

Organizational and Teaching Regulations of the PhD Programme in "Methods and Models for Sustainable Engineering"

Department of Civil, Computer and Aeronautical Technologies Engineering

Article 1

Scope of Application

1. These Regulations, adopted pursuant to Article 7, paragraphs 1 and 2, of the University Regulations governing PhD programmes, regulate the organizational and teaching aspects of the PhD programme in Methods and Models for Sustainable Engineering, hereinafter referred to more briefly as the “programme”.

Article 2

Educational Objectives and Organization of the Programme

1. The PhD programme aims to train future PhD graduates in skills relating to modelling and the development of methodologies for engineering oriented towards the characteristic themes of the energy transition and environmental sustainability. The PhD programme is deeply and effectively rooted in the objectives of developing a resilient production system and achieving climate neutrality by 2050, which are the cornerstone principles of the development scenario outlined in the Horizon Europe programme. Sustainability is understood here not only as the fair and efficient use of resources, but in the broader sense that includes the protection of health and quality of life. Students in the programme may develop research projects on topics belonging to the disciplinary areas of materials science and technology, physics of matter, flight mechanics, photonics, acoustics, the science of complex systems, electrical engineering, fluid dynamics, static conversion of electrical energy and electric drives, automatic control, bioengineering, telecommunications, aerospace structures and construction, while also enriching and deepening their knowledge of topics that enhance their methodological development skills, such as robust multidisciplinary optimization in the presence of uncertainties, mathematical physics, network theory and complex systems, and computational intelligence applied to the optimization and identification of nonlinear physical models. Within the field of sustainability, the PhD programme will also focus on the topic of integrated mobility and the related disciplines, such as transport. Finally, the programme will be enriched by topics arising from activities carried out in synergy with the Ostia Campus in the field of renewable energy and environmental monitoring in the context of marine applications.

The scientific and teaching pathway will enable the development of analytical and modelling skills for physical systems. Future PhD graduates will learn to use extremely advanced technological equipment thanks to the presence of equipped laboratories that are currently operating in the different research sectors.

Given its strong multidisciplinary character, as evidenced by the scientific sectors involved, together with the topics addressed, which are of general and current interest, the PhD programme in Methods and Models for Sustainable Engineering will enable future PhD graduates to obtain broad-based qualifications in the fields of engineering and technologies for the green transition, which will increasingly represent an essential aspect for technical and scientific profiles in industry and European society in the coming years. Employment opportunities after such a high-level training pathway are significant. PhD graduates in “Methods and Models for Sustainable Engineering” will be able to make use of the skills acquired both in industry and in academia or in basic or applied research.

2. The training activities, which may also be delivered in English, are organized as follows:

- a) common training activities, aimed at providing PhD students with skills relating to the techniques and methods of conducting scientific research, as well as the common basic knowledge needed to pursue the programme’s educational objectives;

- b) specific training activities aimed at providing and/or completing the PhD students' knowledge and skills;
 - c) other training activities chosen by the student, subject to approval by the Programme Board, which verifies their consistency with the training pathway and/or with the PhD student's thesis project.
3. The bodies of the programme are the Coordinator and the Programme Board.

Article 3

Composition of the Programme Board

1. The Programme Board is composed of:
- a) university faculty members identified in the proposal for activation of the programme;
 - b) two representatives of the students enrolled in the programme, belonging to the second or third year, who participate in the meetings of the body in an advisory capacity for the discussion of teaching and organizational issues relating to the programme; they do not participate in discussions or resolutions concerning the annual evaluation of enrolled students or the organization of the final examination;
2. The Programme Board may also include:
- c) senior researchers and research directors, or equivalent roles, from public research bodies;
 - d) experts of proven qualification, even if they do not belong to universities or public research bodies, up to a maximum of one third of the total composition of the Programme Board.
3. The replacement of members or the admission of additional members to the Programme Board, in compliance with the limits established by the relevant legislation, is proposed by the Programme Board to the Department Council and formalized by decree of the Department Director.
4. The members referred to in letter b) are identified through an electoral procedure called by the Director of the Department serving as the administrative seat of the programme. The right to vote and to stand for election belongs to all PhD students enrolled in the programme, excluding those under co-tutelle arrangements who are primarily enrolled at a foreign university, at the time the electoral procedure is called. Article 41, paragraph 6, of the University Statute applies to this procedure; under that provision, the quorum for the validity of the vote is equal to 15% of those entitled to vote. The call for elections establishes the further rules of the procedure.
5. The term of office of the members referred to in letter b) lasts until the conclusion of the training cycle of the respective programme, or until termination of enrolment if such termination occurs before the end of the training cycle. If one of the representatives ceases to hold office for any reason, the Department Director initiates a new electoral procedure to reconstitute the representation.

