



UNIVERSITÀ DI PAVIA

Dipartimento di
Scienze della Terra
e dell'Ambiente

ACADEMIC REGULATIONS

(Article 12 - Ministerial decree no. 270 of 22/10/2004)

MASTER'S DEGREE COURSE IN GEOSCIENCES FOR SUSTAINABLE
DEVELOPMENT
Category LM-74

Enrolment cohort of academic year 2024-2025

Approved by the meeting of the

Council of the Department of Earth and Environmental Sciences

03 April 2024



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PART ONE – GENERAL PROVISIONS

Article 1 – Programme name, category, teaching institution and duration

1. The Master's Degree Course in Geosciences for Sustainable Development, created by the Department of Earth and Environment Sciences of the University of Pavia, belongs to class LM-74 of Master's degrees in Geological Sciences and Technologies pursuant to the Ministerial Decree (M.D.) of 16 March 2007.
2. The Master's Degree in Geosciences for Sustainable Development lasts two years.

Article 2 – Regulatory reference texts

1. In compliance with the freedom of teaching principle and the rights and duties of lecturers and students, the organisation of teaching and performance of the educational activities planned for the Master's Degree in Geosciences are governed by this text, the Charter of the University of Pavia, the University's General Regulations, the University's Academic Regulations, the Regulations for part-time enrolment, the Student Career Regulations <https://web.unipv.it/ateneo/statuto-regolamenti/> and the Regulations of the Department of Earth and Environment Sciences <https://terraeambiente.dip.unipv.it/it>.
2. For all matters not expressly provided for in these Regulations, the provisions of the law in force apply.

Article 3 – Body responsible for academic and organisational coordination

1. The Department of Earth and Environmental Sciences administers the academic and organisational coordination of its degree programmes.
2. The Department has an Academic Board for Geological Sciences, hereinafter referred to as Academic Board, whose members are lecturers designated to teach in the Master's Degree Course in Geosciences for Sustainable Development, class LM-74.
3. The Department Board appoints a Quality Management Group, which is responsible for overseeing and promoting the quality policy for the Master's degree course in Geosciences for sustainable development.

The Quality Management Group coordinates the compilation of the Annual Programme Plan (Scheda Unica Annuale, SUA). It also acts as a review group, and therefore prepares the Annual Monitoring Plan.

4. The Academic Board coordinates the teaching and organisation of activities in the Master's Degree Course in Geosciences for sustainable development, in accordance with general programming and all other indications given by the Department Board.
5. The Chair of the Academic Board and a lecturer appointed for this purpose by the Board and named in the SUA (Annual Study Programme Sheet) are responsible for the organisation of teaching activities of the Master's degree course in geosciences for sustainable development, without prejudice to the collegiality of decision-making and guidelines.

Article 4 – Administrative services

1. The Academic Secretariat of the Department of Earth and Environmental Sciences provides support for all academic activities. In particular, this secretariat prepares the appropriate documentation for assignments, manages the availability of lecture halls, prepares the timetables of subjects, manages the ESSE3 system for booking exams and manages the website of the Academic Board for Earth sciences containing all relevant information for the Master's degree course in Geosciences for sustainable development <https://geoscienzesostenibili.cdl.unipv.it/it>
2. The Student Academic Career Office, the Enrolment and Student Information and the Admissions Office are responsible for practices relating to the student's academic career (enrolment, transfers, etc.).

Information available at the following links:

<https://portale.unipv.it/it/didattica/corsi-di-laurea/studiare>

<https://web.unipv.it/formazione/futuri-studenti/scienze-mm-ff-nn/>



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3. The University Orientation Centre (Centro di Orientamento, COR) manages activities and projects to support students in the choice of university studies, the student's academic career, and the graduate's entry into the world of work. To this end, it organises collective and individual actions, counselling services and orientation meetings. The services offered by the COR can be consulted at: <https://orienta.unipv.it/>

PART TWO - ORGANISATION OF ACADEMIC ACTIVITIES

Article 5 – Annual Programme Plan

An Annual Programme Plan (Scheda Unica Annuale, SUA) is drawn up in conformity with the Quality Assurance System. The SUA is a management tool serving in the design, implementation, self-evaluation and re-design of the course of study. The SUA can be consulted at:

<https://gestionedidattica.unipv.it/index.php/file/2024SUA08417.pdf>

Article 6 – Requirements for admission

1. For admission to the Master's course in Geosciences for sustainable development, students must hold a bachelor's degree (including one obtained according to the regulations in force prior to Ministerial Decree 509/99, as amended), or a three-year university diploma, or another qualification obtained abroad, recognised as suitable by the competent bodies of the University.

