



**UNIVERSITÀ DI PAVIA**  
**Dipartimento di**  
**Medicina Molecolare**

**COURSE REGULATION**  
**(art. 12 - D.M. 22 October 2004 n. 270)**

Entering class academic year 2024/2025

**MASTER'S DEGREE COURSE IN MEDICAL  
AND PHARMACEUTICAL  
BIOTECHNOLOGIES**  
**Class LM-9**

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## **Part one- General provisions**

### **Art. 1 – Name, class, location and duration**

1. The Master's Degree course in Medical and Pharmaceutical Biotechnologies, set up by the Department of Molecular Medicina and coordinated by the Faculty of Medicine in Pavia by the University of Pavia belongs to class LM-9 concerning Master's Degrees in Medical, Veterinary and Pharmaceutical Biotechnologies, as set by DM 16 March 2007.
2. The duration of the course is two years.

### **Art. 2 – Regulations of reference**

1. In compliance with the freedom of teaching as well as rights and obligations for both professors and students, the teaching organisation and training activities in the frame of the Master's Degree in Medical and Pharmaceutical Biotechnologies are regulated by the current text, [the University of Pavia Regulations](#), [the University's General Regulation](#), [the University Teaching Regulation](#), the [Students' Career Regulation](#) and the [Department of Molecular Medicine Regulation](#).
2. For other issues not specifically stated in the present regulation, current law provisions apply.

### **Art. 3 – Body responsible for teaching and organisational coordination**

1. The Master's Degree Course in Medical and Pharmaceutical Biotechnologies reports to the Department of Molecular Medicine.
2. In respect of the skills and criteria set by the Regulations reported in art. 2, as well as according to the Regulation for the functioning of interdepartment study courses, the competent body for the didactic and organisational coordination of the course is the dedicated Teaching Council for Medical and Pharmaceutical Biotechnologies, hereby referred to as Teaching Council (*Consiglio didattico*).
3. The Course responsible body and quality management group are listed in the dedicated SUA report, available at the following link : <https://sonl.unipv.it/ava/index.php/2023SUA37401.pdf>.

### **Art. 4 – Administrative services of reference**

1. The administrative services available for students are the following:

For questions related to the student's career, (enrollment, transfers etc.) the competent offices are UOC Carriere studenti, UOC Procedure di immatricolazione e informastudenti and UOC Admission office.

More information is available at the following links:

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

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

The Students Orientation Centre (COR) provides support to students during their academic career. The reference website is: <https://orienta.unipv.it/>

In addition, the course in Medical and Pharmaceutical Biotechnologies has the administrative support of the Didactic Secretary of the Department of Molecular Medicine and the Presidency Secretary of the Faculty of Medicine and Surgery of the University of Pavia.

## Part two- Organisation of teaching activities

### Art. 5 – Annual degree programme report (*Scheda Unica Annuale-SUA*)

1. The annual degree programme report is available at the following link:  
<https://sonl.unipv.it/ava/index.php/2023SUA37401.pdf>

### Art. 6 – Admission requirements for students graduated in Italy

1. To be admitted in this course, students must have a bachelor degree (including the bachelors obtained according to the didactic organisation prior to D.M. 509/1999 and subsequent modifications and integrations) or other study titles obtained abroad in one of the following classes as set by D.M. 509/1999: 1 Biotechnologies, 12 Biological sciences, 14/S Pharmacy and Industrial pharmacy (including the single-cycle degree in Chemistry and Pharmaceutical Technologies), 46/S Medicine and Surgery; or the bachelor/master's degree obtained in one of the following classes as set by D.M. 270/2004: L-2 Biotechnologies, L-13 Biological sciences, LM-13 Pharmacy and Industrial pharmacy(including the single-cycle degree in Chemistry and Pharmaceutical Technologies), LM-41 Medicine and Surgery.
2. Students need to have an English language certificate of B2 (CEFR) level or higher, or a certificate issued by the Language Centre of the University of Pavia or other Italian Universities, B2 (CEFR) level or higher. The certificate is not needed in the following cases: a) the student has already obtained a university degree taught in English; b) the student is a native English speaker.
3. Graduated students with an academic title obtained in different curricula and different classes than the ones reported in comma 1 or graduates with a foreign degree title must pass a pre-evaluation of their curricular requirements. Curricular requirements for the previous academic career are met if the student obtained a minimum number of credits in the basic or characterising training activities and with reference to disciplinary topics and/or specific disciplinary scientific sectors as reported here:
  - Min. 10 CFU in Maths, Physics, Informatics and Statistics corresponding to the sectors: from FIS/01 to FIS/08, from MAT/01 to MAT/09, INF/01, MED/01, SECS-S/01, SECS-S/02;
  - Min. 10 CFU in Chemistry and Biology, corresponding to the sectors: CHIM/01, CHIM/02, CHIM/03, CHIM/06, BIO/01, BIO/10, BIO/11, BIO/13, BIO/17, BIO/18, BIO/19;
  - Min. 20 CFU in Biotechnologies corresponding to the sectors: from BIO/01 to BIO/07, from BIO/12 to BIO/19, from CHIM/01 to CHIM/05, from CHIM/08 to CHIM/11, MED/03, MED/04, MED/05, MED/07, MED/09, MED/13, MED/15, MED/42.
4. For admission it is required an adequate personal preparation verified via an evaluation interview.
5. Graduates having all the requirements reported in comma 1 who obtained the title within the evaluation interview with final mark 92/110 are exempted from taking the pre-evaluation of the curricular requirements.
6. The Commission, composed of three professors of the University of Pavia, mandated by the Teaching Council, will verify the curricular requirements possessed by candidates and communicate to all candidates the feedback of the pre-evaluation by email. If, in the pre-evaluation process, gaps in the candidate's knowledge are found, the candidate will need to sit additional exams and pass them before enrollment by attending single courses.
7. The evaluation interview is an online interview in front of a Commission (see comma 6) and it is the tool to verify the adequacy of personal preparation and English language skills of the candidates for enrollment purposes. To verify the English language skills the Commission checks if the student is in possession of the requirements specified in comma 2, and if not,