Article 4

Powers and Operating Procedures of the Programme Board

1. The Programme Board:
- a) elects its Coordinator from among its members;
 - b) organizes the training offer, also by promoting common initiatives, and oversees the management by supervisors and co-supervisors of the scientific and teaching activities of students enrolled in the programme;
 - c) proposes to the Rector the signing of co-tutelle thesis agreements with foreign universities for the purpose of awarding a double PhD degree;
 - d) resolves on PhD students' activities and their evaluation;

- e) resolves on the proposed composition of the selection boards for admission to the programmes, which are subsequently appointed by Rector's Decree;
 - f) resolves on the designation of thesis evaluators for the awarding of the PhD degree, who are subsequently appointed by the Department Director;
 - g) resolves on the proposed composition of the evaluation committees for the awarding of the PhD degree, which are subsequently appointed by Rector's Decree;
 - h) reports to the Department Council on the organization and activities of the programme;
 - i) proposes to the Department Council the annual activation of the programme and the planned number of places;
 - j) proposes to the Rector, pursuant to Article 10, paragraph 6, of the University Regulations governing PhD programmes, any amendments or additions to the admission call;
 - k) proposes to the Department Council the signing of agreements with other universities or with other public and private bodies;
 - l) proposes to the Department Council amendments or additions to its own composition;
 - m) proposes to the Department Council the adoption of these Regulations, as well as any subsequent amendments and additions thereto.
2. The Programme Board meets in person or in accordance with the rules contained in the University Regulations for the holding of remote meetings of collegial bodies, in time to perform the duties assigned to it; as a rule, according to a pre-established calendar, at least every two months and whenever the Coordinator deems it appropriate. The meeting is convened by email by the Coordinator at least five days before the meeting itself, with the agenda divided into specific items. The notice period may be shortened in cases of particular urgency.
3. Meetings of the Programme Board are chaired by the Coordinator or, in the Coordinator's absence, by the Deputy Coordinator or, if the latter is also absent, by the most senior full professor present at the meeting. Meetings are valid if all those entitled to participate have been duly convened pursuant to the preceding paragraph and if an absolute majority of the members of the body is present. In calculating the above majority, those entitled to participate who have previously justified their absence in writing are not counted, and faculty members on mandatory leave due to incompatibility situations or on alternating leave pursuant to Article 17 of Presidential Decree No. 382/1980 are counted only if they attend the meeting.
4. Resolutions of the Programme Board are adopted by an absolute majority of those present, except in cases where the law or University regulations provide for different majorities. In the event of a tie, the vote of the Coordinator, or of the person chairing in the Coordinator's place, prevails. Where a resolution must be adopted by an absolute majority of the members, faculty members on mandatory leave due to incompatibility situations or on alternating leave pursuant to Article 17 of Presidential Decree No. 382/1980 are counted only if they attend the meeting. Voting takes place by show of hands.
5. Persons who are not members may not attend meetings of the Programme Board, unless their hearing is considered appropriate for the discussion of specific matters. In such cases, the Coordinator issues the invitation and the Programme Board ratifies it at the beginning of the meeting. Non-members must leave the meeting when votes are taken.
6. No one may take part in the discussion or vote on matters concerning them personally, or concerning a relative or in-law up to the fourth degree.

Article 5

Admission to the Programme

1. The selection procedure for establishing the merit ranking for admission to the programme takes place as follows:

- evaluation of qualifications and interview, scored out of sixty: 30 + 30.

2. The selection procedure for establishing the merit ranking for reserved places takes place as follows:

- evaluation of qualifications and interview, scored out of sixty: 30 + 30.

Article 6

Supervisors and Co-supervisors

1. The Programme Board assigns each PhD student a supervisor and one or more co-supervisors, at least one of whom must be from academia. They may also be chosen from among individuals external to the Programme Board, provided that at least one of them meets the requirements for members of the Programme Board itself, according to the following procedures and timeframes:

- as a rule, within 90 days of the issuance of the Rector's Decree establishing the composition of the PhD cycle, the Coordinator, having obtained the availability of faculty members and the expressions of interest of the PhD students, proposes to the Programme Board a supervisor and one or more co-supervisors for each PhD student. After verifying the correspondence between the scientific expertise of the proposed supervisor and co-supervisors and the PhD student's curriculum and training plan, the Programme Board assigns each PhD student a supervisor and one or more co-supervisors.

2. The main functions and responsibilities of the supervisor and co-supervisors are:

- to prepare the training plan together with the PhD student and define the student's teaching activities;
- to guide the scientific activity;
- to express their opinion on the activities of the assigned students, to be submitted to the Programme Board for progress assessments under Article 8.

Article 7

PhD Students' Training Plans

1. The plan containing the description of the study and research objectives of each PhD student and the related activity programmes for each year of the programme, including any periods of stay abroad for the purpose of verifying financial sustainability, is submitted by each PhD student, in agreement with their supervisor, to the approval of the Programme Board according to the following procedures and timeframes:

- at the beginning of each year of the programme, each PhD student submits the proposal for the relevant training plan to the Coordinator.
- after receiving the training plans, the Programme Board normally resolves on their approval within 90 days of the start of the year of the programme.

