



UNIVERSITÀ
DI PAVIA

FACULTY OF ENGINEERING
DEPARTMENT OF CIVIL ENGINEERING AND ARCHITECTURE
DEPARTMENT OF ENVIRONMENTAL AND EARTH SCIENCES
UNIVERSITY SCHOOL OF ADVANCED STUDIES IUSS PAVIA
SCIENZE TECNOLOGIE E SOCIETÀ

COURSE REGULATIONS
(Art. 12 – M.D. no. 270, 22 October 2004)

SECOND CYCLE INTER-UNIVERSITY DEGREE
IN
CIVIL ENGINEERING FOR MITIGATION OF RISK FROM
NATURAL HAZARDS
Class LM-23
(Second Cycle Degree in Civil Engineering)

2024/2025 ACADEMIC YEAR

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PART ONE – GENERAL PROVISIONS

Art. 1 – Name, class, department and duration

1. The second cycle inter-university degree course in *Civil Engineering for Mitigation of Risk from Natural Hazards*, set up by the Department of Civil Engineering and Architecture, is conducted in collaboration with the University of Pavia and the University Institute for Advanced Studies IUSS Pavia, and coordinated by the Faculty of Engineering of the University of Pavia. It belongs to class LM-23 of second cycle degree courses in Civil Engineering, in accordance with the Ministerial Decree of 16 March 2007.
2. The duration of the second cycle degree course is two years.

Art. 2 – Regulatory texts

1. In accordance with the freedom of teaching and the rights/obligations of teaching staff and students, the didactic organization and the carrying out of training activity envisaged for the second cycle inter-university degree course in *Civil Engineering for Mitigation of Risk from Natural Hazards* are governed by the present regulations, in compliance with the Agreement stipulated between the University of Pavia and the IUSS for the establishment, activation, organization, and shared management of the Study Course, with the Statute of the University of Pavia, with the General Regulations of the University of Pavia, with the University Course Regulations, with the Students Career Regulations of the University of Pavia, with the Regulations for the registration of part time students of the University of Pavia, by the Regulations of the Department of Civil Engineering and Architecture, and by the Regulations of the Faculty of Engineering.
2. The regulations detailed in the previous paragraph are published on the university website at the following addresses:
 - [Statute and Regulations of the University of Pavia](#)
 - [Regulations of the Department of Civil Engineering and Architecture](#)
 - [Regulations of the Faculty of Engineering](#)
 - [Agreement between University of Pavia and IUSS](#)
3. Regarding all matters not explicitly provided for in the present Regulations, prevailing laws will apply.

Art. 3 – Body responsible for didactic and organizational coordination

1. In compliance with the competences and criteria established by the Statute and Regulations detailed in art. 2, the body responsible for the degree course is the Department of Industrial and Information Engineering that has delegated the Faculty of Engineering the responsibility for didactic co-ordination, pursuant to art. 25 and 26 of the Statute. The Information Engineering Academic Advisory Board, hereafter referred to as ‘Board’, is responsible for the didactic and organisational co-ordination of the degree course, in compliance with the Department and Faculty competences and indications mentioned above, with particular reference to that detailed in art.4 regarding the composition and functioning of Academic Advisory Board.
2. The Faculty president, Department Director, President of the Academic Advisory Board, the degree course co-ordinator, the list of members of the Quality Supervision Board and the list of members of the Review Commission, are published on the Faculty of Engineering website ([Governance](#)).

Art. 4 – Administrative services

1. The administrative services provided for the degree course are:
 - The Student Administration Offices (UOC Carriere studenti, UOC Immatricolazione e informastudenti, UOC Admission office), which manage all administrative affairs during the student's university career, from entry to graduation. This includes enrolment, transfers, fees, validation of qualifications and student mobility. The offices are situated in Via Ferrata 1, Pavia; the website can be consulted at <https://portale.unipv.it/it/ateneo/organizzazione/amministrazione/area-didattica-e-servizi-agli-studenti>;
 - [The Orientation Centre \(C.OR.\)](#) that manages activities and projects to aid students in their choice of university course, provides support throughout students' university career and smoothes entry into the workplace. To this end, the Centre organises both individual and group activities, consultancy services and orientation meetings.
 - [The Faculty of Engineering Administrative Office](#);
 - [The Department of Industrial and Information Engineering Administration Office](#)
 - The offices of the IUSS "Scienze Tecnologie e Società": www.iusspavia.it/

PART TWO – ORGANIZATION OF DIDACTIC ACTIVITIES

Art. 5 – Annual individual study plan card

1. The Annual Degree Programme Report (SUA) for the degree course, extracted from the ministerial database, can be consulted at the following address: <https://sonl.unipv.it/ava/index.php/2024SUA06418.pdf>

Art. 6 – Admission requirements

A) Prerequisites

1. The prerequisites for admission to second cycle degree course in *Civil Engineering for Mitigation of Risk of Natural Hazards*, as specified in the following paragraphs, related to the following three aspects:
 - (a) academic qualifications already held;
 - b) relevant educational skills acquired through previous academic studies (curricular requirements);
 - c) personal preparation, including knowledge of English.
2. Students applying for passage or transfer to the second cycle degree course in *Civil Engineering for Mitigation of Risk from Natural Hazards* from other second cycle degree programs or from other universities are subject, as far as admission requirements are concerned, to the same rules as those applying to enrolling students.

B) Academic qualifications

4. In order to be admitted to the second cycle degree course in *Civil Engineering for Mitigation of Risk from Natural Hazards*, applicants must be in possession of a three-year first cycle degree (ex MD 509/99 or ex MD 270/04), a three-year university diploma, a five-year degree (obtained under the previously existing university system, MD 509/99), or other qualifications obtained abroad that are recognized as being eligible under current legislation.

C) Relevant educational skills acquired through previous academic studies

5. Throughout their previous studies (first or second cycle degree courses, or enrolment in single subjects offered at university), students must have acquired a minimum of 96 credits (CFUs) in basic and specific educational activities, with reference to the scientific disciplines specified in the table below. The fulfilment of these requirements can be self-certified.