2. Students applying for admission to the Geosciences Master's degree course must also meet certain curricular requirements and have an adequate personal formation. Curricular requirements:

a) university degree obtained in the class L-34 (Geological Sciences) pursuant to M.D. 270/04 or in class 16 (Earth Sciences), established in accordance with the previous system pursuant to M.D. 509/99, or in another class whose educational path includes no fewer than 40 CFUs in any scientific-disciplinary sector of the GEO area;

b) knowledge of the English language, in written and oral forms, corresponding to at least level B2 of the Common European Framework of Reference for Languages as established by the Council of Europe.

3. Possession of the requirements and the adequacy of the preparation referred to in the previous paragraph are assessed by means of an interview with a committee, appointed annually by the Academic Council. The candidate must demonstrate knowledge of the English language at level B2 through the presentation of certification from among those listed in article 19 below, or other certification at a higher level. In the absence of certification, the preliminary interview serves for assessment of knowledge of the English language.

4. Access to the Master's Programme is also open to students who are in the process of obtaining a relevant degree ("Conditional enrolment"), and who have acquired at least 150 credits by the deadline date set by the University for submission of the application. These candidates may only enrol once they have passed the evaluation test.

5. Candidates may also enrol during the academic year, as long as the time is sufficient to permit attendance of educational activities consistent with the general structure of the Master's degree course in Geosciences for sustainable development, and in any case within the deadlines established each year by the Academic Senate.

6. Graduates of bachelor's programmes who do not meet the curricular requirements for admission to the Master's Programme may supplement their education through individual courses, thereby completing the curricular requirements specified by the committee referred to in paragraph 3 above.

7. Non-EU international students must have a knowledge of Italian to at least B2 level.

More information at:

<https://portale.unipv.it/it/didattica/corsi-di-laurea/ammissioni/isciversi-ad-un-corso-di-studio-con-titolo-conseguito-allesterio> .



8. The Master's degree course in Geosciences for sustainable development is not subject to regional or national limits on student numbers.

Article 7 – Academic organisation

1. Students participating in the educational activities composing the Master's Programme acquire university credits (CFUs), in accordance with the regulations in force.

2. The average total learning commitment for a student engaged one year of full-time university studies is conventionally set at 60 CFU.

3. Each CFU corresponds to an average of 25 hours of effort per student, of which at least 50% are devoted to personal study or other individual training activities (unless the CFU involves a high content of experimental or practical education). For each Master's Programme CFU, the division between hours of face-to-face teaching and hours devoted to individual study is as follows: For each Master's Programme CFU, the division between hours of teaching and hours devoted to individual study is as follows:

a) for core academic activities: 8 hours dedicated to face-to-face instruction and 17 hours dedicated to individual study;

b) for exercises, seminars and laboratories: 12 hours dedicated to academic activities and 13 hours dedicated to individual study;

c) for academic activities of a mainly practical nature, such as field activities: 14 hours dedicated to the activities and 11 hours dedicated to individual study;

d) for curricular internship activities, transversal skills and thesis preparation activities: 25 hours.

4. The student receives the CFUs corresponding to each educational activity after passing an examination or completing another form of assessment of the preparation or skills acquired.

5. For some course subjects, such as those concerning transversal skills and *Sustainable Development Goals* (SDG) as defined by the UN Agenda 2030, the passing of the course exam results in the award of CFUs as well as the issue of an *open badge*, or a digital certificate attesting to the knowledge, skills and competences acquired through the learning path. The *open badge* is issued automatically when the exam result is registered, and is sent to the student's university e-mail address.

6. The academic activities are organised in two semesters per year: October-January and March-June.

7. There are three examination sessions: January-February, June-July and September. The student must book at least one examination for each session, and not less than six examinations in a year.

8. If the examination is conducted in both written and oral form, the two tests together are considered as a single booking.

9. The interval between two examinations in the same course must comply with the provisions of the University Academic Regulations.

10. Students who have already complied with the attendance requirements for all courses of Master's Programme may book examination sessions that overlap with their ongoing courses.

11. Students who are athletes (Article 15, paragraph 1, letter c) may obtain ad hoc examination bookings in agreement with the relevant professors, in the case of conflicts with sporting commitments (competitions, training and related travel).

12. The calendar of lessons, appeals and final exams is published in accordance with the ministerial deadlines, as reported in the SUA. The calendar of examinations is published before the beginning of each calendar year.

13. Completion of the Programme requires participation in at least five academic sessions, which take place in the following periods: July, September, October, December, March and April.