conducts an interview in English. The students who have obtained a university degree taught in English and students who are native English speaker are exempt from the language level assessment.

8. The evaluation interview is mandatory for:
  - Candidates not graduated within the date of the evaluation interview (see comma 10);
  - Graduates with an academic title obtained in different curricula and different classes with respect to those reported in comma 2;
  - Graduates with a foreign academic title.
9. Access to this Master's Degree is allowed to candidates about to graduate in a compatible programme (see comma 1), within March 31 (Under Condition Enrollment), who obtained at least 150 credits at the moment of submitting the admission request.

#### **Art.7 – Admission requirements for students graduated abroad**

1. To be admitted in this course, students must have a bachelor degree (including the bachelors obtained according to the didactic organisation prior to D.M. 509/1999 and subsequent modifications and integrations) or other study titles obtained abroad in one of the following classes as set by D.M. 509/1999: 1 Biotechnologies, 12 Biological sciences, 14/S Pharmacy and Industrial pharmacy (including the single-cycle degree in Chemistry and Pharmaceutical Technologies), 46/S Medicine and Surgery; or the bachelor/master's degree obtained in one of the following classes as set by D.M. 270/2004: L-2 Biotechnologies, L-13 Biological sciences, LM-13 Pharmacy and Industrial pharmacy(including the single-cycle degree in Chemistry and Pharmaceutical Technologies), LM-41 Medicine and Surgery.
2. Students need to have an English language certificate of B2 (CEFR) level. Exemptions: 1) if the student has obtained a degree after a course taught fully in English; 2) if the student has English as mother tongue.
3. Graduated students with an academic title obtained in different curricula and different classes than the ones reported in comma 1 or graduates with a foreign degree title must pass a pre-evaluation of their curricular requirements. Curricular requirements for the previous academic career are met if the student obtained a minimum number of credits in the basic or characterizing training activities and with reference to disciplinary topics and/or specific disciplinary scientific sectors as reported here:
  - minimum 10 CFU in Mathematics, Physics, Chemistry, Informatics and Statistics
  - minimum 20 CFU in in Biology and BiotechnologyStudents are also required to have a minimum Cumulative Grade Point Average of    92/110 (converted into the Italian marking system)
4. An adequate personal preparation is required for admission, and it is verified via an evaluation interview.
5. The Commission, composed of three professors of the University of Pavia, mandated by the Teaching Council, will verify the curricular requirements possessed by candidates and communicate to all candidates the feedback of the pre-evaluation by email. If, in the pre-evaluation process, gaps in the candidate's knowledge are found, the candidate will need to sit additional exams and pass them before enrollment by attending single courses.
6. The evaluation interview is an online interview in front of a Commission and is the selected tool to show the applicant preparation and evaluate their English language proficiency to enroll.
7. Access to this degree is allowed to candidates about to graduate in a useful study path (see comma 1), anyway within the deadline of March 31(under condition enrollment) and by obtaining at least 95% of CFU while submitting the pre-evaluation request.

