



UNIVERSITÀ DI PAVIA
Dipartimento di
Biologia e Biotecnologie
“Lazzaro Spallanzani”

COURSE REGULATIONS

(art. 12 – M. D. no. 270, 22 October 2004)

MASTER’S DEGREE IN
MOLECULAR BIOLOGY AND GENETICS

Class LM-6 Biology

Entering class 2024/2025

PART ONE – GENERAL PROVISIONS

Art. 1 – Name, class, department and duration

Art. 2 – Regulatory texts

Art. 3 – Body responsible for didactic and organizational coordination

Art. 4 – Administrative services

PART TWO – ORGANIZATION OF DIDACTIC ACTIVITIES

Art. 5 – Annual degree-programme report

Art. 6 – Admission requirements

Art. 7 – Didactic organization

Art. 8 – Study plans

Art. 9 – Joint-degree programmes

Art. 10 – Attendance and curricular prerequisites

Art. 11 – Student elective activities

Art. 12 – Internships and placements

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

Art. 14 – Final examination and awarding of degree

PART THREE – PROVISIONS REGARDING STUDENTS' COURSE OF STUDY

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

Art. 16 – Criteria for recognition of credits earned

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

Art. 18 – Admission to subsequent years

Art. 19 – Certifications

PART ONE – GENERAL PROVISIONS

Art. 1 – Name, class, department and duration

1. The second cycle degree course in Molecular Biology and Genetics, set up by the Department of Biology and Biotechnology “L. Spallanzani” of the University of Pavia, belongs to class LM-6 of second cycle degree courses in Biology, in accordance with 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 course organization and the carrying out of training activity envisaged for the second cycle degree course in Molecular Biology and Genetics is regulated by the present text, by the Statute of the University of Pavia, by the general University Regulations (<https://portale.unipv.it/it/ateneo/organizzazione/statuto-e-regolamenti>), by University Didactic Regulations, by Student career Regulations (<https://portale.unipv.it/it/ateneo/organizzazione/statuto-e-regolamenti>) and by the Regulations of the Department of Biology and Biotechnology “L. Spallanzani” of the University of Pavia (<https://dbb.dip.unipv.it/en>).
2. For all matters not expressly provided for in these Regulations, the existing provisions of the law apply.

Art. 3 – Body responsible for didactic and organizational coordination

1. In respect of the competencies and criteria established by the Regulations listed in Art. 2, as well as those covered by the Regulations for the organisation and operations of the Teaching Boards, the body responsible for coordinating teaching and organization of the degree course is the Teaching Council of Biological Sciences, hereinafter referred to as the Teaching Council, subject to the authority of the Department of Biology and Biotechnology “L. Spallanzani”.
2. Responsibility for didactic activity and organization of the course (CdS) is assumed by a member of the teaching staff who is nominated for that purpose by the Teaching Council, without prejudice to the collegiality of the decisions and guidelines. The person responsible for the course is named on the Annual degree-programme report.
3. In accordance with the freedom of teaching and the rights/obligations of teaching staff and students, the course organization and the carrying out of training activity envisaged for the second cycle degree course in Molecular Biology and Genetics is regulated by the present text, In accordance with the freedom of teaching and the rights/obligations of teaching staff and students, the course organization and the carrying out of training activity envisaged for the second cycle degree course in Molecular Biology and Genetics is regulated by the present text.

Art. 4 – Administrative services

1. As to applications relating to student careers (enrolments, transfers, etc.), responsibility shall lie with the UOC Carriere studenti, the UOC Immatricolazioni e informastudenti and the UOC Admission Office.

Information is available at the following links:

<https://en.unipv.it/en/education/bachelors-and-masters-degree-programs>

The Orientation Centre (C.OR.) manages activities and projects to help students in the choice of their university studies, to support their courses, to facilitate entry into the world of employment. To this end it organizes collective actions, individual counseling services, and orientation meetings.