Educational activities	Academic discipline	minimum number of credits (CFUs)
Basic	MAT/01; MAT/02; MAT/03; MAT/04; MAT/05; MAT/06; MAT/07; MAT/08	18
	FIS/01; FIS/02; FIS/03	12
Specific	ICAR/01; ICAR/02	12
	ICAR07	6
	ICAR/08; ICAR/09	18
	ING-INF/01; ING-INF/05; MAT/09; ICAR/04; ICAR/06; ICAR/10; ICAR/17; ING-IND/11; ING-IND/13; ING-IND/22; ING-IND/31, CHIM/01; CHIM/03; CHIM/07 <i>or in the disciplines listed above if the minimum number of credits required is exceeded</i>	30
Total		96

6. For graduates of foreign universities, graduates holding a five-year degree (obtained under the previously existing university system, MD 509/99) or anyone who submits, for the purpose of having their curricular requirements recognised, educational activities that are not clearly identifiable through the academic discipline and/or the number of credits, the Committee appointed by the Board shall assess compliance of their previous academic studies with the required curriculum requirements.
7. In order to allow access to graduates with a high level of preparation and/or motivation, who come from educational courses not fully consistent with the required curriculum requirements, the Committee appointed by the Board, taking into account the skills demonstrated by candidates in their previous academic studies (as evidenced by the documentation attached to the application for university enrolment) and having evaluated, possibly by means of an interview, the candidates' motivation, may decide, by way of derogation, that the curriculum requirements presented are sufficient for admission to the second cycle degree course, subject to verifications on the adequacy of personal preparation as per the section *Adequacy of personal preparation*. In such cases, the Commission shall prepare a report outlining any shortcomings noted and indicating any constraints with which students will need to comply in the formulation of their study plans, including any lessons not listed in the standard study plans (see Appendix 1), for as many as 12 credits, respecting, however, the current university system and the total number of credits necessary for conferment of the degree (120 credits).
Nevertheless, should differences in the required curriculum requirements be considered incompatible with the educational program of the second cycle degree course, the Commission shall specify the examinations for single subjects that candidates must pass before being able to enrol in the second cycle degree course.
8. Those candidates for enrolment in the cases referred to in paragraphs 6 and 7 above must ask the Board of Teaching, which can in turn consult with the Committee appointed by the

Board if necessary, to assess the relevant educational skills acquired through previous academic studies so that they might be admitted to the second cycle degree course. The request may be submitted in allocated time slot, even by non-graduate students who have an approved three-year study plan at the time the request for assessment is made. The assessment of curricular requirements also takes into account the examinations not yet undertaken but included in the last-approved study plan. Any subsequent amendment to the study plan will require further evaluation.

D) Adequacy of personal preparation

9. The personal preparation required for admission to the second cycle degree course and referred to in the previous section *Prerequisites* is considered adequate if the candidate possesses:
 - a) a knowledge of the English language at least equivalent to level B2 of the CEF (Common European Framework).
 - b) a solid knowledge of basic engineering subjects, and good theoretical and practical training in specific engineering subjects.
10. Knowledge of English at B2 level can be demonstrated at the time of enrolment through the submission of an appropriate certification from those listed in Art. 19 below, or with documentation certifying an even higher level of English. Students possessing citizenship in countries where English is one of the official languages and/or who have been awarded a degree from an institution where the teaching is taught in English are not required to provide a certificate; the interested parties must, however, submit appropriate documentation.
11. A solid knowledge of basic engineering subjects, and good theoretical and practical training in specific engineering subjects is verified by the Commission through evaluation of the following documentation:
 - a) *Academic curriculum*, including the list of examinations undertaken, with relative marks, throughout the course of the study that led to the qualification required for admission.
 - b) *Curriculum vitae* (C.V.) containing all necessary information regarding the candidate (education, knowledge of languages and computer software, any work experience, other general information useful for sketching the candidate's personality). The candidate can freely choose the format to be used for C.V.

Students who have not yet obtained a degree may also ask for their personal preparation to be assessed, as long as they have already acquired at least 5/6 of the credits envisaged in their study plan (150 credits for Italian courses). Evaluation of the documentation outlined in the previous paragraph may be supplemented, at the discretion of the Commission, by an interview conducted in English, through which the candidate's actual knowledge of the language is verified. The interview, upon written request from the candidate, can also take place telematically.

12. Preparation is considered adequate, thus exonerating candidates from the assessment referred to in the preceding paragraph, if the final marks for their degrees are greater than or equal to 105/110, or if the average of the marks (taking into account all subjects with a mark that are awarded credits) is greater than or equal to 27/30. For a student who is not yet a graduate and therefore conditionally enrolled (see the following section under "Registration Status"), preparation is automatically considered adequate and does not require a specific evaluation if, at the time of conditional enrolment, the average of the marks hitherto

obtained (based on at least 150 credits and evaluated on the credits) is greater than or equal to 27/30.

13. In the case of a degree awarded by a foreign university, evaluation of a solid strong understanding of the basic disciplines and a good theoretical and practical background about engineering distinctive disciplines, is carried out on a case by case through an inquiry conducted by the Committee appointed by the Board on the basis of the documentation submitted by the student or eventually, through an interview, at the Commission's request

E) Conditional enrolment

14. Students who are in possession of the necessary curricular requirements and who have adequate personal preparation as specified in the aforementioned "*Adequacy of personal preparation*" section but who have not graduated within the normal deadline set for enrolment in the course will be eligible for conditional enrolment provided that it is requested before the deadline set out in the official notice.
15. Conditional enrolment, notwithstanding the provisions set forth in the Student Regulations of the University of Pavia, gives students the right to attend lessons in the first semester but not to undertake examinations until they have fully registered after the conferment of their degree, in any case no later than 31 October. If students have still not graduated by October 31, they forfeit to all intents and purposes their enrolment for the second cycle degree course and are automatically refunded the amount paid in enrolment fees, excluding stamp duty.
16. Even students who have not enrolled conditionally can do so by 31 October provided they have met all the prerequisites and that they pay interest on arrears.