## **Art. 8 – Teaching organisation**

1. Training activities attended by students within the course provide rights to issue formative university credits CFU as set by current regulations.
2. The average quantity of overall engagement in learning, undertaken in a year by a full-time student, is fixed to 60 CFU as general rule.
3. To each CFU correspond 25 hours average engagement per student, of which at least 50% is dedicated to individual study or other individual training activities (except in the case of planned training activities with high experimental or practical aspects). For each CFU the proportion among lectures within the course and hours of individual study is the following:
  - a) In case of lectures, 8 hours dedicated to lectures or equivalent training activities and 17 hours of individual study;
  - b) In case of laboratory activities, seminars, exercises, 12 hours dedicated to lectures and 13 hours of individual study;
  - c) In case of practical activities and/or traineeships, 25 hours.The student must have as well a Cumulative Grade Average translated into 110 of at least 80/110.
4. CFU equivalent to each training activity are obtained by the student via taking and passing an exam or other assessment of the preparation and acquired skills.
5. The validity of obtained CFU is 8 academic years. After that time frame, the Teaching Council will have to verify the obtained CFU contents validity.
6. According to Art. 36 of the Didactic Regulation of the University of Pavia, as set by D.M. n. 270/2004 and correspondent activation decrees, didactic activities take place according to the calendar issued by the Administration Council, upon proposal of the Academic Senate.
7. The ordinary period for lectures, exercises, seminars, laboratory activities and integrative activities is usually set for each academic year between October 1 and June 30.
8. Lectures are organised in 2 semesters: L'attività didattica è organizzata in semestri: I° semester October-January, and II° semester from March to June. Lectures and calendar definition for the lectures' timetables are set by the coordinator professors of the Teaching Council for each semester, once other professors are contacted and taking into consideration the functional needs of the study paths.
9. The minimum number of exam sessions for each academic year is at least of 6 exam sessions in total, of which at least 2 for each session at the end of the lectures. Generally, it is to be avoided overlapping lectures and exams. Thus, for each lecture at least 2 exam sessions need to be set up at the end of the teaching period in the winter and summer sessions, and 2 retake sessions in September and December. It is hereby underlined that the December exam session is a retake session and not an early exam session for first semester courses. The interval between 2 exam sessions cannot be less than 2 weeks. No exam sessions are allowed outside of the official exam sessions and exams taking are set by the annual calendar. It is not possible to resit an exam again in the same exam session.
10. Periods for final assessment for the graduation cannot be less than 4 per academic year and must be approved by the Teaching Council. Graduation sessions for each academic year must be set within April 30 of the subsequent academic year; by that date, students enrolled in the previous academic year can graduate without needing to enrol again. Calendar dates for graduations must be made public in the Faculty website [www-med.unipv.it](http://www-med.unipv.it)
11. Calendars of lectures and exams must be published within the deadlines set in the annual report SUA.
12. Athlete students, upon their request, can have reserved extraordinary exam sessions in case of sports engagements not complying with the exams calendar of the degree course.

## **Art. 9 – Study Plans**

1. The Master's Degree course in Medical and Pharmaceutical Biotechnologies is divided in two curricula:
  - a) Medical Curriculum
  - b) Pharmaceutical Curriculum
2. All students must submit their study plan within the deadline indicated annually by the University.
3. A study plan includes all mandatory training activities selected by the student, according to the instructions annually set by the relevant Teaching Council, in order to obtain the final study title.
4. The standard study plan corresponds to the standard one advised by the Teaching Council, composed of lectures reported in Annex 1. Study plans compliant to the regulations and curricula indicated in this Regulation are automatically approved, as well as the electives chosen by the student as reported in letter a), comma 5 of art. 10 D.M. 22 October 2004 n. 270.
5. The individual study plan is composed of a study path different than the one set by this Regulation, and the student can submit it, respecting the restrictions of the class and the didactic system of the course, if it implies a number of credits compatible for graduation. The individual study plan must be approved by the Teaching Council, who will take into consideration the needs of cultural training, professional preparation of the student and the reasons possibly presented by the student, advising in case changes to the plan to make it more coherent with the training objectives of the course.
6. EU students and NON-EU students with a study title obtained abroad must take an Italian language course of B1 level in the frame of the "further language knowledge". Students are exempted if: 1) they have a high school degree or bachelor of first level obtained in Italy; 2) they have a degree of Italian school abroad, 3) they have an Italian language certificate of B1 level.
7. The submitted study plan, approved automatically or (in case of individual study plan) by the Teaching Council is not editable in the academic year of submission after the deadline of 31 December.
8. Repeating students must submit a study plan corresponding to the repeating year if this includes training activities different than the preceding year; exception to this rule are students who have not yet graduated but have enrolled in all training activities set in their study plan, not obtaining yet the corresponding credits.
9. 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. The extra teachings can be selected from the bachelor's and master's degree courses offered, except for the medical area courses of nationally restricted access and the psychology area courses, and it is important to respect possible propaedeutics of the course.
10. Credits obtained from additional exams with respect to the ones needed for graduation are registered in the student's career and can be recognized subsequently according to the current provisions.
11. Exams for additional credits are not considered in the curricular average calculation.
12. A dedicated study plan for part-time students is not conceived.