The C.OR. website can be consulted at: <https://orienta.unipv.it/>

PART TWO – ORGANIZATION OF DIDACTIC ACTIVITIES

Art. 5 – Annual degree-programme report

1. The Annual individual study-plan card is available at the following link:

<https://sonl.unipv.it/ava/index.php/2024SUA08412.pdf>

Art. 6 – Admission requirements

1. For being admitted to the Master's degree program students must possess a Bachelor's degree or an equivalent qualification obtained abroad recognized as suitable by the competent University representatives. Students are must also have a B2 English CEFR level (Common European Framework); since the program is taught in English, passing the first exam proves that a student meets the language requirement.

2. In order to enroll to the Master's degree program students must also possess certain academic requirements and an appropriate experience.

Curricular requirements

a) Curricular requirements shall be deemed to be automatically met by students who hold a degree from Class 1 (Biotechnology Degree Class) and Class 12 (Biological Sciences Degree Class) (Ministerial Decree 509), as well as Classes L-2 (Biotechnology) and L-13 (Biological Sciences).

b) Admissions shall also be granted to candidates who have obtained a degree in classes other than those listed above, provided, however, that their educational path has allowed them to obtain:

- At least 9 credits (ECTS) in the following scientific discipline areas (locally known as SSDs): MAT/05, MAT/08, FIS/01, ING-INF/06;

- At least 12 credits in the following SSDs: BIO/06, BIO/09, BIO/10, BIO/11, BIO/13, BIO/14, BIO/18, BIO/19;

- At least 9 credits in the following SSDs: CHIM/03, CHIM/06, CHIM/08

c) Students under (b) above who choose the 'Molecular life sciences' curriculum are also required to prove that they have gained appropriate knowledge in the following disciplines:

- Mathematics, physics and computer science: 12 credits;
- Chemistry: 15 credits;
- Biomolecular science: 18 credits;
- Other biological disciplines: 12 credits.

d) Given the diverse and multifarious organisation of study courses abroad, the curricula of foreign students, including EU and non-EU students, shall be reviewed by an ad-hoc Commission in order to establish whether they meet the applicable requirements.

Evaluating the preparation of the student

- Students shall be automatically admitted to the degree course if they have obtained a degree with a mark of 99/110 or higher in Classes 1 (Biotechnology Degree Class) and 12 (Biological Sciences Degree Class) (Ministerial Decree 509), and in Classes L-2 (Biotechnology) and L-13 (Biological Sciences).
- Students not falling into the category referred to in the previous paragraph (grade below 99/110, other degree classes) shall be subject to a background check.

Such verification takes the form of a pre-assessment of curricular requirements by a special Commission, and an admission test consisting of an interview with members of the Commission. For foreign students, the interview may be carried out online, considering specific prior training.

3. Method of recovering possible educational debts.

If the preparation of the student is judged not entirely adequate, the Commission may require the passing of examinations relative to three-year, first cycle degree programmes. The recovery of educational debts must occur by the end of February and, in any event, prior to registration.

Art. 7 – Didactic organization

1. Training activities that are part of the second cycle degree course lead to the acquisition, by the students who undertake them, of university credits (CFU) in accordance with prevailing regulations.
2. The average workload and study-time for a student engaged in full-time university study activities is conventionally established at 60 credits (CFU) per year.
3. Each credit granted in the course corresponds to an average total of 25 hours work, of which at least 50% is set aside for personal study or other activities involving individual learning. (except in cases

where highly experimental or practical educational activities are envisaged). For each credit, the correspondence between the hours of teaching imparted in the degree course and the hours reserved for individual study is as follows:

- a. in the case of *ex-cathedra* tuition, 8 hours for lectures or equivalent activities and 17 hours dedicated to individual study;
- b. in the case of laboratory activity, seminars, tutorials etc, 12 hours for lectures and 13 hours dedicated to individual study.

4. The credits corresponding to each educational activity are acquired by the student upon passing an examination or following other forms of verification of preparation or of skills acquired.