Art. 7 – Didactic organization

1. The educational activities of the second cycle degree course lead to the acquisition, on the part of students, of university credits (CFUs) in accordance with current legislation.
2. The average total learning commitment sustained in one year by a full-time student is conventionally set at 60 credits.
3. Each credit granted in the course corresponds to an average total of 25 hours workload per student, of which at least 50% is set aside for personal study or other activities involving individual learning, except for highly experimental or practical educational activities. Didactic activity takes different formats: lectures, exercises and practical activities. For each subject, the distribution of hours of didactics among these three formats is determined by the teacher on the basis of the credits attributed to the subject itself, taking as a reference point the following average values:
 - 1 credit = 7.5 hours of lectures;
 - 1 credit = 12.5 hours of exercises;
 - 1 credit = 22.5 hours of practical activity.
4. All those didactic activities that involve a direct approach with physical aspects of the subject matter (laboratory or field activities, guided tours of facilities or companies, project drawings etc.) and which necessitate on the part of the student a modest reworking of the activity once it has been carried out, are considered 'practical'.
5. For some of the teachings offered, such as the courses on soft skills and the Sustainable Development Goals – SDG), as per the 2030 Agenda for Sustainable Development of the United Nations, by passing the exam, in addition to the registration of the related CFU, an open badge can be envisaged, a digital certificate as a proof of knowledge, competencies and abilities gained during the course. The certificate will be issued automatically after the registration of the exam and will be sent to the student's University of Pavia email address.
6. The credits pertaining to each training activity shall be acquired by students after they pass a

final examination or following other forms of assessment as to their preparation and the acquisition of skills.

7. Regardless of the duration of students' academic studies, acquired credits are not considered obsolete except for cases of termination or the waiver of studies for which, in the event of re-enrolment, the validation of previously-acquired credits is subordinated, *inter alia*, to an assessment of their possible obsolescence by Committee appointed by the Board (see Art. 16 below). In particularly well-motivated cases, the obsolescence of credits related to specific educational activities may be deliberated by the Board of Teaching once the opinion of the Executive Committee of the Faculty has been heard. A resolution of obsolescence provides details on how obsolete credits may be regained, establishing any additional assessments that the student may have to sustain in this regard.
8. The didactic organization of the courses is biannual and the academic year is divided into the following teaching periods:
 - a) 1st semester: from the end of September/beginning of October to mid-February
 - b) 2nd semester: from the beginning of March to the middle of JulySubjects are organized in the form of biannual lessons (the study plan usually envisages that students follow a subject for one semester), alongside other courses that are conducted serially throughout the semester.
9. By the end of May each year, the Executive Committee of the Faculty decides on the dates for the commencement and termination of the periods mentioned in the previous paragraph (calendar of teaching activity) for the following academic year; the approved calendar is published on the Faculty website.
10. For the final examination of the degree course (second cycle degree examination), 6 sessions per year are planned, to be held in the months of February, March, April, July, September, October and December., The Executive Committee of the Faculty decides on the dates for the second cycle degree examinations by December each year; the approved calendar is published on the Faculty website.
11. Every year, before the deadline set for the compilation of the Annual Individual Study Plan Card (see Art. 5), the lesson timetable for the following academic year is published, complete with indications regarding the classrooms where lessons will be held, as well as a detailed calendar of the exams for all sessions.

Art. 8 – Study plans

1. All students are required to submit their study plan within the terms indicated annually by the University.
2. Study plans compiled in accordance with the models set out in Appendix 1 of the present Regulations and with the choices therein suggested (*standard study plans*) are automatically approved.
3. Students have the right to submit a different study plan (*individual study plan*), which must nevertheless meet the requirements set out in the Annual Individual Study Plan Card referred to in Art. 5. Individual study plans must be approved by the Committee appointed by the Board.
4. The inclusion in the study plan of educational activities chosen personally by the student, and referred to in Art. 10, paragraph 5, letter a) of the M.D. 270/04, is governed by the Article 11 below.
5. Students who choose to enrol as part-time students, as provided for by Art. 53 of the University Course Regulations and pursuant to Art. 16 of the Students Career Regulations and the Regulations for the Enrolment of Part-time Students, must submit an individual study plan which is coherent with the duration chosen for the degree course and agreed upon by the Degree Programme Coordinator.
6. EU, equivalent and non-EU students with a a study title awarded abroad will have to attend

an Italian course for foreigners as part of additional linguistic knowledge. The following students are considered exempt: 1) who have been awarded an high school qualification or a first level degree in Italian in Italy; 2) who have been awarded an Italian school qualification abroad; 3) who hold an Italian language certification of at least level B1.

Art. 9 – Double Degree programmes

No Double Degree programs are currently envisaged for the second cycle degree in *Civil Engineering for Mitigation of Risk from Natural Hazards*.

Art. 10 – Attendance and curricular prerequisites

1. The Board of Teaching may establish pre-requisites for subjects as it sees fit. The existence of a pre-requisite is indicated on the page of the relevant subject published on the faculty web site.
2. A subject cannot be propaedeutic to another if both subjects are conducted in the same year of the course.
3. In the case of one subject being propaedeutic to another, students cannot sit the exam of the latter until the exam of the former has been passed.
4. Any propaedeutic activities imposed the Board of Teaching are set out in Appendix 2.

