD research topics. This extra-work should be conducted in parallel with ordinary activities, not exceeding a reasonable amount of teaching hours each year, in order not to limit research time. This amount will be evaluated case by case by the ABC-PhD Board, which may also impose a cap to the participation to teaching activities.

Authorization by the Head of ABC-PhD is needed to participate to competitive calls aiming at obtaining temporary retributed appointments as TAs.

Some scholarships may not allow the participation in TA activities, to let PhD Candidates focus on research. In this case, this requirement is explicitly reported in the Call.

6. Development and monitoring of Doctoral activities

The activity of ABC-PhD Candidates will be organized in the following eight stages:

1. Choice of the Research Topic and official appointment of the Supervisor by the ABC-PhD Board;
2. Definition (and review) of the State of the Art for the chosen Research Topic (Milestone A);
3. Definition (and review) of the Research Project (Milestone B);
4. Definition (and review) of the PhD Dissertation Structure/Index (Milestone C);
5. Presentation (and review) of the Final Draft of the PhD Dissertation (Milestone D);
6. Admission to the Final Exam (FEA)
7. Evaluation of the PhD Thesis (by at least two, independent, academic External Experts);
8. PhD Thesis defence (Final Exam).

The general content of these eight stages, in terms of work to be presented, is detailed in the following sections, while the exact timescale and schedule is defined, yearly, by the ABC-PhD Board.

Milestones will be organized in the form of an open, public, roundtable meetings including limited numbers of PhD Candidates, chosen on the basis of the proximity of their research topics and their collaboration and sharing potential.

Each Milestone is associated with a type of document to be uploaded in the Candidate's Personal Online Repository before a submission deadline (in general at least 20 days before each Milestone). Each Candidate's discussion is supported by a presentation, to fit in the maximum time communicated before each MS. Deep reviews received for each document will be sent to the Candidates.

Milestones are divided into two main categories:

1. Deep-Review Milestone (Milestone A and possible repetition of successive Milestones, addressed to with the symbol “*”), with the aim to deep-review the activity by PhD Candidates (without a formal

evaluation);

2. End-of-Year (EoY) - Evaluation Milestones (Milestones B, C, D), with the aim to review the activity by PhD Candidates and grade it towards the advancement to the following year (and – when ready – the Admission to the Final Exam - FEA).

Milestones are scheduled on a regular basis, to take place at approximately six months intervals from the inception of PhDs.

For regular, three-year long PhDs, the milestone schedule is structured as follows:

Year 1:

- Milestone A: state-of-the-art (within 6 months)
- Milestone B: definition of the PhD research project (within 12 months – EoY1 evaluation)

Year 2:

- Milestone B*: reserved only for candidates with critical evaluation [D] at EoY1: re-definition of the PhD research project (within 18 months)
- Milestone C: research progress and definition of the thesis structure/index (within 24 months– EoY2 evaluation)

Year 3:

- Milestone C*: reserved only for candidates with critical evaluation [D] at EoY2: research progress and re-definition of the thesis structure/index (within 30 months)
- Milestone D: research progress and final thesis draft (within 36 months – EoY3 evaluation + FEA)

Extra years:

- Suspension compensation: to be defined case-by-case to recover pending Milestone(s)
- Additional Year 4 (only one possible):
 - Milestone D*: research progress final thesis draft (every 6 months)

For four-year long PhDs, the milestone schedule is structured as follows:

Year 1:

- Milestone A: state-of-the-art (within 6 months)
- Milestone B: definition of the PhD research project (within 12 months – EoY1 evaluation)

Year 2:

- Milestone B*: reserved only for candidates with critical evaluation [D] at EoY1: re-definition of the PhD research project (within 18 months)
- Milestone C2: research progress (within 24 months– EoY2 evaluation)

Year 3:

- Milestone C2*: reserved only for candidates with critical evaluation [D] at EoY2: research progress (within 30 months)
- Milestone C3: research progress and definition of the thesis structure/index (within 36 months – EoY3 evaluation)

Year 4:

- Milestone C3*: reserved only for candidates with critical evaluation [D] at EoY3: research progress and re-definition of the thesis structure/index (within 42 months)

- Milestone D: research progress and final dissertation draft (within 48 months – EoY4 evaluation + FEA)

Extra years:

- Suspension compensation: to be defined case-by-case to recovery pending Milestone(s)
- Additional Year 5 (only one possible):
 - Milestone D*: research progress final dissertation draft (every 6 months).

Any official interruption in the individual carrier may introduce a consequent modification in the milestone schedule, to be decided case by case. In any case, when an interruption is over, an extra formal check should be run.

Milestones Sessions (MS) are organized along the Five Strategic Research Lines (SRLs) of the ABC Department. All PhD Candidates attending Milestones are assigned to a specific MS, which gather PhD Candidates sharing similar thematic subtopics in each SRL. Each MS may include PhD Candidates from diverse Cycles. A Chair and – optionally – one/two Co-Chair(s) coordinate each MS, with the main duties of selecting and inviting at least two independent experts to review the documents submitted by each Candidate and to contribute to the discussion. A candidate's research output will never be reviewed by their Supervisor.

The Chair/Co-Chair(s) of a MS will also have the role of defining the exact schedule of the meeting and preparing a written report about the advancements and the results of their work, the proposed evaluations, a synthesis of the advice to the candidates. This information will be reported to the ABC-PhD Board.