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 credits (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 period of validity of credits earned is equal to the number of years specified in the Student's career Regulations (Art. 30) before loss of student status. After that period, the Department Council provides methods of verifying credits earned in order to assess that the student's knowledge is not obsolete.

7. Teaching activity is organised in two semesters:

October – January; March - June

8. The examination sessions are scheduled in the following periods:

15 January – end of February; 15 June – end of July; 1 September – end of September

There are six separate exam dates.

9. At least two of these exam dates are set outside the sessions referred to in paragraph 7; they are reserved for students who have already satisfactorily attended the 2nd year of the course.

10. For student athletes involved in disciplines recognized by the Italian National Olympic Committee or by the Italian Paralympic Committee, additional exam dates are set at the request of the interested parties, to replace those on the calendar should these coincide temporally with sporting commitments that are at least of national importance. The President of the Teaching Council, who must be provided with documented evidence of commitments that prevent participation at regularly timetabled exams, shall arrange for the organisation of an additional exam date after consultation with the lecturer involved.

11. The timetable of lessons, examinations and sessions for the defence of the thesis is announced in accordance with ministerial deadlines, as shown on the Annual Individual Card.

12. There are at least eight sessions for the defence of the thesis each calendar year.

Art. 8 – Study plans

1. All students are required to submit their study plans by the deadlines specified annually by the University.

2. Standard study plans, i.e. those that conform to the rules set out in *Appendix no.2* of the present Regulations, are approved automatically, except for the training activities referred to in subparagraph a), paragraph 5 of Article 10, Ministerial Decree n. 270 of 22 October 2004, which are autonomously chosen by the student from among the activities offered by the University; for these activities the Teaching Council assesses their coherency with the program, taking into consideration the adequacy of the motivations that may be put forward by the student.

3. Students who intend to follow an educational program different from that provided for in these Regulations can submit, while respecting the constraints laid down by the declaration of the class of the degree course and by the organisation of the course itself, an individual study plan by the deadlines established annually by the University.

The individual study plan must be approved by the Teaching Council, which will take account of the requirements of the student in terms of cultural development and professional training and may suggest appropriate changes in order to make the training more consistent with the specific objectives of the course.

4. Study plans for part-time students are not envisaged.

5. For the general rules governing the presentation of the study plan, see Art. 20 of the Student career Regulations.

6. EU, EU-equivalent and non-EU students with a qualification obtained abroad shall be required to take a course in Italian for foreigners (3 credits) as part of the additional language skills in TAF F.

Students shall be considered exempt if they:

- 1) have obtained A high school or bachelor's degree in Italian in Italy;
- 2) have obtained an Italian school qualification abroad;
- 3) at least Level B1 Italian language certificate.

On the other hand, Italian and foreign students under 1), 2) and 3) above shall cover the 3 credits of the above-mentioned TAF by engaging in training activity listed under 'Other activities'.

7. In addition to the courses necessary for the graduation, it is possible to include a maximum of 24 credits (CFU) of extra learning activities to the study plan per academic year, except for the medical area courses of nationally restricted access and the psychology area courses, as long as the course propaedeutic rules are followed.

Art. 9 – Joint-degree programmes

1. There are no agreements or programmes directed towards obtaining a double degree.

Art. 10 – Attendance and curricular prerequisites

1. Attendance at lectures is not mandatory but is strongly recommended.
2. There are no curricular prerequisites.

Art. 11 – Student elective activities

1. Students enrolled in the second cycle degree course are allowed the inclusion of 12 credits of their own choice (under Article 10, paragraph 5.a, Decree 270/2004 - called "TAF D") in their study plans. Students can choose from among the subjects offered on the University syllabus, and the Teaching Council may reserve the right to evaluate the compatibility of these subjects with the objectives of the second cycle degree. If the choice involves subjects on the special list in Attachment 2, which are consistent with the degree program, then it is automatically approved.
2. It is allowed to include, among the freely chosen activities, courses belonging to the educational offer of the three-year and master's degree courses, with the exception of those pertaining to the educational offer of the medical and health area with national planning and the psychology area. The student will not be able to choose courses already taken during previous university attendance, unless they have obtained specific validations of the same.
3. Students are permitted to include in their study plans, as elective activities, subjects offered at University Colleges if these are accredited by the University under art. 27 of its Teaching Regulations.
4. According to recent ministerial decrees, among elective activities, students are allowed to choose at least 3 courses in Italian. These courses can be selected in the frame of the didactic teaching of the university or specifically set up courses.