Art. 11 – Student elective activities

1. For those educational activities independently chosen by students and referred to in Art. 10, paragraph 5, letter a) of the M.D. 270/04 (Type D TAF), the Board of Teaching proposes a list of recommended courses and activities, while allowing students the right to choose any subject (taught in Italian and/or in English), provided that it is consistent with the educational project, from amongst those offered and accredited by the University of Pavia or the IUSS.
2. A study plan that envisions subjects other than those recommended must be approved by Degree Programme Coordinator. Subjects that are not consistent with the educational project or whose content exceeds 20% of repetition of the contents of other subjects that are part of the student's study plan or his/her previous academic studies shall not be approved.
3. Students cannot choose subjects previously studied at university, unless they have obtained specific validation for these subjects outside of the 180 credits needed to complete the first cycle degree course. The relevant offices verify the correct application of this rule on the part of students by checking their academic record prior to enrolment in the second cycle degree course. In case of violation of the above rule, students are not permitted to undertake the second cycle degree examination and must change their study plans.
4. The activities chosen independently by students and referred to in paragraph 1 must not include subjects in the medical field for which there are enrolment restrictions on a national level.
5. In addition to the courses necessary for the graduation, it is possible to include a maximum of 24 CFU of extra teachings to the study plan per academic year, except for the medical area courses of nationally restricted access and the psychology area courses. The course propaedeutic rules must be in any case respected. According to art. 19 paragraph 3 lett. b) of the Student Career Regulations, those enrolled as repeating students can include a maximum of 24 CFU of extra teachings, belonging to the following academic year.

Art. 12 – Internships and placements

There are no curricular internships and placements for the second cycle degree in *Civil Engineering for Mitigation of Risk from Natural Hazards*. However, for the preparation of the thesis, it is envisaged that internships can be activated with Italian or foreign research

companies or organizations by means of specific agreements.

Art. 13 – Examinations and end-of-course assessments

A) General rules

1. Given the particular organization of the second cycle degree course programme
 - which, in order to allow teaching by foreign teachers, envisages intensive series of courses so that no less than 80% of the student's workload is devoted to a single subject during the periods dedicated to lessons;
 - that requires the learning and assessment of subjects to be ongoing, with individual/group projects/papers carried out by students throughout the course, supported by sessions of workshops/practical classes conducted by the lecturer and by tutors, and by the implementation of mid-course tests;

examinations and assessments are governed by the present Art. 13, by way of partial derogation from the University Course Regulations.

2. All activities that lead to the acquisition of credits conclude with a form of assessment. This assessment and the official result statement will be issued by the professor in charge of the subject that may work with a committee. The committee is formed in compliance with Teaching University Rule Book. The Faculty Dean will decide if a committee is necessary to complete the assessment.
3. In the second cycle degree course, no more than 12 final exams or assessments can be planned. This number includes specific, related/supplementary and elective activities. Final examinations (or assessments) pertaining to elective activities are calculated as corresponding to a single unit, even when they give rise to multiple examinations or multiple assessments. The set of educational activities referred to in points c), d), e) of paragraph 5 of Art. 10 of M.D. 270/2004 are not included when calculating the number of final examinations or assessments; tests for these activities should in any case not exceed 5 in number, including the final test for conferment of the degree.
4. In the case of subject courses structured in multiple integrated and co-ordinated modules, each entrusted to a different lecturer, the final overall assessment is decided on collectively by all the lecturers. Evaluation may be carried out in separate phases, including that for separate parts of the programme, and may also be conducted at different times provided that the overall final decision that results in the passing of the examination is made collectively.
5. Examination dates are set during the semester, and the exams take place at the end of each subject course.
6. For all subjects, regardless of the semester in which didactic activity has taken place, students are given an extra opportunity to sit examinations in September.
7. The minimum number of examinations and the organization of any additional exams shall be governed by the following "*Assessment modality*" section, subject to the provisions of the University Course Regulations.
8. The examinations in the different sessions are distributed according to a calendar coordinated by the Board of Teaching with the support of the office of the Faculty President.
9. The calendar of examination dates, including all exam sessions and all the subjects held throughout the current academic year, is published on the Faculty website following the terms set out in Art. 7.
10. Once the calendar of examinations has been published, changes are not permitted except for cases of absolute necessity, which need to be documented by a written submission addressed to the Faculty President. In any event, an examination cannot be deleted and only in exceptional circumstances can be brought forward.

B) Assessment modality

11. Assessment modalities are defined by the lecturer responsible for the educational activity, in accordance with the indications given in the following paragraphs, as well as with any actions of co-ordination promoted by the Faculty and/or the Board of Teaching.
12. Modalities of assessment may involve:
 - a. assessment based on individual work/papers completed by the student throughout the course, supported by sessions of workshops/practical classes conducted by the lecturer and by tutors, assisted by workshop sessions/tutorials assisted by the teacher and by tutors/assistants,
 - b. written and/or oral mid-course tests
 - c. final written and/or oral test.

The relative weight of modalities a, b and c is stated by the lecturer prior to the beginning of the course.
13. At the beginning of the academic year, the modality of assessment for every educational activity is published by the lecturer in charge of the course on the webpage pertaining to the university subject catalogue (*Syllabus*: http://www-4.unipv.it/offertaformativa/portale/ricerca_insegnamenti.php?lingua=2). Such information must specify:
 - type of test (written, oral, written + oral, individual papers);
 - in the case of testing carried out in stages (e.g., written + oral), any thresholds that need to be exceeded at one stage to gain access to the next, the knowledge necessary to overcome these thresholds, as well as the relative weight attributed to the results of the various stages in deciding the final vote.
14. Examinations entail an evaluation which must be expressed in a mark out of 30. Credits are acquired if the evaluation is equal to or greater than 18/30. In the case of a maximum evaluation of 30/30, the Commission may unanimously grant 'cum laude'. Should a mark be insufficient, failure is expressed by means of the mark but does not appear on the student's academic record.
15. For some educational activities, such as internships or others included in the didactic programming and indicated in the *Syllabus* referred to in paragraph 10 above, evaluation may be expressed with two levels: "approved" or "not approved", or "satisfactory" or "unsatisfactory".
16. At least one examination at the end of the course is required for all subjects, as is an extra opportunity to sit examinations in September.
17. For student athletes of disciplines recognized by the Italian National Olympic Committee or the Italian Paralympic Committee, specific examinations can be organised to replace those on the calendar, at the request of the interested parties, if the scheduled examinations coincide with important sports events that are of at least national importance. Commitments that preclude participation at a scheduled examination must be documented to the Faculty President who will, in agreement with the lecturer, organize for the student to take the examination on a different date.
18. Students who have not passed an examination should sit it again at a later date. Lecturers may not prescribe regulations that restrict the possibility of a student to enrol in subsequent scheduled examinations.
19. Students who renounce a mark after having passed an examination must sit the exam again at a later date. The refusal must be stated in the manner and time decided by the lecturer. Once a mark has been accepted and registered, the relevant examination cannot be retaken.
20. In the case of written tests, students can view their own corrected papers in accordance with the modality set out by the lecturer.