When a MS corresponds to an End-of-Year (EoY) evaluation, the Chair/Co-Chair(s) will be responsible, together with the MS Committee (with the exclusion of the Supervisor of the PhD Candidate under evaluation, if present) to approve (or not) the enrolment into the following year (or the Admission to the Final Exam - FEA), and to propose an EoY evaluation. These decisions should consider those preliminary comments from the Supervisor of each PhD Candidate and will be discussed and approved later by the ABC-PhD Board of Professors.

MS are organized twice per year during four Milestone Events:

1. Spring Milestones (in April);
2. Summer Milestones (in June/July);
3. October Milestones (in October);
4. W-Milestones (in January).

Off-seasonal MSs and FEAs cannot be organized.

6.1 Before the official start

After registration, each PhD Candidate will receive an institutional (given_name.family_name@polimi.it) email address by Politecnico di Milano.

The Research Topic of Candidates with Thematic Scholarship is defined in the corresponding Call, together with the name of the predetermined Supervisor. In this case, before the official start of the 1st Year each Candidate must contact the assigned Supervisor, to better identify their Research Topic.

6.2 MILESTONE A – State of the Art

The first period of the PhD Candidate's work is – usually – devoted to the exploration of the state of the art, to Doctoral Courses and to other basic training activities. The main purpose of this initial period is to consolidate the choice of the Research Topic and to define the main objectives of their work.

In the first semester of the First Year, the ABC-PhD Board of Professors will appoint (or confirm in the case of Thematic Scholarships) each candidate a Supervisor and a Tutor, the latter chosen among members of the ABC-PhD Board.

Around six months after the inception, the PhD Candidate will be invited to submit and to present to the MS Committee the State of the Art of the Research Topic under investigation and the related Reference Bibliography for Deep Review.

The State of the Art will be realized to give a detailed picture of the main advancements about the chosen research topic. The State of the Art and the bibliography will be continuously updated during the whole PhD.

The review of the research work should not be interpreted as a shopping list. PhD candidates are expected to start understanding and critically analysing the main topics and lines related to the research domain of interest.

Candidates will attend the Milestone Training 1st Year to help prepare Milestone A.

6.3 MILESTONE B – Research Project

In the second half of the 1st Year, PhD candidates are expected to focus their work on the specific subject that will become their PhD Dissertation within the end of the first year. They will still follow Doctoral Courses and perform planned research activities, but they are expected to define their proposal in a complete Research Project, that will be presented to the MS Committee for the EoY Evaluation. The ABC-PhD Board shall consider the results of the evaluation, assess the Candidate's EoY Report and give a synthetic evaluation of their activity and results, deciding about the admission to the Second Year.

In the case the EoY evaluation of the 1st Year is critical (D), the PhD Candidate is supposed to attend an additional Milestone B* after 6 months from the beginning of the 2nd Year. The content of Milestone B* is a reiteration of the one of Milestone B, with the purpose of demonstrating a progress with respect to the situation assessed at the end of the 1st Year.

Candidates will attend the Milestone Training 1st Year to help prepare Milestone B.

6.4 MILESTONE C – Research progress and definition of PhD Dissertation Index

Before the end of the Second Year, PhD Candidates are expected to produce a clear view of their Research Project and to start structuring their PhD Dissertation. If useful for their Research Project and for completing their training experience, they may still follow Doctoral Courses and perform other research activities. The Second Year is, usually, the period chosen for a research stay in partner institutions (although earlier or later periods are also allowed if meaningful).

At the end of their fourth semester, PhD Candidates will present the progress of their research activity in an Evaluation Milestone, explain their first results and give a complete picture of their work. A clear vision of their PhD Thesis, the main parts and the activities to be performed is expected. The MS Committee will evaluate it and the EoY Report and give a synthetic evaluation of Candidate's activity and results, deciding their admission to the third year.

In the case the EoY evaluation of the 2nd Year is critical (D), the PhD Candidate is supposed to attend an additional Milestone C* after 6 months from the beginning of the 3rd Year. The content of Milestone C* is a reiteration of the one of Milestone C, with the purpose of demonstrating a progress with respect to the situation assessed at the end of the 2nd Year.

Candidates will attend the Milestone Training 2nd Year to help prepare Milestone C.

6.5 MILESTONE D – Research progress and Draft of the Final PhD Dissertation

At the end of the Third Year, PhD Candidates will present the final draft of their thesis to the MS Committee for the EoY Evaluation. If they have achieved sufficient results, they will be admitted to the Final Exam - FEA. A negative evaluation may imply a re-enrolment in the same year as a repeating candidate, but in general, PhD

Candidates who have achieved sufficient results but need more time to conclude their research work and write their thesis, may obtain the admission to one extra year. Within the extra year, each PhD Candidate is supposed to repeat Milestone Six after six months if they are ready for the FEA. The FEA may be applied at any Milestone Events and cannot be organized outside them. The current national regulation for PhD allows the extension to a maximum of extra year. More time could be granted only in case of motivated interruptions.

When a PhD Candidate applies for the FEA, the thesis should be completed apart from editing, formatting, and the possible lack of some minor parts to be completed. The degree of completeness will be considered for the FEA evaluation.

PhD Candidates, with the approval of their Supervisors, should submit a time-schedule planning for the completion of the dissertation before the Final Exam, taking into account the time needed for the external revision. The Supervisor of the PhD Candidate should propose two independent external examiners to be appointed for the evaluation of the Final Thesis before the Final Exam.

In the case the EoY evaluation of the 3rd Year is critical (D), the PhD Candidate is supposed to attend an additional Milestone D* after 6 months from the beginning of the (additional) 4st Year. The content of Milestone D* is a reiteration of the one of Milestone D, with the purpose of demonstrating a progress with respect to the situation assessed at the end of the 3rd Year.