Art. 12 – Internships and placements

1. There is no curricular internship.
2. "Elective" or "excess" university credits (CFU) that are attainable through extracurricular internships within the CFU of the syllabus may be recognised. Such recognition is subject to the evaluation of the Teaching Council, which will also determine the number of CFUs attributable to the activity.

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

1. No more than a total of 12 examinations or final assessments can be considered.
2. Examinations are conducted in English.
3. Core subjects, similar and integrative subjects, and subjects chosen by the student should be taken into consideration in the calculation of final examinations or assessments. Examinations or final assessments related to these activities are considered in the count as corresponding to one unit (even if the credits give rise to more examinations or final evaluations).

4. The set of training activities referred to in subparagraphs c), and d) of paragraph 5, Article. 10 of Ministerial Decree no. 270 / 2004, are not included when calculating the maximum number of final examinations or assessments; the tests provided for such activities must not exceed 5 in number, including the final defence of the degree.
5. Examinations involve an evaluation that must be expressed in a mark out of thirty and then entered in the appropriate register. Credits are considered acquired if the mark is equal to or greater than 18/30. In the case of a maximum score of 30/30, the examination commission may unanimously concede the awarding of a 'commendation'.
6. In the case of written examinations, students are permitted to withdraw at any moment while the exam is in progress.
7. In the case of oral examinations, students are permitted to withdraw, as specified in the University Regulations, at least up until the moment just before the registration of the final mark. If students have withdrawn or have failed the exam, any annotations in the register, which can be utilised for statistical purposes, are not transcribed in the students' record books, nor do they appear in their academic transcripts. Based on the art. 30, comma 1 of the Students' Careers Regulation, it is necessary to register the evaluation of the exam even when it is negative.
8. The repetition of an exam that has already been passed, with the possible modification of the relative evaluation, is not permitted.
9. The decision, on the part of the student, not to accept a vote of 18/30 or higher, is irrevocable.
10. Students cannot sit the same exam more than twice in the same examination session.
11. Examinations or assessments related to the activities chosen by students are considered as corresponding to one unit (even if the credits may give rise to further tests or evaluations).
12. The verification of the activities referred to in the following points is expressed as follows:
 - a) Laboratory activities included amongst "Free activities": declaration by the teacher in charge, evaluation "suitable" or "Not suitable".
 - b) Other activities - Soft skills: Thesis advisor's statement, 'Approved' or 'Not approved' rating
 - c) Internship for thesis: statement by the thesis supervisor, evaluation "Approved" or "Not approved".

Art. 14 – Final examination and awarding of degree

1. The degree is awarded after passing a final examination, which will tend to verify the attainment of the learning objectives of the course.
2. It is obligatory to carry out experimental work under the tutelage of a teacher from the degree course in Biological Sciences and Biotechnology in preparation for the thesis. Depending on the curriculum chosen by the student, this activity may concern the study of a biological system through genetic, biomolecular, biochemical or cellular methods (Molecular life sciences curriculum, 36

credits) or computational investigations on data from omics disciplines and analysis of large datasets from biological investigations (Molecular and digital biology curriculum 30 credits).

3. The final examination, which carries 38 CFU, consists of the preparation, presentation and discussion, on the part of the student, of a thesis elaborated in an original way under the guidance of a supervisor. The final exam shall be written and discussed in English. The final thesis must be written and discussed in English. It is therefore necessary to meet the following conditions:

- a) an "abstract" written in Italian and summarizing the content of the thesis must be attached
- b) the title must be written both in English and Italian.