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14. Beginning with academic year 2019-2020, students may enrol in the Master's Degree Plus (Laurea Magistrale Plus, LM+) programme, in the context of a collaboration project regulated by a specific agreement with a network of partner institutions and companies. Starting in the second year, students in the LM+ programme undertake two semesters of training at affiliated organisations/companies as an integral part of their education, with the aim of acquiring specific professional skills coherent with the Master's Programme. The organisations/companies included in the network agreement and the relative education programmes will be communicated over the course of the year, and meetings will be organised for communication with the interested students. On an annual basis, the Master's Programme Academic Council will appoint a committee for the purpose of selecting from candidates who apply for the LM+ programme. The selection will be in keeping with a number of students defined by the Academic Council and in consideration of the education opportunities offered by the organisations/companies. The selection will be based on the candidate's curricular achievements, supplemented by the results of an individual interview. For assessment purposes, the Academic Council may request a non-binding opinion from the LM+ Steering Committee, composed of representatives of the University of Pavia and the partner organisations/companies.

Students enrolled in the LM+ have the option of enrolling in the Master's Programme on a part-time basis, in keeping with the relevant regulations. In carrying out their activities at the host organisation/company, students will be followed by an organisation/company tutor and a university tutor, who will interact constantly in monitoring the ongoing achievement of the objectives defined in the education project. Assessments will be conducted twice during the educational path: one at mid-point and one final.

The student will be reimbursed for expenses incurred during the educational period with the organisation/company.

Students enrolled in LM+ mode may obtain, further to the assessment of the Academic Board, the recognition of university credits accrued by virtue of their experience in the host institution/company as part of the final degree exam (up to 23 CFUs), as part of other activities (6 CFUs for internships, 1 CFU for transversal skills), or as part of free-choice activities (12 CFUs), and possibly extra credits, as specified in the articles below.

Article 8 – Study plans

1. The term “standard study plan” refers to a study plan complying with the scheme in Attachment 1 of these regulations.
2. All students are required to submit their study plan within the deadlines indicated annually by the University.
3. Study plans that comply with the scheme in Attachment 1 of these Regulations shall be approved ex officio. Any elective educational activities chosen by the student, as per letter a), paragraph 5 of Article 10 of Ministerial Decree n. 270 of 22 October 2004 are considered coherent with the study plan and are also approved ex officio.
4. The term “individual study plan” refers to any study plan not in conformity with the standard one.
5. A student intending to follow a different course of study from the one set out in these Regulations may submit an individual study plan, within the deadline established annually by the University, in compliance with the constraints of the programme classification and the Master's Programme academic regulations.
6. The individual study plan, presented in its entirety, must be approved by the Academic Council, which will take into account the student's needs for cultural education and professional preparation in relation to the academic offer, and may suggest changes to make the educational path more consistent with the specific educational objectives of the Master's Programme.
7. In addition to educational activities required to obtain the degree, extra activities may be added to the study plan not exceeding 24 university credits, with the exception of activities in the medicine/healthcare and psychological areas, subject to national programming, taking care to abide by any preparatory activities required for the course of study.



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8. The student is not required to include such supernumerary activities as a condition of obtaining the degree.

9. Students who are close to obtaining their degree may be allowed to change one course/examination (no more than 12 CFU) of their current study plan, prior to the next deadline for presentation of new study plans, even in default of enrolment in the new academic year. To this end, the student must submit an application to modify the study plan most recently approved by the Academic Board, which will decide on the request.

10. Students may submit study plans for enrolment on a part-time basis, corresponding to the standard study plan and spread over not more than twice the conventional number of years.

11. Students participating in the LM+ programme may opt for part-time enrolment beginning in the second year of the programme, in accordance with the relevant University regulations.

Article 9 – Joint degree programmes

1. The Master's degree course in Geosciences for sustainable development does not allow for the awarding of joint or double degrees.

Article 10 – Prerequisites and attendance obligations

1. Attendance at courses is the student's right and duty. Students are strongly recommended to attend academic activities in the field and other practical and laboratory activities.

2. No courses/examinations are subject to prerequisites.

Article 11 – Student electives

1. Students enrolled in the Master's Programme are allowed to include 12 elective university credits in their study plan (so-called "Type D" educational activity, TAFD, in keeping with Article 10, paragraph 5.a of Ministerial Decree 270/2004). The electives may be chosen from the courses offered by the University, including from a series of educational activities offered or recommended by the Academic Council.

2. Free-choice activities may include course subjects from the educational offer of three-year and master's courses, with the exception of those in the medicine/healthcare and psychological areas, which are subject to national programming. Students will not be able to choose subjects already studied and tested during previous university studies, unless they have been expressly validated. Should the study plan allow the repetition of the same bachelor's degree subject for the master's degree, the Academic Board shall make sure that the two subjects have different contents.

3. Students enrolled in the LM+ program may be granted recognition of up to 12 CFUs within the framework of their elective credits. For these students, the Academic Council may also recognise the educational activity carried out in the organisation/company as supernumerary credits. Such recognition will be calculated on the basis of hours of attendance in addition to the curricular hours, as documented by the tutors, in accordance with Article 16, paragraph 5, letter c of the University Academic Regulations.