Candidates will attend the Milestone Training 3rd Year to help prepare Milestone D.

6.6 Thesis EVALUATION

In the case of positive FEA, the PhD Candidate is admitted to the Final Exam, to be completed preferably within five months upon admission. After the FEA, the ABC-PhD Board of Professors will approve the external examiners (please refer to the latest version of the Politecnico di Milano PhD School's regulations) proposed by the Supervisor of PhD Candidates; alternatively, the Board may suggest alternative names. The thesis will be submitted to examiners for revision. If examiners give a positive evaluation, the Final Exam will follow. External examiners may require some mandatory improvements to be implemented and delay the Final Exam up to six months. The revised version of the PhD Thesis must undergo a new evaluation by the external examiners, after which (even in the presence of a negative report) the PhD Candidate will be admitted to the Final Exam.

In the case the Final Exam is not accomplished within five months after the FEA, the FEA might be cancelled and repeated in a successive Milestone Event.

6.7 FINAL EXAM

In the Final Exam, the research work carried out by the PhD Candidate and their dissertation will be evaluated by the defence committee. This consists of three highly qualified members, at least two of which do not belong to the institution awarding the doctoral degree, including foreign institutions. Moreover, at least one member of the committee must be a university lecturer. The composition of the committee should to the extent possible respect gender balance. The Committee may be supplemented by no more than two experts from public or private research institutions, including foreign ones. Different compositions are allowed in presence of specific agreements (Double Degree or Jointly supervised candidates) with other research Institutions or PhD Schools. The Final Exam will occur within five months following the FEA. In exceptional cases, the ABC-PhD Board may establish an earlier date, in the last three months of the final year.

The defence committee can be created only once the PhD Candidate has been admitted to the Final Exam by the ABC-PhD Board. The following deadlines should be respected before the established date for the Final Exam:

1. The ABC-PhD Office should register the Final Defence at least 45 days in advance;
2. The PhD Candidate must register at least 30 days before the Final Defence;
3. The PhD Candidate must upload the thesis at least 20 days before it;
4. The PhD Candidate's Supervisor (or the Head of ABC-PhD Programme) will approve it at least 15 days before the Final Defence, so that the defence committee has early access to the documents.

Two possible positive outcomes of a PhD Final Defense are ‘PhD granted’ or ‘PhD granted cum Laude’. A negative outcome of the Final Exam is irreversible.

7.Objectives and general framework of the teaching activities

ABC-PhD organizes jointly with the PhD School a broad range of training activities. Courses offered by ABC-PhD are regularly updated on the official Page of the PhD School offer and anticipated here in a broad form. Whether classes will effectively be offered also depends on the number of registered students. If enough students are not registered, the Course may be cancelled or postponed. Other Courses may also be added during the year, following the identification of a specific training need.

The Course Catalogue may also include courses that are not offered in the current Academic Year, but they will be scheduled in the next AY according to a two-year cycle. These will be communicated in a brochure describing the whole training activity of ABC-PhD Programme.

7.1 RESEARCH and TRANSFERRABLE SKILLS Courses offered by the PhD School

The following table documents courses provisionally on offer for for AY 2025/2026.

Name of the Course (AY 2024/2025)	ETCS
ADVANCED INTERACTION SKILLS FOR ACADEMIC PROFESSIONALS	5
COMMUNICATION STRATEGIES THAT SCORE IN WORLDWIDE ACADEMIA	5
CREATIVE DESIGN THINKING	5
DIGITAL HUMANISM	5
ENGLISH FOR ACADEMIC COMMUNICATION	5
ETHICAL ASPECTS OF RESEARCH ON DUAL-USE TECHNOLOGIES	5
ETHICS OF ARTIFICIAL INTELLIGENCE	5
HOW TO SUPPORT COMPLEX DECISIONS: APPROACHES AND TOOLS	5
INDUSTRIAL SKILLS	5
INNOVATIVE TEACHING SKILLS	5
INTRODUCTION TO ACADEMIC RESEARCH	5
LA COMUNICAZIONE NELLA SCIENZA	5
POWER OF IMAGES AND VISUAL COMMUNICATION FOR RESEARCH DISSEMINATION	5
PRACTICING RESEARCH COLLABORATION	5
PROFESSIONAL COMMUNICATION	5
PROJECT MANAGEMENT (IN ACTION)	5
PROJECT MANAGEMENT BASICS	5
RECORDING WORK 4 BUILDING MEMORY: METHODS, PRACTICES, TOOLS, SKILLS TO MANAGE THE KNOWLEDGE	5
RESEARCH COMMUNICATION. ISSUE MAPPING: EXPLORING PUBLIC DEBATES SURROUNDING ACADEMIC TOPICS	5
RESEARCH SKILLS	5

SCIENCE DIPLOMACY FOR RESEARCHERS. FILLING THE GAP BETWEEN SCIENCE AND POLICY WITHIN THE GLOBAL CHALLENGES	5
SCIENCE, TECHNOLOGY, SOCIETY AND WIKIPEDIA	5
SCIENTIFIC/ACADEMIC ENGLISH: WRITING AND PRESENTING WITH AND WITHOUT THE SUPPORT OF LLMS	5
SCIENTIFIC COMMUNICATION IN ENGLISH	5
STRENGTHENING CRITICAL SPATIAL THINKING	5
SULLA RESPONSABILITÀ ETICA DELLA TECNICA	5
SUSTAINABILITY METRICS, LIFE CYCLE ASSESSMENT AND ENVIRONMENTAL FOOTPRINT	5
TEACHING METHODOLOGIES, STRATEGIES AND STYLES	5
THE COPERNICUS GREEN REVOLUTION FOR SUSTAINABLE DEVELOPMENT	5