Art. 14 – Final examination and awarding of degree

1. The second cycle degree in *Civil Engineering for Mitigation of Risk from Natural Hazards* is conferred following the final exam, which verifies the achievement of the educational objectives that qualify the second cycle degree course.
2. The final exam, for which 27 credits are awarded, consists of the defence, in front of a special second cycle degree Commission, of an original thesis that has been prepared under the guidance of a lecturer acting as a Supervisor. The defence aims to evaluate the quality of work, the general preparation of the candidate, knowledge of the subject and the ability to present and discuss a technical, professional and/or scientific topic with rigor, clarity and language skills.
3. The thesis consists of a theoretical, experimental or project-based work of a duration that is proportionate to the number of credits awarded on the basis of the study plan (27 credits involve a total workload of 675 hours); it should be characterised by completeness, make a critical and/or creative contribution, and require independent and documented preparation on the part of the candidate. The thesis must develop topics specifically relevant to the educational objectives of the course, and represent an advanced and original stage of research or a project that is significant on account of its complexity, in one of the Civil Engineering sectors. The thesis can be developed while serving an internship at a company or institution in Italy or abroad, after the stipulation of a special agreement.
4. The thesis is prepared under the guidance of a Supervisor, who can be a member of the University of Pavia teaching staff or in charge of a teaching activity offered by the Faculty of Engineering. The position of Supervisor is not necessarily tied to the disciplinary field of the person who holds it; the topic of the thesis, however, should fall within his/her competences and scientific interests. The Supervisor:
 - - provides graduands with assistance as part of his or her own institutional responsibilities, guiding them and stimulating them in choosing and defining the contents of their work;
 - - commits to helping graduands complete their university studies within a reasonable timescale;
 - - monitors the coherence of the thesis in order to obtain logical and organic results, and to verify the congruity of the drawing up of the report and the final drafts;
 - - introduces graduands to the Commission of the second cycle degree, describing the duration and intensity of the commitment shown and integrating where necessary, and with the consent of the President of the Commission, the presentation of the thesis.
5. The graduand chooses his/her Supervisor from among the persons indicated in paragraph 4 above, requesting assignment of the thesis a reasonable time in advance of the estimated date of the final exam. The thesis is then prepared to the best of the graduand's ability in accordance with his/her strategies, as discussed and agreed upon with the supervisor.
6. Upon conclusion of the graduand's work, the Supervisor attests, that the activity actually carried out in preparing the thesis corresponds to the number of credits attributed to the final exam on the basis of the study plan. If the Supervisor is not a member of the graduation Commission, he/she must send a short report on the activity of the candidate to the president of the Commission, outlining the duration and intensity of the commitment demonstrated.
7. The graduation Commission is appointed by the Faculty President on the proposal of the president of the Board of Teaching or of the Contact Person for the course, and it consists of at least seven members, at least four of whom must be tenured professors or researchers, responsible for modules and/or subjects taught at the Faculty or in the departments of Civil Engineering and Architecture, Environmental and Earth Sciences, or the field of Uncertainty and Risk Assessment at the IUSS. Any assistant supervisors who are not part of the Commission may participate in its activity without the right to vote. As a rule, a Commission is appointed for each examination. Should circumstances so require, more commissions may be appointed. Among the actual members of the Commission, there

should preferably the supervisors of the second cycle degree theses submitted to the Commission.

8. The Commission is chaired by the oldest tenured professor amongst those of the highest level. The chairman designates the secretary responsible for taking the minutes from among the members of the commission.
9. There are normally six second cycle degrees examinations per year, according to a calendar approved annually by the Executive Committee of the Faculty, as stated in the aforementioned Article 7, paragraph 9.
10. The president of the Board of Teaching, or the Contact Person for the course if delegated by the former, when proposing the formulation of the Commission to the Faculty President, either chooses an external examiner for each candidate from among the members of the Commission or delegates the choice to the president of the Commission. The external examiner's task is that of examining the thesis prepared by the candidate so that he/she can express a reasoned opinion as to its readability and organization. The candidate has to send a digital copy to the external examiner within the deadline decided by the Administrative Office.
11. The graduation score, expressed as a mark out of 110, is the sum of a base score and an increment. The base score takes into account the marks for the examinations sustained by the candidate, excluding those relating to supernumerary activities, and is calculated in accordance with paragraph 12 below. The increment is awarded by the Commission during the examination, in accordance with the procedures described in the paragraph 13 below.
12. The base score is obtained from the weighted average of the marks for assessments in didactic activities that involve a final mark, taking as a weight the number of credits associated with the individual didactic activity. The weighted average is then converted to a mark out of 110.
13. The increment, up to a maximum of 6 points, is collectively awarded by the Commission at the end of the examination as a sum of the following three items:
 - 0 to 2 points are granted by the Commission for the quality of the presentation of the candidate's work at the examination;
 - 0 to 2 points are granted by the Commission for the quality and completeness of the draft submitted, after having heard the opinion of the external examiner.
 - 0 to 2 points are granted by the Commission, taking into account the Supervisor's opinion of the presentation.

The above three scores, not necessarily whole numbers, are the arithmetic mean of the points assigned by each member of the Commission. The increment of 3 points can be awarded by the Committee to those students who gain their degree in standard time, that means within the second academic year counted from the first year of registering to the first year.