Article 12 – Internships and traineeships

1. The study plan provides for a curricular traineeship of 6 CFUs aimed at promoting knowledge of and entry into the working context. Such internships are an integral part of the training course and must contribute to the achievement of the Master's Programme educational objectives.

2. The curricular practical traineeship may be carried out in the context of the laboratories of the Department of Earth and Environmental Sciences of the University of Pavia.

3. The student may also be able to obtain recognition of internships carried out on a voluntary basis in facilities outside the Department of Earth and Environmental Sciences, within the CFUs reserved for internship activities or as supernumerary credits. This recognition is subject to the evaluation of the Academic Board, at the recommendation of the person appointed by the Board



to coordinate curricular internships; the Board will decide on the number of CFUs awarded for the activity.

4. The study plan also includes training activity called *Transversal skills*, for which 1 CFU can be awarded. This activity is deemed to be acquired if the student has attended seminars and other initiatives authorised and approved by the Academic Board, as well as scientific conferences pertaining to geological studies. Participation in these initiatives must be suitably attested.

5. Students enrolled in LM+ mode may be awarded up to 6 CFUs for curricular internships and 1 CFU for transversal skills. The Academic Council may also recognise the training activity carried out in an organisation/company as supernumerary credits. Such recognition will be calculated on the basis of hours of attendance in addition to the curricular hours, as documented by the tutors, in accordance with Article 16, paragraph 5, letter c of the University Academic Regulations.

Article 13 – Final examinations and assessments

1. For the purposes of the Master's Programme, the student may not take more than 12 final examinations.

2. The final examinations or assessments taken must cover: the core educational activities, the related or supplementary activities, and the elective activities chosen by the student. The final examinations or assessments concerning the elective activities are considered in the count as corresponding to one unit (even if the credits assigned involve more than one final examination or assessment).

3. None of the educational activities referred to in letters c), d), paragraph 5 of Article 10 of Ministerial Decree 270/2004 are included in the calculation of the maximum number of final examinations or assessments. In any case, these activities must not be subject to more than five examinations, including the final examination for award of the degree

4. Examinations are conducted in written or oral form or both, according to the academic requirements of each course. The examination methods for each course subject are contained in the Syllabus of each teaching activity, which can be consulted on the relative page of the Department's website dedicated to the Master's degree course (<https://geologia.cdl.unipv.it/it>). For written exams, the student is allowed to withdraw during the course of the examination. In the case of oral examinations, students are allowed to withdraw until the moment before recording of the final assessment. In the case of a student who withdraws, any annotation in the examination report may be used for statistical purposes, but shall not be recorded in the student's report of university studies nor in the student's academic career.

5. Examinations are marked in thirtieths, except in the case of traineeships and transversal skills, where only a pass mark is awarded and this is recorded in the minutes. Credits are considered acquired if the evaluation is equal to or greater than 18/30. In the event of a maximum mark of 30/30, the Examination Committee may award laude honours, by unanimous decision. An assessment of insufficiency is not accompanied by a grade. Any annotation in the examination report may be used for statistical purposes, but shall not be recorded in the student's report of university studies nor in the student's academic career. Pursuant to the Student Career Regulations (art. 30(1)), appraisals must be recorded, even negative ones.

6. For course subjects consisting of two modules, module lecturers shall jointly assess the student's grade, and will also jointly agree on the composition of the exam panel.

Article 14 – Final degree examination and award of the qualification

1. The student is awarded the degree after passing a final examination, designed to verify the achievement of the Master's Programme educational objectives.

2. The final examination, which is worth 23 CFUs, consists in the presentation and discussion of a dissertation written in an original manner under the guidance of a rapporteur, either a tenured professor or a lecturer within the University of Pavia, and possibly one or two co-



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rapporteurs, who may also be external to the University of Pavia. The student may enrol for the final examination after having acquired at least 97 CFUs

3. The thesis is discussed in public session before a Degree Examination Committee, appointed by the Director of the Department, composed of at least five professors, at least four of whom are professors or researchers in role at the University of Pavia. The President of the Academic Council appoints a counter-rapporteur, who must be a member of the Examination Committee, to whom the student must submit the thesis at least four days before the final examination session. Subject to the same deadline, the student must also send a summary of the thesis to the Committee members. The student must also email a pdf copy of the thesis to the Academic Secretariat.

4. The final examination takes place through a public presentation by the student, using electronic media, which may be followed by a brief discussion.

5. The thesis can be drafted and discussed in English. To this end, the following conditions must be met:

- a) due authorisation of the Supervisor;
- b) the exam (and/or the drafted document) taken only in English;
- c) an "abstract" in Italian attached to the thesis, summarising the content thereof;
- d) title written in both English and Italian.