7.2 ABC-PhD Courses

Name of the Course	ECTS
COMPOSITES AS REINFORCEMENT FOR CONCRETE STRUCTURES AND STRENGTHENING FOR EXISTING STRUCTURES	5
DISTRICT ENERGY SYSTEMS. A FOCUS ON THERMAL NETWORK AND DISTRICT HEATING AND COOLING (DHC) SYSTEMS BASED ON RENEWABLES AND WASTE	5
THE ORIGIN AND USE OF SKETCHES - DRAWINGS FROM THE ANTIQUE	5
RESEARCH IN BUILDING PROCESS MANAGEMENT: TOWARDS A DIGITAL AND CIRCULAR ECONOMY	5
MECHANICS AND COMPUTATIONAL MODELLING OF MASONRY STRUCTURES	5
ASSESSING THE SOCIO-ECONOMIC IMPACT OF CULTURAL HERITAGE: TOOLS AND METHODS	5
CIRCULAR TRANSITION IN THE CONSTRUCTION SECTOR	5
COMPLEX CONSTRUCTIONS. INNOVATING HEALTH PROMOTION AND DISEASE PREVENTION FROM URBAN TO BUILDING SCALE.	5
DATA ANALYSIS AND VISUALIZATION USING PYTHON	5

7.3 MILESTONE TRAININGS

Name of the Course	ECTS
RESEARCH METHODOLOGIES FOR THE FIRST YEAR OF THE PHD CAREER (MILESTONES A-B)	5
MILESTONE TRAINING SECOND YEAR (Scientific writing and MILESTONE C)	5
MILESTONE TRAINING THIRD YEAR (presentations and public speaking - MILESTONE D)	5

7.4 Presentation and approval of the Candidate's PhD Agreement

The first version of the PhD Agreement should be uploaded by each Candidate within the deadline to be communicated at the beginning of the First Year.

The Supervisor will approve the Candidate's PhD Agreement, and any successive modifications, reporting to the Head of PhD-ABC Programme.

7.5 Instructions for the yearly Evaluation Milestones and other reviews

At the end of each year, the ABC-PhD Board will periodically meet each PhD Candidate, in a public Evaluation Milestone (types: B, C, D), to monitor their advancements, results and plans. The ABC-PhD Board in general appoints this task to a sufficient number of Milestone Committees. The PhD Candidate will be asked to submit:

- the updated PhD Agreement;
- the updated EoY Report (about active and completed Research and Training tasks);
- an upgraded copy of Candidate's scientific outcomes, achieved or delivered in Courses, Research Activities, Scientific Journals or Conferences, or other public activities;
- The specific document related to the Milestone to attend.

The Candidate's Supervisor will endorse the EoY Report and submit a synthetic written evaluation of the Candidate's activities.

The ABC-PhD Board will give a motivated evaluation of the Candidates' activities and results. If the evaluation is positive (possible scores: A/B/C/D), they will be admitted to the next year. PhD Candidates who do not pass the EoY exam are qualified either as "Repeating candidate" (Er) or "not able to carry on with the PhD (Ei)". In the former case (Er), the Candidates are allowed to repeat the PhD year at most once. The PhD scholarships and the personal research budget – if any – are suspended during the repetition year. In the latter case (Ei) the Candidates are excluded from the PhD programme they will lose their scholarships – if any. In case the ABC-PhD Board holds appropriate to directly assign an exclusion evaluation (Ei) without a previous repetition year, the request must be properly motivated, and validated by the PhD School.

7.6 Knowledge of the Italian language

Candidates will be asked to demonstrate knowledge of the Italian language, equal to at least A1 level of the Common European Framework of Reference for the knowledge of languages. This requirement will be needed to register for the final exam. Italian native speakers and all those who can demonstrate knowledge of the Italian language to the required level will be exempt.

8. Services and Benefits

8.1 ABC-PhD Office

The ABC-PhD Office will provide information to PhD Candidates about deadlines to be met, Courses, Training Programmes, etc. Foreign Candidates are also supported with specific services such as Italian courses, residence permits, the possibility of joining a double PhD course in agreement with foreign Universities.

The ABC-PhD Office should be contacted for any technical issues (travels, authorizations, courses, Study Plan, etc.) and requests for information. Any request addressed to others may not be considered.

Communication with the ABC-PhD Office will be through the email address: dottorato-dabc@polimi.it.

8.2 Budget for the research activity

Each PhD Candidate from the 41st Cycle is awarded a PhD budget for three years, whose amount is mentioned in the relevant call. This budget can be used, pending prior authorization by the ABC-PhD Head, to fund (partially or totally) the participation to external training activities, summer schools, workshops, and conferences, to purchase material related to the PhD research (whose owner will at the end of the PhD study period remain the ABC Department). This budget will be available since the beginning of the First Year and can be anticipated from successive years, depending upon the authorization by the Head of ABC-PhD Programme. The individual budget for research activities may also be used after graduation, but within six months from the day of the Final Exam. During this time, the budget may be spent for payments directly related to the dissemination of the PhD outputs (i.e., for attending conferences, presentations, publication fees), but not for hardware purchase.

Hardware purchased with the PhD Budget belongs to the ABC Department, and should be used in agreement with specific rules. At the end of the PhD career (normally right after the Final Exam), hardware should be returned to the ABC-PhD Office. During suspensions, hardware cannot be brought outside Italy.