14. The final mark (sum of the base score and the total increment awarded by the Committee) is rounded to the nearest whole number. 'Cum Laude' can be awarded only when the sum of the base score and the increment already decided by the Commission is equal to at least 112/110. The awarding of the designation 'Cum Laude' requires the unanimity of the Commission.
15. The Faculty reserves the right to adopt "anti-plagiarism" software, which can reveal material that has been copied, without the use of quotation marks and without reference to the original source, from documents written by others. The discovery of a particular case of plagiarism that is regarded as serious by a commission formed by the Faculty President, the president of the Board of Teaching and the Supervisor, determines the impossibility of the candidate to appear at the final examination, and the activation of a disciplinary measure against the student. If the verification is carried out ex-post, all necessary action will be taken to correct the situation.

16. Students are allowed to prepare their thesis in a language other than Italian. For this purpose, the following conditions must be met:

- that there is the approval of the tutor or the supervisor;
- that the defense (and/or the thesis) be conducted in one of the main languages of the European Union (English, French, German, Spanish);
- that an abstract written in Italian and summarizing the content of the thesis is attached;
- that the title is written in both languages, the foreign one and Italian.

The thesis defense is held in Italian, except for study courses entirely taught in English, for which it is held in English.

PART THREE – PROVISIONS REGARDING STUDENTS’ COURSE OF STUDY

Art. 15 - Criteria for recognition of duly-certified, extra-university knowledge and skills

1. Under Art. 2 c. 147 of Law 286/2006 and Art. 14 of Law 240/2010, the Committee appointed by the Board may validate, for a total number of credits not exceeding 12, areas of professional knowledge and skills that have been individually certified pursuant to current legislation, as well as other knowledge and skills acquired through educational activities at post-secondary level, the planning of which was supported by a university.
The Committee appointed by the Board can also validate, for a total of no more than 12 credits, the winning of an Olympic or Paralympic medal or the conferment of a World Champion, European Champion or National Champion title in the disciplines recognized by the Italian National Olympic Committee or the Paralympic Italian Committee (pursuant to Article 14 of Law 240/2010). Student participating in the Dual Career programme may apply for a maximum to 6 credits to be validated as part of the aforementioned credits in compliance with the directives from the Academic Senate.
2. The validation of credits previously acquired shall be decided by the Committee appointed by the Board, on a case-by-case basis. The educational activities (TAF) for which credits and their number are to be recognized, even though they may comply with regulations, are established on the basis of criteria regarding the relevance of the discipline, taking into account the contribution of the activity towards reaching the objectives of the course, its specific content and possible obsolescence, as well as the time commitment required. For this purpose, the application for recognition of an activity must be accompanied by official documentation from which the above elements can be deduced; Committee appointed by the Board may carry out further verification if deemed necessary.
3. If, as a result of the recognition of credits previously acquired, the student's study plan amounts to being an individual study plan, it must be approved by the Committee appointed by the Board, in accordance with Art. 8.

Art. 16 - Criteria for recognition of credits previously earned

1. The Committee appointed by the Board decides on the recognition of previous academic studies for students who have already obtained a degree at the University or at another Italian university, and who have requested, at the time of enrolment, a reduced course of studies. This can be granted after evaluation and validation of those credits that are considered recognizable under the terms of paragraph 5 below.
2. The Committee appointed by the Board decides on the recognition of previous academic studies that were interrupted due to the loss or renunciation of student status on the part of students who have requested, at the time of enrolment, a reduced course of studies. This can be granted, after evaluation and validation of those credits that are considered recognizable under the terms of paragraph 5 below.
3. The Committee appointed by the Board may validate credits previously acquired by the

- student after enrolment in single subjects at the University of Pavia or at other universities.
4. In the case of transfer from another university or from another University course, recognition of credits is approved by the Committee appointed by the Board in accordance with current legislation, the University Course Regulations and any other resolutions taken by the Executive Committee of the Faculty and/or the Board of Teaching itself.
 5. The validation of credits previously acquired shall be decided by the Committee appointed by the Board, on a case-by-case basis. The educational activities (TAF) for which credits and their number are to be recognized, even though they may comply with regulations, are established on the basis of criteria regarding the relevance of the discipline, taking into account the contribution of the activity towards reaching the objectives of the course, its specific content and possible obsolescence, as well as the time commitment required. For this purpose, the application for recognition of an activity must be accompanied by official documentation from which the above elements can be deduced; Committee appointed by the Board may carry out further verification if deemed necessary.
 6. If, as a result of the recognition of credits previously acquired, the student's study plan amounts to being an individual study plan, it must be approved by the Committee appointed by the Board, in accordance with Art. 8.
 7. When a student is transferring from a course of the same class of study, the credits validated from the same scientific sector cannot be less than 50% of the credits already gained by the student.

Art. 17 - Criteria for recognition of educational activities undertaken at foreign universities

1. Study periods carried out by students on the degree course at foreign university structures in the context of the Erasmus+ Community Programs and International Mobility Programs recognized by the University through international agreements are recognized as a training tool equivalent to that offered by the Faculty with the same student commitment and contents covered with the training course. They are also encouraged as a means of cultural exchange and integration into personal and professional training.
2. The "Learning Agreement" (LA) is a document that defines the project of educational activities that are to be undertaken abroad to substitute some of the those envisaged in the second cycle degree course; the student must complete it, taking care to pursue not so much the same content as the complete coherency of the "curriculum" with the educational objectives of the second cycle degree course.
3. For every student intending to study abroad, the possibility of having the credits acquired at a foreign university recognised is established in advance through the LA, which is signed for approval by the lecturer appointed by the Board of Teaching as a Supervisor for the study activities conducted abroad. It is the responsibility of the Supervisor to ensure the coherence of the LA with the educational objectives of the second cycle degree course.
4. At the end of the study period abroad, the Committee appointed by the Board, at the student's request, on the basis of the LA and in relation to the results achieved and adequately documented by the foreign university (in the case of the Erasmus + Programme and and International Mobility Programs recognized by the University through international agreements by means of the Transcript of Records") recognises the educational activity conducted abroad and any mark obtained.
5. The Committee appointed by the Board approves recognition in terms of direct correspondence between one or more educational activities present in the study plan and one or more educational activities the credits for which have been acquired at the foreign university.
6. Should the activities for which credits have been acquired at the foreign university have contents that are relevant to the educational objectives of the second cycle degree course but no direct correspondence with any of the educational activities present in the study plan, the

Committee appointed by the Board, on the proposal of the Supervisor, may authorize, pursuant to art. 50, paragraph 5 of the University Course Regulations, the submission on the part of the student of an individual study plan, in accordance with the declaration of the class and the organisation of the course. For each activity undertaken abroad, it is necessary to indicate any corresponding Italian academic disciplinary sector and the relative number of credits.