6. At the end of the public discussion, the Committee proceeds to grading of the degree examination.

7. The degree grade (from a minimum of 66 points to a maximum of 110, with possible laude) is awarded collectively by the Degree Examination Committee, in public session, and takes into account the student's entire study path. In particular, the degree score is obtained from the sum of a basic score, proportional to the average of the marks obtained in the exams taken, weighted by the CFUs of each course, and a score established by the Committee. The average is weighted and rounded off arithmetically. A mark of 30 cum laude for an examination counts as 30 for the purposes of the average. Scores obtained in supernumerary educational activities are not taken into account for the calculation of the basic score. The mark established by the Committee is based on an assessment proposed by the rapporteur, an assessment proposed by the counter-rapporteur and an assessment proposed by the Degree Examination Committee. The President of the graduation session may propose to the Committee the awarding of laude if the sum of the base score and the score established by the Commission is equal to at least 110/110.

8. The student may withdraw from the final examination up until the moment of being dismissed by the President for initiation of the grading process by the Committee, which takes place without the presence of the student or outsiders.

9. Students enrolled in the LM+ programme may request approval for a thesis topic linked to the specific training experience carried out at the host organisation/company.

10. Students enrolled in the LM+ program may be awarded up to 23 CFUs at the time of their final examination. For these students, the Academic Council may also recognise the educational activity carried out in the organisation/company as supernumerary credits. Such recognition will be calculated on the basis of hours of attendance in addition to the curricular hours, as documented by the tutors, in accordance with Article 16, paragraph 5, letter c of the University Academic Regulations.

PART THREE – PROVISIONS CONCERNING STUDENT ACADEMIC CAREERS

Article 15 – Criteria for the recognition of duly certified extra-university knowledge and skills

1. The Academic Council may validate duly certified knowledge and skills up to a maximum of 12 CFUs, recognising them as examinations of the Master's Programme:



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- a) for professional knowledge and skills, individually certified in accordance with the relevant regulations in force, up to 12 CFUs;
 - b) for knowledge and skills acquired in post-secondary educational activities planned with the participation of a university, up to 12 CFUs.
 - c) for sports activities recognised by the competent authorities, up to a maximum of 12 CFUs according to the following schedule: i) sport practised at Olympic, world and European level, up to 6 CFUs; ii) sport practised at Italian level and intermediate categories up to 3 CFUs; iii) qualification in the "medal zone" at the University Championships, or the performance of competitive activities for the sections of Pavia University Sports Centre (CUS), including in the context of competitions at regional and national level, up to 6 CFUs;
 - d) up to 1 CFU for recognition of the Training Course "Safety and health in the workplace", pursuant to Legislative Decree 81/2008.
2. Any recognition of the knowledge and skills referred to in the previous paragraphs shall be decided by the Academic Council.

Article 16 – Criteria for recognition of previous credits

1. At the time of enrolment, students who have already obtained a degree at higher level than a bachelor's from the University of Pavia or another Italian or foreign university may request an abbreviation of their studies, which may be granted subsequent to the assessment, validation and recognition of CFUs in relation to the Master's Programme, as determined by the Academic Council. Any CFUs acquired on the basis of Article 49 of the University Academic Regulations, i.e. relating to the certified passing of examinations for individual courses, will also be recognised.
2. Pursuant to Article 46 of the University Academic Regulations, in the case of transfer from other courses of study or from other universities, the potential recognition of students' careers and of any CFUs considered shall be decided by the Academic Council.
3. A share of not less than 50% must be in any case assigned for university credits directly accrued by the student in degree programmes of the same category and in the same scientific-disciplinary sector.
4. Upon submission of a specific request, students already enrolled in the corresponding Specialist degree course in Geological Sciences (Class 86/S of Geological Sciences), established according to the system pursuant to M.D. 509/99, or Master's degree in Applied Geological Sciences, established according to the system pursuant to M.D. 270/04, may opt to transfer to the Master's degree course in Geosciences for sustainable development (Class LM-74), established according to the system pursuant to M.D. 270/04.
5. The period of validity of acquired CFU corresponds to the number of years established in the Student Career Regulations prior to expiry of student status (Article 30). After this period, the Academic Council may provide for verification of the CFUs acquired in terms of the continuing validity of the cognitive contents.

Article 17 – Criteria for recognition of educational activities during study at foreign universities

1. The study periods spent by students of the Master's Degree Course in Geosciences for sustainable development at foreign universities in the framework of the Erasmus+ Community Programmes and International Mobility Programmes to which the University adheres through international agreements are recognised as a training tool similar to that offered by the Course, with the same student commitment, providing the contents are in line with the student's educational path.
2. The Learning Agreement is the document that defines the project of the educational activities referred to in paragraph 1, which may be followed abroad and replace some of the activities provided for the Course of Study. The student must draft the Learning Agreement without



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overemphasis on pursuit of the same content as the Degree Programme, but rather aim at full consistency with the educational objectives.