Under specific Thematic Scholarships, a higher budget for research activity may be available.

Each activity must be preventively authorized by the Head of the ABC-PhD Programme and the Supervisor. This occurs also in the case when funding does not come from the ABC-PhD budget. Candidates should also recall that any payment must be directly operated by the administration: please do not anticipate money from your pockets because it will not be refunded. Exceptions should be discussed in advance with the ABC-PhD Office.

8.3 Financial aids and benefits

Each year, Politecnico di Milano opens a call for the assignment of a financial aid for doctoral students who enrol or are going to enrol in a PhD programme, to encourage its attendance also by students without or limited financial means. The benefits are awarded through a competition based on an online application form, based on specific financial and merit requirements.

For further information, please visit the [DIRITTO ALLO STUDIO UNIVERSITARIO \(DSU\) web page](#).

Politecnico di Milano also opens a call for scholarship supplements (for participation in international mobility programmes) for the duration of a stay abroad (usually up to a maximum of 10 months) and for subsidized accommodation in Regional Campuses, for off-campus students, and for subsidized catering services.

Special attention is paid to:

- Foreign students coming from low-income countries, who are only requested to certify (through the Italian Representation in the country of origin) that they do not belong to a notoriously high-income, high-social status family;
- Stateless or political refugee students who must attach to their application the official statement certifying their stateless situation or status as political refugee as issued by the Italian Ministry of the Interior or by the delegated UN Office;
- Disabled students.

Students who have applied or intend to apply for financial aid must ask and give prompt written notice to the [Financial Aid and International Mobility Service](#).

8.4 Laboratories

ABC-PhD promotes experimental research. The ABC-PhD Programme receives support from all Politecnico di Milano labs. Moreover, the ABC Department offers experimental facilities within the [ABC Lab](#).

9. Internationalisation and other activities

9.1 Visiting periods, joint/double supervision, joint/double PhD titles

Networking with other researchers is always strongly recommended. PhD Candidates are also invited to carry out study and research activities at other labs or institutions, in agreement with their Supervisors and with the approval of the ABC-PhD Board.

Moreover, PhD Candidates, as other Politecnico di Milano students, can spend a period abroad at a European Institution with which Politecnico di Milano has signed a PhD-level Erasmus agreement, without additional taxes at the host site. They can also receive an additional economic support, if selected after applying to a competitive call. A similar opportunity for the Candidate is the Erasmus⁺ Traineeship that allows students to carry out an internship abroad in a company. More information will be made available on the [PhD School site](#) and the [Career Service site](#).

Politecnico di Milano is also always keen to collaborate with other researchers and experts also for supervision activities, the management, and the final evaluation of a PhD Candidate. Other experts may be added to the supervision team and two universities may organize a [Joint or a Double Degree](#) (issued by two joint PhD programs or two separate PhD programs), with an agreement to be approved by the ABC-PhD Board, the PhD School, and the by other Institutions involved.

Further information can be found on the PhD School and PhD programme websites.

9.2 ABC PhD OPENTalks

ABCPhD OPENTalks are a series of meetings that DABC staff organizes to link ABC-PhDs with other researchers from foreign or Italian research institutions or other Politecnico di Milano departments.

PhD Candidates are invited to propose the organization of OPENTalks, with the help of their Supervisor, either to exploit a visit to the department of an expert in their field, or a stay of an expert financed by other sources.

9.3 ABC NEST project

Periodically, the ABC Department issues a call to invite visiting professors from foreign universities. Applicants are selected based on their CVs and a research proposal they would develop during their visit at the ABC department. Once selected, each project is developed by a team of researchers under the guidance of the visiting professor. PhD candidates are encouraged to actively join these projects if these are related to their research topics. A recognition for effective attendance of NEST projects is released by including it in the Diploma Supplement.

9.4 ABC calls for funding cultural activities and social responsibility actions

Periodically, the ABC Department issues a call for funding initiatives and small projects to be developed by its members, including PhD candidates. PhD candidates are encouraged to join these projects when related to their research topics. A recognition for effective attendance of successful projects is released by including it in the Diploma Supplement.

10. Other rules

10.1 Publication policy²

The 4th Article of Politecnico di Milano's Statute encourages full and open access to knowledge, promoting the free circulation and the widest possible dissemination, also in digital format, of teaching, cultural and organizational contents. In addition, Politecnico di Milano has signed the Messina Declaration, transposing the Berlin Declaration on Open Access to Knowledge in Sciences and Humanities. This policy allows users to make available their own scientific products in open access mode through the [institutional repository Re.Public \(IRIS\)](#). This repository enhances visibility of the scientific activity of each Researcher.

PhD Candidates are requested to deposit their work at Politecnico di Milano (in the online catalogue UGOV), and encouraged to give consent to its visibility. Their research output will automatically be transferred into the institutional repository and made visible to everyone.

10.2 Ethics

ABC-PhD has the goal to develop a culture of institutional integrity and moral responsibility. PhD Candidates are requested to adhere to the recognized ethical practices and fundamental principles defined in National, Regional and University's Ethical Codes.

Candidates are accountable towards their funders, if any, and for the efficient use of taxpayers' money, if their scholarship is funded by public funds. In any case, they are accountable towards society as a whole, for which their research work must be relevant, and their products must not simply duplicate research previously carried out elsewhere.

In compliance with their contractual arrangements, PhD Candidates must disseminate and exploit, also commercially, or make accessible to the public (or both) whenever the opportunity arises, communicating and transferring them, also into other research settings.