7. For each recognised examination pertaining to activities undertaken at the foreign university, the Committee appointed by the Board assigns a mark that corresponds to the mark awarded abroad. Where different criteria are used for the awarding of marks, in the case of exchange programs within the European Union the European Credit Transfer System (ECTS) credit system is adopted.
8. Study and research activities carried out abroad for the purpose of preparing for the final examination, or internships undertaken under international agreements (eg Erasmus Traineeship) are recognised by the Committee appointed by the Board, provided they are conducted with appropriate modalities and commitment and with documented results.

Art. 18 - Admission to subsequent years of course

1. In order to enrol in the 2nd year of the course, it is necessary that the student, by the end of the September exam session, has acquired at least 36 credits.

Art. 19 - Certifications

1. The following linguistic certifications (issued as a result of an examination) are considered appropriate and automatically approved, for the purpose of proving that students have the level of English required for admission to a degree course; they also correspond to level B2 of the Common European Framework of Reference for Languages (the same kind of certificate but for higher level of knowledge will be accepted):

Ente Certificatore	Certificazione corrispondente al livello B2 del Quadro Comune Europeo di Riferimento per le Lingue
Cambridge English Language Assessment (Part of the University of Cambridge)	Cambridge English: First (FCE) and Business Vantage (BEC) Minimum score: 160 [Also English for Speakers of Other Languages (ESOL International) Level 1 B2]
Cambridge English Language Assessment (Part of the University of Cambridge)	International English Language Testing System (IELTS) Minimum score: 5.5
Cambridge English Language Assessment (Part of the University of Cambridge)	Business Language Testing Service (BULATS)* Reading/Language Knowledge Test Minimum score: 60 [not used anymore after the end of 2019 and it is called now Linguaskill Business]
Educational Testing Service (ETS)	Test of English as a Foreign Language Internet Based Test (TOEFL iBT) Minimum score: 77

Educational Testing Service (ETS)	TOEIC Listening and Reading Test: punteggio minimo 785 + TOEIC Speaking and Writing Test Minimum score: 310
English Speaking Board (ESB)	Also English for Speakers of Other Languages (ESOL International) Level 1 B2
Oxford University Press University of Oxford	Oxford Test of English B2 Minimum score: 111
Pearson	Pearson English Language Test (PTE Academic) Minimum score: 59
Trinity College London	Integrated Skills in English (ISE II)** [Anche English for Speakers of Other Languages (ESOL International) Level 1 B2] **[valid only if completed on the all modules (ISE II)]
City & Guilds	Communicator B2**** [*** until available]
Duolingo	Duolingo English Test: minimum score 90.
Language Centre (University of Pavia)	Level B2
British Institute Examination Board (BIEB)	Level B2

2. The suitability of certifications not included in the table shown at comma 1 or different tests held by other universities or of diploma awarded by university in English speaking countries is assessed on a case-by-case basis by the Faculty Dean who will work in collaboration with the language and, if necessary, by the expertise of the Language Centre of the University. A certificate that proves that the candidate has attended a class of the required level of English, both in Italy and abroad, but it is not completed by any of the certificates in the list above will not be accepted. Partial certificates (only Speaking & Listening or only Spoken English) are not valid.

University of Pavia

Study Course: CIVIL ENGINEERING FOR MITIGATION OF RISK FROM NATURAL HAZARDS - 06418

Classe LM-23 Ingegneria civile

Regulations 2017/2018 - Course Regulations a.y. 2024/2025

Study Plan academic year 2024/2025

TRACK 01 - REDUCTION OF SEISMIC RISK (ROSE)

1° Year - academic year 2024/2025

Learning Activity	CFU	N°	N° (ind.)	Compulsory	Scientific Area	Type of learning activity	Period
508173 - DYNAMICS OF STRUCTURES	6	1		X	ICAR/08	Distinctive	First Semester
508174 - REINFORCED CONCRETE STRUCTURES	6	2		X	ICAR/09	Distinctive	First Semester
508171 - APPLIED MATHEMATICS	6	3		X	MAT/08	Related/Supplementary	First Semester
508175 - COMPUTATIONAL MECHANICS	6	4		X	ICAR/08	Distinctive	First Semester
508176 - FOUNDATION ENGINEERING AND EARTH RETAINING STRUCTURES	6	5		X	ICAR/07	Distinctive	Second Semester
508172 - PROBABILITY AND STATISTICS FOR ENGINEERING APPLICATIONS	6	6		X	ICAR/09	Distinctive	First Semester
508177 - SEISMIC HAZARD AND GEOTECHNICAL EARTHQUAKE ENGINEERING	12	7		X			Second Semester
Unità Didattiche di SEISMIC HAZARD AND GEOTECHNICAL EARTHQUAKE ENGINEERING							
511392 - SEISMIC HAZARD AND ENGINEERING SEISMOLOGY	6				GEO/10	Related/Supplementary	Second Semester
508179 - GEOTECHNICAL EARTHQUAKE ENGINEERING	6				ICAR/07	Distinctive	Second Semester
508180 - ADVANCED STRUCTURAL ANALYSIS AND FUNDAMENTALS OF SEISMIC DESIGN	12	8		X			Second Semester
Unità Didattiche di ADVANCED STRUCTURAL ANALYSIS AND FUNDAMENTALS OF SEISMIC DESIGN							
508181 - NONLINEAR RESPONSE ANALYSIS	6				ICAR/09	Distinctive	Second Semester
508182 - FUNDAMENTALS OF SEISMIC DESIGN	6				ICAR/09	Distinctive	Second Semester
TOT. 60 CFU							