#### **Art. 10 – Double-degree programmes**

1. For the time being, the Course does not include any double-degree programmes, even with foreign Universities.

#### **Art. 11 – Compulsory attendance and end-of-course assessments**

1. It is mandatory to attend activities including laboratories as part of the training. For all other activities, attendance is recommended.
2. There are no propedeutic exams in the present course.

#### **Art. 12 – Electives**

1. In the study plan of enrolled students, it is allowed to include 9 CFU of electives (as set by art 10 comma 5.a DM 270/2004 - c.d. "TAF D") to be taken in the first or second year. Students can choose from activities of the academic offer of the University and the Teaching Council will have the right to evaluate the coherence of such electives with respect to the training objectives of the course, considering the possible reasons of the student for their choices. When the choice is made among activities reported in Annex 1, the coherence with the course is automatically recognized. Students need to submit their choices at the beginning of the second year.
2. Among possible electives (as set by art 10 comma 5.a DM 270/2004 - c.d. "TAF D") it is allowed to include activities proposed by locally and nationally restricted access courses, with the exception of the medical area courses of nationally restricted access and the psychology area courses.
3. Students cannot choose activities already taken during past academic careers, unless they are validated outside of the 120 CFU necessary to obtain the final degree. The relevant offices will verify the correct rule application during the preliminary career check. In case the rule is breached, the student will not be admitted to the graduation exam and will be obliged to modify their study plan.

#### **Art. 13 – Traineeships**

1. Traineeship activities, indicated as “PRACTICAL ACTIVITIES”, are a crucial part of the training path and contribute to reaching the training objectives of the degree course, by favouring the knowledge and entry to the work environment. This activity is led in the second year of the course for the Medical and Pharmaceutical curricula selected by the student, possibly in the second semester. The traineeship can't be added in the study plan by the students who don't satisfy the requirements specified in Art. 9 comma 6.
2. Traineeship lasts 75 hours, corresponding to 3 CFU. Traineeships can be taken inside the University or in external public or private companies, always under the supervision of a university tutor (traineeship responsible professors for the degree course or a person responsible for the public or private company in which the traineeship takes place). At the end of the activity, the traineeship must be certified by one of the professors of the degree course. Sometimes, the traineeship activity “PRACTICAL ACTIVITIES” introduces the final experimental dissertation traineeship that must be undertaken in the second year under the supervision of a tutor professor belonging to the University of Pavia.

#### **Art. 14 – Examinations and end-of course assessments**

1. Verification of assessments is aimed at attesting the the adequate preparation of students enrolled in the course, in order to proceed with their academic career and obtain the credits corresponding to the attended training activities.
2. The exams must be public.
3. The exams can be oral and/or written and provide marks out of 30 or an evaluation or no mark-exam. Credits are obtained when the final mark is equal or superior to 18/30. In case the



maximum grade of 30/30 is achieved, the Commission can provide honours by unanimous accord. 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.

4. Regarding the Traineeship (Other Activities), at the end of the activity, the responsible person upon indication of the company tutor will provide an approval or non-approval of such activity and will register it.
5. In this degree course no more than 12 exams or end-of course assessment can be scheduled. In the calculation of exams or end of course assessments, characterising, similar, integrative and elective activities must be taken into consideration. Exams related to the last ones are considered in the final calculation as corresponding to 1 unit (even when the assigned credits provide more exams or assessments).
6. Training activities as reported in letters c), d) comma 5 art. 10 of D.M. 270/2004 do not compute in the calculation of the maximum number of exams and assessments.
7. Integrated exams for more than one teaching or coordinated modules can be scheduled, and professors of such subjects participate together in the overall assessment of the student performance, and that cannot be fractioned in separate evaluations for single activities or modules. If the exam is integrated, all teachings and modules need to be indicated in the study plan of the student.

In this degree course the scheduled integrated exams are reported in Annex 1.