They must avoid plagiarism of any kind, respect regulations about Intellectual Property Rights, joint data ownership in the case of research carried out in collaboration with other researchers, and the requirements and conditions of any sponsor or funder, independently of the nature of their contract. Researchers should adhere to these regulations by delivering the required results (e.g., thesis, publications, patents, reports, new products development, etc.) as set out in the terms and conditions of the contract or equivalent document. They must validate new observations by showing that experiments are reproducible. Methods of collection and analysis, the outputs and, where applicable, details of the data should be open to internal and external scrutiny, whenever necessary and as requested by the appropriate authorities.

Researchers should always adopt safe working practices, in line with national legislation, including taking the necessary precautions for health and safety and for recovery from information technology disasters, e.g., by preparing proper back-up strategies and by using tools for defending against network informatic attacks. When attending laboratory or field activities and technical visits, the PhD Candidate should comply with work security procedures, to be agreed with the Sector of the ABC-Department in charge of this task.

For no reason a PhD Candidate may assume formal responsibility roles in laboratory or any type of field activity.

If a PhD Candidate loses their data, the damage will not only involve themselves, but will be extended to the ABC Department. Consequently, if PhD Candidates have not taken all reasonable measure to prevent the data loss, they may be asked to repay the loss, with consequent impact on the EoY Evaluation (up to possible disciplinary procedures).

Candidates should also be familiar with the current national legal requirements regarding data protection and confidentiality protection requirements and undertake the necessary steps to comply with them.

PhD Candidates have the responsibility to ensure a positive working environment, in which the respect for

² The text is a short synthesis of [Politecnico di Milano's policy](#).

personal dignity and integrity is ensured, the value of diversity recognized, and intimidating or hostile climates avoided.

The ABC-PhD promotes PhD Candidates joining social and community activities.

PhD Candidates are encouraged to instantiate a cordial, trustful and collaborative relationship with their Supervisors and their research teams. Any occurrence of actions outside this code of conduct will be discussed by the ABC- Board, and may lead to some severe consequences in the PhD carrier.

10.3 Intellectual Property Management and Technology Transfer

Politecnico di Milano also aims at enhancing and valorise the results of scientific research. It promotes creativity and intellectual property of PhD Candidates, and supports them in the economic exploitation of their ideas.

In accordance with current regulations, when PhD Candidates develop an invention during their institutional activity or during independent research activities developed using equipment and facilities of Politecnico di Milano, during research activities funded or co-funded by third parties who do not exploit directly or indirectly the results, Politecnico di Milano is the owner of the economic rights and the protection of the invention is to be considered a duty of all parties, with the help of the competent office for the valorisation of Research (TTO - Technology Transfer Office), that must be informed as soon as possible. If PhD Candidates realize the invention independently, they are also owners of the economic rights, but they should always ask Politecnico di Milano to acquire relevant rights.

Details of the rights and duties of the parties are defined in the Regulations on industrial property of the University.

10.4 Candidates' Document Management

Every document representing the activity of the PhD Candidate as student and early-stage researcher of Politecnico di Milano must be made available to the ABC-PhD Board, using the following naming rule:

MILESTONE DOCUMENTS:

SURNAME NAME NN title of the document (i.e., ROSSI PAOLO 03 Position Report or ROSSI 03 notes)

OTHER DOCUMENTS (papers, reports, course products):

SURNAME NAME YYYY title of the document (i.e.: ROSSI PAOLO 2015 Love in the Romantic Literature)

NN = progressive number of the milestone

YYYY = year of the document

All documents will be uploaded in the PhD Candidate's personal area.

Attachment A1 – ABC-PhD Programme Board (Collegio dei Docenti)

Cognome e Nome	SSD 2024
BELLINI Oscar Eugenio	CEAR-08/C
BOERI Elisa	CEAR-11/A
BONFANTE Francesca	CEAR-09/A
BONIOTTI Cristina	CEAR-11/B
BRANDUINI Paola Nella	CEAR-11/B
BRIGHENTI Tommaso	CEAR-09/A
CAPUTO Paola	IIND-07/B
CARAGLIU Andrea Antonio (Head)	ECON-04/A
DAGLIO Laura (Deputy Head)	CEAR-08/C
GENTILE Carmelo	CEAR-07/A
IAROSSO Maria Pompeiana	CEAR-10/A
KANYILMAZ Alper	CEAR-07/A
LAVAGNA Monica	CEAR-08/C
LEONFORTE Fabrizio	IIND-07/B
LORENZI Angelo	CEAR-09/A
LUPICA SPAGNOLO Sonia	CEAR-08/B
MAININI Andrea Giovanni	CEAR-08/A
MALIGHETTI Laura Elisabetta	CEAR-08/A
MILANI Gabriele	CEAR-06/A
MORENA Marzia	CEAR-08/C
PERUCCA Giovanni	ECON-04/A
PITTAU Francesco	CEAR-08/B
PREVITALI Mattia	CEAR-04/A
QUAGLINI Virginio	CEAR-07/A
REBECCHI Andrea	MEDS-24/B
SALVALAI Graziano	CEAR-08/A
SCAIONI Marco	CEAR-04/A
TINAZZI Claudia	CEAR-09/A
TORRIERI Francesca	CEAR-03/C
VETTORI Maria Pilar	CEAR-08/C

Attachment A2 – ABC-PhD Advisory Board

The Advisory Board is usually consulted at the end of every year, for a qualitative assessment of the PhD Programme, for an independent assessment of the results of the Candidates of each cycle, and to receive suggestions for the improvement of its relationship with the society.