4. The thesis must be presented by a supervisor and possibly also a co-supervisor, even from outside the university.

5. The final mark of the second cycle degree (from a minimum of 66 points to a maximum of 110, with possible *cum laude*) is assigned by a special commission, appointed by the Head of the Department, in a session that is open to the public; it takes into account the student's entire course of studies.

To determine the overall mark of the final exam, the grade assigned by the Commission, amounting to a maximum score of 8, is added to the weighted average of the curricular marks. If the final mark is one hundred and ten, *cum laude* may be granted, but it must be conceded unanimously.

PART THREE – PROVISIONS REGARDING STUDENTS' COURSE OF STUDY

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

1. The eventual recognition of credits obtained by the student in the ways prescribed by Art. 14 of Law 240/2010, for the types set forth in paragraphs 2) and 3), shall be decided by the Teaching Council.

2. The Teaching Council, taking into account the requirements of the student in terms of academic and personal preparation, can validate duly-certified knowledge and skills with up to 12 CFU, of which:

- a. no more than 6 credits for knowledge and skills that have been individually certified under existing legislation;
- b. no more than 12 credits for knowledge and skills acquired through educational activities at a post-secondary level that have been organised in part by a university.

3. At the request of the student, and on the basis of the criteria and procedures established by the Academic Senate, the following activities may also be recognized as university credits inasmuch as they constitute free choice curriculum activities (TAF D) the following activities up to a total of 12 credits :

- a) sports practiced at the Olympic, world and European level, up to a maximum of 6 credits;
- b) sport played at the Italian level, and in intermediate categories, up to a maximum of 3 credits;

c) qualification for "zone medals" at university championships, as well as the taking part in competitive sports for sections of the Pavia CUS, including participation in regional and national competitions, up to a maximum of 6 credits.

Art. 16 – Criteria for recognition of credits earned

1. In accordance with art. 46 of the Course Regulations of the University, in the event of students passing / transferring from other courses in the same class or from different classes, the Teaching Council shall decide as regards the recognition of studies already undertaken as well as the possible validation of credits that can be regarded as recognisable.

2. The validation of credits is decided by the Teaching Council, case by case, on the basis of an inquiry conducted by one or more teachers delegated by the Council. The type and number of recognisable credits is established on the basis of relevance to the subject. To this end, the application for recognition must be accompanied by official documentation; the teachers delegated to validate credits may carry out any further checks that they deem appropriate.

3. In accordance with art. 48 of the Academic Regulations, the recognition of educational activities carried out at a foreign university is deliberated by the Teaching Council.

The recognition of credits acquired in connection with activities of study and examinations taken at foreign universities of proven qualification is evaluated case by case, based on an inquiry conducted by one or more members of the teaching staff who have been delegated by the Council itself.

4. Academic qualifications obtained at foreign universities can be considered equivalent to the correspondent qualifications issued by the University of Pavia, on the basis of specific provisions contained in international conventions. In the absence of agreements, the Department may deliberate, on a proposal from the Teaching Council in relation to the coherence of the studies carried out, the full equivalence of qualification attained.

5. The period of validity of credits earned is equal to the number of years specified in the Student career Regulations before loss of student status. After that period, the Department Board provides methods of verifying credits earned in order to assess that the student's knowledge is not obsolete.

6. In the event of withdrawal or loss of student status, the recognition of credits earned is decided by the Teaching Council, case by case, on the basis of an inquiry carried out by one or more members of the teaching staff who have been delegated by the Council itself.

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

1. Periods of study undertaken by students of the Second Cycle degree in Molecular Biology and Genetics at foreign universities under the Erasmus+ Community Programs and International Mobility Programs recognized by the University through international agreements are recognized as training activities similar to those offered within the course, with the same commitment required of the student, provided that the contents are consistent with the educational programme.