3. The possibility of recognising credits acquired abroad is established in advance through the Learning Agreement, which is approved by the professor designated as rapporteur for study activities carried out abroad. The lecturer designated by the Academic Board as Coordinator must ensure that the Learning Agreement is in keeping with the educational objectives of the Degree course, and promptly notify the Academic Board of any changes made to it.

4. The regulations regarding the criteria for the recognition of educational and training activities acquired under the Erasmus Study Community Programme and International Mobility Programmes to which the University adheres are also outlined in article 47 of the University's Academic Regulations, article 22 of the Student Career Regulations and in the International Mobility Regulations. The Academic Council decides on recognition by means of a resolution. The conversion of the final grades obtained abroad is carried out on the basis of the "Table of ECTS grades" (European Credit Transfer and Accumulation System), and if this is not applicable, on the basis of criteria decided by the Academic Council.

5. Within the framework of the Erasmus Traineeship Community Programme or foreign internships programmes to which the university adheres, the Academic Board decides, on a case-by-case basis, which activities and which criteria to adopt to recognise internship experiences abroad. This internship experience may be recognised as a curricular internship, development of transversal skills, thesis research activity (if the internship relates to the thesis project) if included in the study plan and extra educational and training activity.

6. For the preparation of their dissertation, students may undertake periods of study abroad in contexts not provided for by the regulations on mobility programmes, provided that they have the prior written approval of their dissertation rapporteur, which must be sent to the Student Career Management unit for regularisation of the student's insurance position.

Article 18 – Admission to subsequent years

1. For students enrolled in the first year, admission to subsequent years is not subject to acquiring a minimum number of CFUs.

Article 19 – Certifications

1. Admission to the Master's Programme is subject to certification of knowledge of English at level B2 (defined in the Common European Framework of Reference for Languages established by the Council of Europe). The language certifications considered as corresponding to level B2 and approved by the University are the following:

- BEC Vantage
- FCE
- IELTS 5.5-6.5
- TrackTest English Test B2
- ILEC Pass
- TOEFL iBT 72-95
- Trinity College ISE II, GESE 7, GESE 8, GESE 9
- Pearson JETSET Level 5
- LCCI EfB Level 3

2. The validity of other English proficiency certification to B2 level is assessed, on a case-by-case basis, by the panel appointed to conduct admission interviews.



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Annex 1

Study plan for Master's Degree Course in Geosciences for sustainable development - A.Y. 2024-25

LM-74-Master's Degree Class in Geological Sciences and Technologies

The 3 curricula require the student to obtain:

- 60 CFUs in the framework of primary educational activities, corresponding to seven subjects;
- 18 CFUs in the framework of related and supplementary educational activities, corresponding to three subjects offering up to 6 CFUs each;
- 12 CFUs of free-choice educational activities, including in the study plan one or more active course subjects from the entire University offering, including those recommended by the Academic Board.

Up to 23 CFUs and 6 CFUs are assigned respectively to the Final Exam and the Internship. Also, 1 CFU can be awarded for Transversal Skills for students who have attended activities recommended by the Academic Board.

The total number of credits in the two-year period is 120.

For further information on the course program and on the methods for assessing the student's learning outcomes, as well as indications of the course professors and their curriculum vitae, see: <https://geosciencesostenibili.cdl.unipv.it/it>.



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Attachment 1 – Study plan

Curriculum 1 - Geosciences applied to environmental management (GAGA)

Common and mandatory primary educational activities (36 CFUs)	Year	Semester	CFUs	SSD
<i>Basin analysis and Tectonic processes</i>	1	1e2	12	GEO/02-03
<i>Remote sensing and GIS</i>	1	1e2	12	GEO/04
<i>Petrogenetic processes and evolution of the lithosphere</i>	1	1e2	12	GEO/07
Other primary educational activities: geomorphological-geological applicative (18 CFUs) 3 exams to choose from:				
<i>Applied Geology to environmental sustainability</i>	1	2	6	GEO/05
<u>Geopedology</u>	2	2	6	GEO/04
<u>Elementi di progettazione geologica e ambientale</u>	2	2	6	GEO/05
<u>Geomeccanica</u>	2	1	6	GEO/05
Idrogeologia applicata	1	2	6	GEO/05
Primary educational activities: mineralogical-petrographic-geochemical (6 CFUs) 1 compulsory exam:				
<i>Geochemistry for Environmental Assessment and Remediation</i>	2	2	6	GEO/08

Related and supplementary educational activities: (18 CFUs) 3 exams to choose from:	Year	Semester	CFUs	SSD
Paleoclimatologia e cambiamento climatico globale	2	1	6	GEO/01
<i>Applied and exploration geophysics</i>	1	2	6	GEO/11
Modelli matematici per le scienze applicate	1	2	6	MAT/07
Geotecnica	1	2	6	ICAR/07