2. The training plans, approved with any amendments resolved by the Programme Board, constitute the reference for the annual verification by the Programme Board of each PhD student's fulfilment of training obligations.

Article 8

Progress Assessments

1. The Programme Board verifies each PhD student's fulfilment of the training obligations defined in the relevant training plan, according to the following procedures and timeframes:

- at the end of the academic year, PhD student hearings are held to assess progress and scientific activities;
- at least 10 days before the date set for the hearings, each PhD student submits to the Coordinator a report on the training and research activities carried out during the year, using the specifically prepared guidelines;
- following the hearings, after hearing the supervisor's opinion, the Programme Board resolves on clearance for admission to the following year.

2. If an assessment is partially negative, or if there are justified reasons preventing the PhD student from fully fulfilling the training obligations, the Programme Board may resolve to repeat the annual progress assessment. This repetition takes place on a date deferred by no more than two months with respect to the timeframes set out in paragraph 1 and only once during each PhD student's three-year programme. If this occurs for a PhD student with a scholarship, upon receipt of the minutes of the Programme Board ordering the deferral of the annual assessment, the administration immediately suspends the scholarship. Its payment, including any arrears, resumes upon receipt of the minutes in which the Programme Board expresses its positive opinion on the student's successful completion of the assessment and on the regular continuation of the training activities.

3. In the event of a definitive negative assessment, the Programme Board resolves that the PhD student shall forfeit their place on the programme, and the right to receive any scholarship ceases from the date of that resolution. The exclusion of the PhD student from the programme is then ordered by measure of the competent Manager.

Article 9

Organizational, Administrative and Teaching Requirements

1. In carrying out their activities, students enrolled in the programme are required to observe the following instructions:

- requests for authorization to participate in off-site schools/courses/seminars must be sent to the programme secretariat using the specifically prepared forms, duly initialled by the supervisor and the Coordinator;
- requests for authorization for periods of stay in Italy must be sent to the programme secretariat using the specifically prepared forms, duly initialled by the academic supervisor and the Coordinator;
- requests for authorization for periods of stay abroad must be sent to the programme secretariat using the specifically prepared forms, duly initialled by the supervisor and the Coordinator;
- reimbursement requests must be authorized by the Department Director after submission of the specifically prepared forms, duly initialled by the supervisor and the Coordinator.

2. For all administrative and accounting requirements, the provisions and procedures in force at the Department serving as the administrative seat of the PhD programme must be observed.

Article 10

Budget for PhD Students' Research Activities

1. For each of the three years of the programme, all enrolled students are provided with a budget for research activities in Italy and abroad, set at 10% of the gross annual amount received by the student. Subject to authorization by the Programme Board, these funds may be used for the following expenses:

- missions in Italy and abroad;
- registration fees for conferences, seminars, etc., including any individual membership fees where they entail an economic advantage on the registration cost;
- research consumables, such as chemical reagents, audiovisual media, photocopies, stationery, electrical and electronic materials;
- publication expenses;
- specific training aimed at research, such as language courses;
- books and articles, in both paper and digital format;
- IT support for research, such as software licences;
- IT equipment supporting research, such as personal computers, tablets, monitors, keyboards, webcams and graphic tablets.

Article 11

Final Examination

1. The Programme Board initiates the procedures for admitting PhD students to the final examination for the awarding of the PhD degree according to the procedures and timeframes provided for in Article 13 of the University Regulations governing PhD programmes.
2. By 30 September of the final year of the programme, the Programme Board proposes, for each PhD student, the names of at least two evaluators who do not belong to Roma Tre and who possess highly qualified experience, at least one of whom is a university faculty member. The evaluators, who may belong to foreign or international institutions, are appointed by decree of the Department Director after accepting a confidentiality clause concerning their work.
3. The thesis is presented to the Programme Board, which subsequently sends it to the evaluators by 31 December of the same year. By the immediately following 31 January, and on the basis of a template prepared by the Programme Board, the evaluators express in writing their analytical assessment of the thesis, proposing to the Programme Board either admission to the public defence, possibly indicating the advisability of minor amendments, or postponement for a period of three or six months if they consider significant additions or corrections necessary.
4. On the basis of a comparative assessment of the opinions of the two evaluators, the Programme Board expresses its decision on the PhD student's admission to the final examination or on postponement, and proposes to the Rector the composition of the Final Examination Committee.

Article 12

Final Provisions

1. These Regulations are prepared by the Programme Board and approved by the Council of the Department serving as the administrative seat of the programme, which is also responsible for resolving on any subsequent amendments and additions, upon proposal by the Programme Board.