2. The "Learning Agreement" and the "Training Agreement" are documents that define the training activities that will be undertaken abroad and that will replace some of the activities envisaged by the degree course. The possible recognition of credits earned abroad is established in advance through the "Learning Agreement" or "Training Agreement", which are signed for approval by the international mobility Coordinator and by the student for teaching and training activities. It is the responsibility of the Coordinator to ensure the coherence of the "Learning Agreement" or "Training Agreement" with the educational objectives of the course.

3. The equivalence of the subjects to be studied abroad with that of the subjects provided in the degree course must first be approved by the lecturer in a written statement.

4. At the end of the period spent abroad, the Teaching Council, at the request of the student and based on the results achieved and adequately documented in the "Transcript of Records", recognizes the training activity carried out abroad and any mark awarded.

5. The Teaching Council shall proceed with the recognition of the direct correspondence between one or more training activities in the study plan and one or more training activities whose credits have been acquired at the foreign University.

6. For each exam taken as part of the Erasmus+ Community Programs and International Mobility Programs recognized by the University, the Teaching Council assigns a mark corresponding to the evaluation of merit obtained abroad. In the presence of different criteria for the allocation of marks, reference is made to the correspondence in the ECTS (European Credit Transfer System) system of credits.

7. Study and research activity conducted abroad in preparation for the final exam can be recognized provided that it is carried out with the same method and commitment as envisaged by the provisions of the Regulation of the degree course, and appropriately certified.

8. At the request of the student, and upon approval by the Teaching Council in charge, 5 CFU for each month spent abroad as part of the Erasmus Mobility Study and Erasmus Traineeship programme or internship programs abroad recognized by the University (up to a maximum of 60 credits for 12 months) can be recognized subject to approval by the Coordinator in relation to the quality of the training that has taken place.

In the event that the number of CFU that are recognized exceeds that set for the thesis / final examination, the excess credits may be recognized as being supernumerary.

9. For the preparation of their theses, students may undertake periods of study abroad that are not envisaged in the special regulations relating to mobility programs, provided that this has been previously approved by their thesis supervisors in a written statement to regularize the position of the students as regards insurance and forwarded to the Students' Office.

Art. 18 – Admission to subsequent years

There are no conditions that could prejudice enrollment in subsequent years.

Art. 19 – Certifications

Certification is not recognised.

UNIVERSITY OF PAVIA – 'LAZZARO SPALLANZANI' DEPARTMENT OF BIOLOGY AND BIOTECHNOLOGY

Study Plan, Master's Degree in Molecular biology and genetics – Cohort 2024-25
LM-6 – Category of Master's Degree in Biology

CURRICULUM MOLECULAR LIFE SCIENCES (MLS)

I YEAR (59 C.F.U.)

COURSE	CREDITS	SEMESTER	SSD	TAF
Methods in Biochemistry	9	I	BIO/10	Core
<u>One of the following courses:</u>				
• Basic Molecular Biology	6	I	BIO/11	Core
• Structural Biology			BIO/11	
Structural Biology-	6	I	BIO/11	Core
Microbial Genetics	6	I	BIO/18	Core
Advanced Molecular Biology	6	II	BIO/11	Core
Bioinformatics	6	II	ING-INF/06	Integrative
Human Molecular Genetics	6	II	BIO/18	Core
Molecular Pharmacology	6	II	BIO/14	Core
Internship for experimental thesis a	14	II		Language/Final exam

II YEAR (61 C.F.U.)

COURSE	CREDITS	SEMESTER	SSD	TAF
Cellular Biochemistry	6	I	BIO/10	Core
Developmental Biology	6	I	BIO/06	Core
Plant Molecular Biology and Biotechnology	6	II	BIO/04	Integrative
Molecular Microbiology	6	II	BIO/19	Core
Other activities o Italian language for foreign students	3	II		Other Activities
Free activities*	12	II		Elective
Internship for experimental thesis b	22	II		Language/Final exam

CURRICULUM MOLECULAR AND DIGITAL BIOLOGY (MDB)

I YEAR (54 C.F.U.)