Free-choice educational activities, 2 exams chosen from: (12 CFUs)	Year	Semester	CFUs	SSD
<i>Use and sustainability of raw materials</i>	2	2	6	GEO/06
<i>Landslide Hazard and Risk</i>	2	2	6	GEO/05



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Introduzione alla circolarità dei materiali con laboratorio	2	1	6	CHIM/02
<i>Earth critical zone: risorsa nascosta*</i>	1	1	6	GEO/04

*Activities offered in the non-Resident Collegial project

OTHER MANDATORY ACTIVITIES

Name	Year	Semester	CFUs	TAF	SSD
Prova finale	2		23	E - for the final exam	
Tirocinio	2		6	F - work experience and orientation internships	
Competenze trasversali *	2		1	F - Other knowledge useful for entering the workplace	

* for this AF see the directions on the home page

Curriculum 2 - Geosciences for sustainable resources (GER)

Common and mandatory primary educational activities (36 CFUs)	Year	Semester	CFUs	SSD
<i>Basin analysis and Tectonic processes</i>	1	1e2	12	GEO/02.03
<i>Remote sensing and GIS</i>	1	1e2	12	GEO/04
<i>Petrogenetic processes and evolution of the lithosphere</i>	1	1e2	12	GEO/07
Other primary educational activities: geomorphological-geological applicative (6 CFUs) 1 exam to choose from:				
Idrogeologia applicata	1	2	6	GEO/05
Geomeccanica	2	1	6	GEO/05
Primary educational activities: geological-paleontological (18 CFUs) 3 exams to choose from:				
<i>Applied Sedimentology and sequence stratigraphy</i>	2	1	6	GEO/02
Esplorazione geologica del sottosuolo e transizione energetica	1	2	6	GEO/02
<i>Geological modelling</i>	2	2	6	GEO/03



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Scenari energetici	2	1	6	GEO/02
Rilevamento Geologico Avanzato	2	2	6	GEO/03

Related and supplementary educational activities: geo-resources (18 CFUs) 3 exams to choose from:				
Sostenibilità e gestione delle risorse	2	2	6	SECS-P/13
Modelli matematici per le scienze applicate	1	2	6	MAT/07
Paleoclimatologia e cambiamento climatico globale	2	1	6	GEO/01
Microrganismi marini e loro applicazioni	1	1	6	GEO/01
<i>Applied and exploration geophysics</i>	1	2	6	GEO/11
<i>Physical Properties of minerals and rocks</i>	2	1	6	GEO/06
Gemmologia	2	2	6	GEO/06
<i>Fundamentals of Subsurface Reservoir Studies</i>	2	2	6	GEO/02

Elective educational activities, 2 exams chosen from: (12 CFUs)	Year	Semester	CFUs	SSD
<i>Use and sustainability of raw materials</i>	1	2	6	GEO/06
Gestione sostenibile del patrimonio geologico	1	1	6	GEO/02
Didattica delle Geoscienze	2	2	6	GEO/01
<i>Introduzione alla circolarità dei materiali con laboratorio</i>	2	1	6	CHIM/02
<i>Earth critical zone: risorsa nascosta*</i>	1	1	6	GEO/04

*Activities offered in the non-Resident Collegial project

OTHER MANDATORY ACTIVITIES

Name	Year	Semester	CFUs	TAF	SSD
Prova finale	2		23	E - for the final exam	
Tirocinio	2		6	F - work experience and orientation internships	
Competenze trasversali*	2		1	F - Other knowledge useful for entering the workplace	

* for this AF see the directions on the home page



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Curriculum 3 - Earth and planetary materials and dynamics (EPMD)

Common and mandatory primary educational activities (36 CFUs)	Year	Semester	CFUs	SSD
<i>Basin analysis and Tectonic processes</i>	1	1e2	12	GEO/02-03
<i>Remote sensing and GIS</i>	1	1e2	12	GEO/04
<i>Petrogenetic processes and evolution of the lithosphere</i>	1	1e2	12	GEO/07
Primary educational activities: mineralogical-petrographic-geochemical (18 CFUs) 3 exams to choose from:				
<i>Physical properties of minerals and rocks</i>	2	1	6	GEO/06
Materiali extraterrestri	1	1	6	GEO/06
Gemmologia	2	2	6	GEO/06
<i>Geochemistry for Environmental Assessment and Remediation</i>	2	2	6	GEO/08
Primary educational activities: geological-palaeontological (6 CFUs) 3 exams to choose from:				
<i>Geological modelling</i>	2	2	6	GEO/03
Rilevamento Geologico Avanzato	2	2	6	GEO/03
<i>Applied Sedimentology and sequence stratigraphy</i>	2	1	6	GEO/02