The following highly referenced experts are the members of the ABC-PhD Advisory Board.

Teresa BAGNOLI, graduated in International Political Sciences at the University of Bologna, with specialization at the LSE in London (1994) and a Master in Project Management (1995). She worked for six years as a freelance economist for several companies and since 2001 in ART-ER.

Since 2021 she is Area Manager of Investment and Constructions Area and Manager for several complex and strategic projects in ARTER (Project Manager of Horizon, European projects, and Climate KIC-EIT actions; Area Manager in the Spinner Consortium for technology transfer and NTBF). She is member of several Evaluation and Technical-Scientific Committees, in particular, since 2018 she is Expert Evaluator for the European Commission (EIC - SME Instrument, EIC- Accelerator and LIFE 2024).

Alessandra FAGGIAN is Professor of Applied Economics, Director of Social Sciences and Vice Provost for Research at the international PhD school **Gran Sasso Science Institute**, L'Aquila, Italy. **Moss Madden Memorial Medal** (2007) and **Geoffrey Hewings Award** (2015) she is also President of the **North American Regional Science Council** (NARSC) and co-editor of the journal **Papers in Regional Science** with Roberta Capello.

In a recent ranking of the top 100 regional scientists in the world (Rickman and Winters, 2016), she was ranked 19th.

Paola GUZZETTI (MSc in Architecture @Politecnico Milano), Manager of the Sector for Museum, Archives, Libraries and Digital Services for Culture - Regione Lombardia administration

Mary MCNAMARA, fellow of the Royal Society of Chemistry and an active researcher in the development of novel drug delivery systems, is Head of the **Graduate Research School** at **Dublin Institute of Technology** (the largest provider of higher education in Ireland) and former member (2012-2018) of the steering committee of the Council of Doctoral Education of the European Universities Association (EUA CDE). She is also member of the **Irish National Forum on Research Integrity** and of the National Advisory Forum for Ireland's **National Framework for Doctoral Education**.

Catherine MAUMI, Architect, Doctor (EHESS), HDR (Paris 8) is full Professor (tenure) of Histoire et Cultures architecturales at the **Ecole Nationale Supérieure d'Architecture de Paris-La Villette**.

She is the scientific director of the “**Laboratoire de recherche Les Métiers de l'Histoire de l'Architecture, édifices-villes-territoires**” (MHAevt) and Doctoral supervisor of the Doctoral School 454: Sciences de l'Homme, du Politique, du territoire, University Grenoble Alpes.

Agnes WEILANDT (MSc in structural engineering @RWTH Aachen and PhD at the Technical University Stuttgart, Germany) is project manager at **Bollinger + Grohmann Ingenieure** since March 2006, involved in many national and international projects, and Professor for structural analysis and construction engineering at the **University of Applied Science in Frankfurt**, since 2010.

Before and also during her time at the Technical University Stuttgart, Agnes Weilandt worked with Werner Sobek Ingenieure in Stuttgart.

Luca VITTUARI (MSc in civil engineering and PhD on Geodetic and Mapping Sciences @University of Bologna) Professor of Geomatics at Department of Civil Chemical, Environmental and Materials Engineering (DICAM) at the University of Bologna, since 2010. He has been Coordinator of the PhD programme on Civil, Chemical, Environmental and Materials Engineering @University of Bologna.

Attachment A3 – Figures and responsibilities of ABC-PhD Programme

1. The PhD Candidate

Admitted Applicants, once evaluated, accepted, completed the administrative procedures, and registered, become PhD Candidates and carry out full time study and research for three years (four years in the case of some types of programmes).

Candidates are expected to have a proactive approach: in planning and reviewing their research activities with their Supervisors, in their interaction with their Tutor and with their colleagues.

2. The ABC-PhD Board of Professors

The ABC-PhD Board of Professors is currently composed of a maximum of 30 members from the ABC Department. The composition and number may be changed, depending on the decision of the ABC Department Board. The ABC-PhD Board of Professors and its Head are the governing bodies of the Programme:

- The ABC-PhD Board of Professors defines the Educational Plan of the PhD programme and is responsible, also from an administrative point of view, for the management and execution of every teaching and cultural activity related to it (lectures, seminars, OpenTalks, Milestones, project workshops, laboratories). The ABC-PhD Board of Professors is also responsible for ensuring the widest possible publicity about its activities, within the scientific community, in order to gain the widest confrontation and sharing;
- The ABC-PhD Board of Professors proposes to the Rector the commissions appointed with the comparative assessment of the candidates for the Access to PhD programmes and the Examining Boards for the Final Exams and the award of the PhD title;
- The ABC-PhD Board of Professors appoints the Supervisor of PhD Theses (and authorizes, if requested, the use of a language other than Italian or English) and it approves the proposed Research Topic, the title of the PhD thesis;
- The ABC-PhD Board of Professors authorizes and recognizes the research and teaching activities of the PhD Candidate in other universities, summer schools and cultural institutions and, at the end of each year, assesses PhD Candidate's activity, commitment, and results, to decide whether they may continue on to the next academic year or to the final examination, if the PhD Candidate attended the last regular year. The ABC-PhD Board of Professors, if suggested by the Tutor or by its autonomous motivated decision, may nevertheless review and assess the activity of a Candidate in any moment of the year.