2° Year - academic year 2025/2026

Learning Activity	CFU	N°	N° (ind.)	Compulsory	Scientific Area	Type of learning activity	Period
508185 - MASONRY STRUCTURES	6	9		X	ICAR/09	Distinctive	First Semester
508186 - BRIDGE STRUCTURES	6	10		X	ICAR/09	Distinctive	First Semester
509688 - RISK ASSESSMENT AND LOSS ESTIMATION	6	11		X	ICAR/09	Distinctive	First Semester
FREE CHOICE FROM THE UNIVERSITY COURSE OFFER	12	12				Optional	
508189 - STEEL STRUCTURES	6	12			ICAR/09	Optional	First Semester
509689 SEISMIC ISOLATION AND DISSIPATION	6	12			ICAR/09	Optional	First Semester

508193 - RISK EMERGENCY MANAGEMENT AND LEGISLATION	3	12			IUS/02	Optional	Second Semester
510774 - SUSTAINABILITY SCIENCE IN THE BUILT ENVIRONMENT	3	12			ING-IND/11	Optional	Second Semester
509536 - ITALIAN LANGUAGE FOR FOREIGN STUDENTS	3				NN	Other	First Semester
508207 - PROJECT WORK	3				NN	Other	Second Semester
503327 - MASTER THESIS	27			X	PROFIN_S	Final Exam	
508746 - ADVANCED TOPICS IN ASSESSMENT AND MITIGATION OF NATURAL RISKS	6				NN	Optional	
504725 - OTHER ACTIVITIES	3				NN	Optional	
TOT. 60 CFU							

TRACK 02 - HYDROGEOLOGICAL RISK ASSESSMENT AND MITIGATION (HYRIS)

1° Year - academic year 2024/2025

Learning Activity	CFU	N°	N° (ind.)	Compulsory	Scientific Area	Type of learning activity	Period
508196 - CONTINUUM MECHANICS	6	1		X	ICAR/01	Distinctive	First Semester
508069 - FLUVIAL HYDRAULICS	6	2		X	ICAR/01	Distinctive	First Semester
508171 - APPLIED MATHEMATICS	6	3		X	MAT/08	Related/Supplementary	First Semester
508197 - ENGINEERING GEOLOGY AND HYDROMORPHOLOGY	12	4		X			All Year
Unità Didattiche di ENGINEERING GEOLOGY AND HYDROMORPHOLOGY							
508194 - ENGINEERING GEOLOGY	6				GEO/05	Related/Supplementary	First Semester
508198 - HYDROMORPHOLOGY	6				GEO/04	Related/Supplementary	Second Semester
508172 - PROBABILITY AND STATISTICS FOR ENGINEERING APPLICATIONS	6	5		X	ICAR/09	Distinctive	First Semester
508199 - LANDSLIDES HAZARD AND RISK	6	6		X	GEO/05	Related/Supplementary	Second Semester
508200 - GEOMATICS AND GIS	6	7		X	GEO/04	Related/Supplementary	Second Semester
508201 - COMPUTATIONAL FLUID DYNAMICS	6	8		X	ICAR/01	Distinctive	Second Semester
FREE CHOICE FROM THE UNIVERSITY COURSE OFFER	6	9				Optional	
508081 - SNOW AVALANCHES AND RELATED MOUNTAIN NATURAL HAZARDS	6	9			ICAR/02	Optional	Second Semester
TOT. 60 CFU							

2° Year - academic year 2025/2026

Learning Activity	CFU	N°	N° (ind.)	Compulsory	Scientific Area	Type of learning activity	Period
508202 - HYDROLOGICAL RISKS	6	10		X	ICAR/02	Distinctive	Second Semester

510798 - FLOOD PROPAGATION AND FLUVIAL PROTECTION WORKS	12	11		X			First Semester
Unità Didattiche di FLOOD PROPAGATION AND FLUVIAL PROTECTION WORKS							
507329 - FLOOD PROPAGATION	6				ICAR/02	Distinctive	First Semester
510802 - FLUVIAL PROTECTION WORKS	6				ICAR/01	Distinctive	First Semester
509634 - RELIABLE DESIGN AND MANAGEMENT OF URBAN HYDRAULIC INFRASTRUCTURES	6	12		X	ICAR/02	Distinctive	First Semester
FREE CHOICE FROM THE UNIVERSITY COURSE OFFER	6	13				Optional	
508176 - FOUNDATION ENGINEERING AND EARTH RETAINING STRUCTURES	6	13			ICAR/07	Optional	Second Semester
509321 - LANDSLIDE MODELING AND MITIGATION STRATEGIES	6	13			ICAR/07	Optional	First Semester
508193 - RISK EMERGENCY MANAGEMENT AND LEGISLATION	3	13			IUS/02	Optional	Second Semester
510774 - SUSTAINABILITY SCIENCE IN THE BUILT ENVIRONMENT	3	13			ING-IND/11	Optional	Second Semester
511390 - SYSTEMIC RISK AND INDIRECT IMPACTS	3	13			ICAR/02	Optional	Second Semester
509536 - ITALIAN LANGUAGE FOR FOREIGN STUDENTS	3				NN	Other	First Semester
508207 - PROJECT WORK	3				NN	Other	Second Semester
503327 - MASTER THESIS	27			X	PROFIN_S	Final Exam	
508746 - ADVANCED TOPICS IN ASSESSMENT AND MITIGATION OF NATURAL RISKS	6				NN	Optional	
504725 - OTHER ACTIVITIES	3				NN	Optional	
TOT. 60 CFU							

- [The semester assigned to each learning activity may change. Refer to the time schedule published in the faculty website for confirmation](#)
- [For more information please refer to the course catalogue](#)

University of Pavia

Faculty of Engineering

Department of Civil Engineering and Architecture

Study Course: CIVIL ENGINEERING FOR MITIGATION
OF RISK FROM NATURAL HAZARDS

Classe LM-23

INTRODUCTORY COURSES

There are no introductory courses for the Master Programme in Civil Engineering for
Mitigation of Risk from Natural Hazards