Related and supplementary educational activities: (18 CFUs) 3 exams to choose from:	Year	Semester	CFUs	SSD
<i>Applied and exploration geophysics</i>	1	2	6	GEO/11
Modelli matematici per le scienze applicate	1	2	6	MAT/07
Scenari Energetici	2	1	6	GEO/02
<i>Use and sustainability of raw materials</i>	1	2	6	GEO/06

Elective educational activities, 2 exams chosen from: (12 CFUs)	Year	Semester	CFUs	SSD
<i>Introduzione alla circolarità dei materiali con laboratorio</i>	2	1	6	CHIM/02
Didattica delle Geoscienze	2	2	6	GEO/01
Cristallochimica dei minerali ed applicazioni per l'industria e l'ambiente	2	1	6	GEO/06
<i>Earth critical zone: risorsa nascosta*</i>	1	1	6	GEO/04

*Activities offered in the non-Resident Collegial project



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OTHER MANDATORY ACTIVITIES

Name	Year	Semester	CFUs	TAF	SSD
Prova finale	2		23	E - for the final exam	
Tirocinio	2		6	F - work experience and orientation internships	
Competenze trasversali*	2		1	F - Other knowledge useful for entering the workplace	

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The 3 curricula require the student to obtain:

- 60 CFUs in the framework of primary educational activities, corresponding to seven subjects;
- 18 CFUs in the framework of related and supplementary educational activities, corresponding to three subjects offering up to 6 CFUs each;
- 12 CFUs of free-choice educational activities, including in the study plan one or more active course subjects from the entire University offering, including those recommended by the Academic Board.

Up to 23 CFUs and 6 CFUs are assigned respectively to the Final Exam and the Internship. Also, 1 CFU can be awarded for Transversal Skills for students who have attended activities recommended by the Academic Board.

The total number of credits in the two-year period is 120.



Annex 2

Recommended elective courses

In the two years of the course, students must obtain **12 CFUs for free-choice educational activities**.

These activities may be selected from all the active course subjects offered by the University, **including those relating to geological studies** not selected as part of the primary and related/supplementary activities.

The student will not be able to choose course subjects already taken during previous university studies.

The Academic Board recommends the following courses:

Subjects in the Master's Degree Course in Geosciences for sustainable development	CFUs	SSD
Didattica delle Geoscienze	6	GEO/01
Normativa per la progettazione geologica e ambientale	6	GEO/05
Materiali extraterrestri	6	GEO/06
<i>Fundamentals of Subsurface Reservoir Studies</i>	6	GEO/02
Scenari energetici	6	GEO/02
Rilevamento geologico avanzato	6	GEO/03
<i>Engineering geology (civil risk)</i>	6	GEO/05
<i>Applied sedimentology and sequence stratigraphy</i>	6	GEO/02
<i>Geological modeling</i>	6	GEO/03
Progresso umano e sviluppo sostenibile	6	SECS-P/02
<i>Geochemistry for Environmental Assessment and Remediation</i>	6	GEO/08
Geomeccanica	6	GEO/05
Introduzione alla circolarità dei materiali con laboratorio	6	CHIM/02
Esplorazione geologica del sottosuolo e transizione energetica	6	GEO/02
<i>Geotechnical earthquake engineering</i>	6	ICAR/07
<i>Landslide modelling and mitigation strategies</i>	6	ICAR/07

The following course subjects are also suitable for the student's formation for a Master's degree in Geosciences for sustainable development:

Subjects established by the Master's degree course in Nature Sciences		
Gestione sostenibile del patrimonio geologico	6	GEO/02
Mineralogia sistematica	6	GEO/06
Complementi di matematica per l'insegnamento	6	MAT/04
Paleontologia dei vertebrati	6	GEO/01
Subjects established by the degree course in Geological Sciences		



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Metodologie analitiche	6	GEO/06
Vulcanologia	6	GEO/08
Geomateriali: genesi, depositi e applicazioni	6	GEO/09
Subjects established by the Degree Course in Nature Sciences and Technologies		
Museologia	6	GEO/06
Didattica delle Scienze	6	BIO/02
Geobotanica	6	BIO/03
Comunicazione digitale e multimediale	6	ING-INF/05
Ecologia Applicata	6	BIO/07
Subjects established by the degree course in Management		
Governo e valorizzazione delle risorse naturali	6	GEO/09
Recommended subjects to acquire CFUs in mathematical areas to gain access to the public examination for teaching in secondary schools		
Elementi di Matematica e Statistica (Scienze e tecnologie per la natura)	9	MAT/05
Geometria e Algebra (Ingegneria Civile e Ambientale)	6	MAT/03
Matematica (Scienze biologiche)	6	MAT/05

For further information on the course program and on the methods for assessing the student's learning outcomes, as well as indications of the course professors and their curriculum vitae, see: <https://geologia.cdl.unipv.it/it>.