COURSE	CREDITS	SEMESTER	SSD	TAF
<u>One of the following courses:</u> <ul style="list-style-type: none"> • Basic Molecular Biology • Structural Biology 	6	I	BIO/11 BIO/11	Core
<u>One of the following courses:</u> <ul style="list-style-type: none"> • Basic Biochemistry • Cellular Biochemistry 	6	I	BIO/10 BIO/10	Core
<u>One of the following courses:</u> <ul style="list-style-type: none"> • Basic Microbiology • Microbial Genetics 	6	I	BIO/19 BIO/18	Core
<u>One of the following courses:</u> <ul style="list-style-type: none"> • Basic Genetics and Cell Biology • Human Molecular Genetics 	6	II	BIO/18 BIO/18	Core
Bioinformatics	6	II	ING-INF/06	Integrative
Advanced Molecular Biology	6	II	BIO/11	Core
Molecular Pharmacology	6	II	BIO/14	Core
Statistics and Big Data Analysis	9	II	BIO/11	Core
Other Activities o Italian language for foreign students	3	II		Other Activities

II YEAR (66 C.F.U.)

COURSE	CREDITS	SEMESTER	SSD	TAF
Laboratory of Advanced bioinformatics for omics sciences	6	I	BIO/11	Core
Genomics and Evolution in Emerging Infectious Diseases	12	I,II	BIO/05 VET/06	Core Integrative
Pharmacogenomics, cancer genomics and epigenomics	6	I	BIO/18	Core
Free activities*	12	II		Elective
Internship for experimental thesis	30	II		Language/Final exam

***Two courses to be chosen among the following or among the courses offered by the University of Pavia with the exception of *numerus clausus* courses in the medical field on a national level or of the psychological area (or one course + **6 laboratory credits):**

*Courses suggested as free activities

COURSE	CREDITS	SEMESTER	SSD	TAF
Advanced Microscopy	6	I	BIO/06	Elective
Immunology	6	II	MED/04	Elective
Molecular Entomology	6	II	BIO/05	Elective
Molecular Genetics	6	I	BIO/18	Elective

Data Science in Everyday Practice (Course “ <i>progetto CNR – collegiale non residente</i> ”) ¹	3	I	BIO/11	Elective
Radiation Biophysics and Radiobiology ²	6	II	MED/36	Elective

¹Should the students include this Course, they should consider adding another 3 CFU course from those offered by the university of Pavia (with the exception of *numerus clausus* courses in the medical field on a national level or of the psychological area) + 6 Laboratory credits, or a 9 CFU course from those offered by the university of Pavia (with the exception of *numerus clausus* courses in the medical field on a national level or of the psychological area).

²Available only for the MLS curriculum.

****Laboratories suggested as free activities**

COURSE	CREDITS	SEMESTER	SSD	TAF
Laboratory of Plant Pathology	6	II	AGR/12	Elective
Laboratory of Botany	6	II	BIO/02	Elective
Laboratory of Plant Physiology	6	II	BIO/04	Elective
Laboratory of Zoology	6	II	BIO/05	Elective
Laboratory of Comparative Anatomy and Cytology	6	II	BIO/06	Elective
Laboratory of Ecology	6	II	BIO/07	Elective
Laboratory of Physiology	6	II	BIO/09	Elective
Laboratory of Biochemistry	6	II	BIO/10	Elective
Laboratory of Molecular Biology	6	II	BIO/11	Elective
Laboratory of Pharmacology	6	II	BIO/14	Elective
Laboratory of Genetics	6	II	BIO/18	Elective
Laboratory of Microbiology	6	II	BIO/19	Elective
Laboratory of General Pathology	6	II	MED/04	Elective
Laboratory of Immunology	6	II	MED/04	Elective
Laboratory of Parasitology	6	II	VET/06	Elective
Laboratory of Bioinformatics	6	II	BIO/11	Elective