3. The Head of the ABC-PhD Programme

The ABC-PhD Board of Professors selects a coordinator (Head of ABC-PhD), in conformity with Politecnico di Milano's Regulations. The Head of ABC-PhD is in charge of the programme management for a period of three years (with an optional second, and non-renewable, three-years term), supported by the ABC-PhD Office. The Head represents the ABC-PhD Programme in the PhD School Council and, in agreement with the ABC Department, organizes the educational and cultural activities of the project. The Head of ABC-PhD can approve the PhD Agreement that will describe how Candidates will develop their research. In addition, The ABC-PhD Board of Professors may appoint or delegate the Head of ABC-PhD for some functions to speed up those processes necessary to allow a regular proceeding of the activities of PhD Candidates and the programme.

4. The Tutor

The PhD Candidate's Tutor is chosen among the members of the ABC-PhD Board of Professors, with the double goal of proximity of research topics with the potential candidate and independence from the PhD Candidate's Supervisor. The Tutor has the assignment to be a friendly point-of-reference for the Candidate to help them dealing with problems related to research, training, and relationships with university colleagues.

If requested and needed, the ABC-PhD Board of Professors may change the Tutor and reassign tutorship to other board members.

In the case a Tutor ends their appointment as member of the Board, the position should be replaced by another effective member of the Board. Exception to this rule may be made when the tutored candidate has already completed the basic three years (or four years in the case of Executive or double-degree programmes) and is approaching the conclusion of the PhD career.

5. The Supervisor

Supervisors are responsible to the ABC-PhD Board of Professors for ensuring that the PhD Candidates' thesis work is performed and that they comply with the directives and their PhD Agreement.

They are expected to act as mentors, imparting wisdom and the best principles and sharing knowledge with the PhD Candidate. They support their PhD Candidates in the development of their personal skills and research expertise, encourage the PhD Candidate to attend specific Courses and to take part in selected Research Activities. Moreover, they push their PhD Candidates to find an early confrontation about their research results, i.e., publishing their work or taking part in peer-reviewed international conferences, and to enforce networking with other PhD Candidates and other researchers, at an international level.

The Supervisor is a specialist in PhD Candidate's Research Topic, may not be a member of the Board and may belong to Institutions different from Politecnico di Milano. One or more co-Supervisors may be appointed, to support the Supervisor with specific competencies and expertise. They commit to complying with the directives of the ABC-PhD Board and the Regulations of the PhD Programme.

Supervisors and co-Supervisors are expected to practice a continuous monitoring activity on their PhD Candidates' work, to understand if their plan is followed, if it is to be modified, accelerated or slowed.

At the end of each year, the Supervisor screens the quality of the EoY output of the PhD Candidate and of their whole activity. To this aim, the Supervisor makes a formal evaluation proposal to be presented to the Committee of the Milestone Session.

If requested and needed, the ABC-PhD Programme Board may change the Supervisor and assign this responsibility to another expert.

6. The Evaluation Committee

The ABC-PhD Board may delegate to an Evaluation Committee, that will include at least two members, the task of assessing Candidates during Evaluation Milestones. The Evaluation Committee will report to the ABC-PhD Board of Professors the results of its assessment, starting from the evaluation proposal of their Supervisors.

7. The Final Exam Committee

The Final Exam Committee is composed of at least three experts, at least two of which are external examiners, i.e., not part of the university teaching staff.

8. The ABC-PhD Office

The PhD Office, organized by the ABC Department, supports the organization of all the activities of the PhD

programme.

9. The Candidates' representative

Following the ABC Department Regulation, PhD Candidates elect one official representative in the Department Council. Candidates may autonomously elect one or more additional unofficial representatives, one per each Cycle, to discuss teaching problems with and to be consulted by the ABC-PhD Board of Professors and the Head of the Programme.

10. The PhD Agreement

The PhD Candidate details and plans their activity in the PhD Agreement. This gives evidence of every educational activity that has been planned to let the PhD Candidate reach adequate proficiency in their field, master the chosen Research Topic, develop a research-oriented mindset and a strong communication ability.

The PhD Agreement should be prepared by each Candidate during the first year and submitted by the deadline communicated after the beginning of the programme.

11. The Doctoral Courses

A Course is a structured teaching activity, with a stated training mission (knowledge to be acquired) and a final learning assessment. It may focus on basic issues (problems, theories, methods) or on the founding elements of a discipline, teach specific skills and tools, report a debate and cultural positions, propose analytical strategies and models. It may be based on lectures, cooperative learning activities (laboratory experiments, design projects, group-homework assignments, etc.), brainstorming workshops and discussions, case-study analysis and role playing or other lecture plans.

A Doctoral Course is characterized by the aim to foster critical attitude and research mindset, and to represent the state of the art of a specific research field and the evolution of the scientific debate it produces.

The product (as homework or as classwork) requested by a Doctoral Course to PhD Candidates is oriented to their PhD Thesis work or to something that could take to the redaction of a scientific paper, a conference presentation or similar.

The average 5 ECTS Doctoral Course, with a standard mix of lectures, exercises and other classwork activities, engage the student from a minimum of roughly 30 hours to a maximum of 40 hours. These limits nevertheless are not strictly mandatory, and depend on the nature of the teaching activities.

12. The Course Catalogue

The Course Catalogue is the collection of all courses and cultural activities offered and endorsed by the PhD Program, that PhD Candidates may take advantage of, to pursue the aims of their PhD Agreement. On the contrary, with the term "teaching activity" this document refers to activities performed by the PhD Candidate, when authorized.

13. The PhD Thesis

The main objective of a PhD Candidate is the development of an original research contribution. This contribution will be reported in the Candidate's PhD Thesis, written under the guidance of the appointed Supervisors. The thesis may report results that the PhD Candidate has already published only if they have been obtained during their PhD Programme activities.