#### **Art. 15 – Final examination and degree awarding**

1. The degree is awarded after taking a final exam, which aims at verifying the training objectives of the degree course.
2. The final examination can be accessed after obtaining at least 102 CFU, and provides additionally 18 CFU. The final exam consists in the presentation and discussion of an experimental thesis, developed by the student under the guidance of a supervisor professor, concerning themes characterising the academic profile of the degree course. The dissertation must be composed and discussed in English.
3. The dissertation can be integrated by laboratory activities in Biotechnological frames for the study of new diagnostic and therapeutical approaches, pathogenetics mechanisms in disease as well as characterisation of new molecular targets, development of applied biotechnologies for the production of drugs and bio-drugs, their analysis, vehiculation and direction.
4. Experimental activities in comma 3 may be performed in scientific structures of the Faculty of Medicine or external structures, either national or international, having active agreements for didactic and/or scientific collaborations.
5. The Head of the Department or the President of the Faculty, upon delegation by the Head, nominates the Commissions for degrees awarding upon suggestion of the President of the Teaching Council. Commissions are composed of five members at least, of whom two and four must be associated professors or researchers, responsible for lectures given in the Department or Faculty or belonging to other University departments.
6. The President of the evaluating Commission can be a full or associate professor, or senior researcher or the President of the degree course. The President has the duty of assuring the regularity of the final exam and attesting the conclusive remarks with respect to the general criteria set by the responsible bodies for the study course.
7. The President appoints, among the Commission members, a secretary in charge of taking the minutes.
8. The evaluating Commission is thus composed of: one President, one Secretary, supervisors and possibly co-supervisors. Co-examiners will be appointed by the President of the Commission before the graduate session, and then communicated to the student.
9. In case the final mark is 110/110 and grade average is 28/30, the Lode can be asked for. The Lode mark must be assigned by unanimous decision.

10. The Master's Degree mark (from a minimum of 66 points to maximum 110 points with honours possibly) is assigned by the evaluating Commission, in a public graduation session, and it takes into consideration the whole academic career of the student. The Teaching Council sets the organisation of the graduation session and the training of the graduation Commission, as well the evaluation criteria of the final exam. A maximum of 8 points can be provided, as it follows:

- 4 points by the supervisor
- 2 points by the co-examiner
- 2 points by the Commission
- 1 extra point for students graduating in the first session (July)

If the final mark is 110 and the candidate obtained at least 2 with honours grades in the exams, then the honours can be appointed. Honours must be unanimously approved.

The evaluating Commission can also assign the commendation, as well as the honours, if:

- a) the student achieved 110 mark with honours in the first cycle bachelor;
- b) the student discusses the thesis within April of the second academic year;
- c) the student has an average of 109 and at least 4 with honours grades;
- d) upon commendation request proposed by the supervisor to the President of the degree course prior to the graduation session and by written request;
- e) the Commission unanimously agreed to appoint the commendation.

11. The request to perform the thesis internship must be submitted to the Students Secretary at least 15 days prior to the start of the activity. The request form, available online, must include: a) structure where the student intends to perform the traineeship; b) the selected supervisor; c) date for the beginning of the thesis traineeship.

12. Criteria for the calculation of the final grade average are perusable at this link: <http://www-med.unipv.it/corsi-di-laurea/biotecnologie-mediche-e-farmaceutiche/organizzazione-del-corso-biotecnologie-mediche-e-farmaceutiche/>.

### **Part three-Directives for student's careers**

#### **Art. 16 – Criteria to recognise duly certified extra-academic skills and knowledge**

1. The Teaching Council may validate duly certified extra-academic skills and knowledge for a maximum of 12 CFU (art.14 Law 240/2010), by considering the cultural training and professional preparation of the degree Course.
2. Possible recognition of skills and knowledge reported in the previous comma is decided by the Teaching Council.
3. Upon student's request, the following activities duly certified can be recognized as university credits in the frame of the electives of the study plan (TAF D), according to the criteria and modalities set by the Academic Senate:
  - Sport practiced at Olympic, world or European level: up to 6 CFU
  - Ranking in “medal zone” to the university championships or agonistic activities for the CUS sections of Pavia, including the competitions at regional and national level: up to 6 CFU
  - Sport practiced at Italian level and in intermediate categories: up to 3 CFU.

#### **Art. 17 – Criteria to recognise credits**

1. According to the Didactic Regulation of the University, in case of transfer from another study course in Italy or abroad, recognition of the previous academic career and validation of credits considered compatible is decided by the Teaching Council.
2. The time validity of credits obtained by a student is 8 academic years, after that the credits are cancelled with Chancellor Decree as they are considered obsolete.

3. After the period reported in comma 2, the obtained credits may be validated with a relevant decision if the Teaching Council recognises the training contents are not obsolete.
4. If the Teaching Council recognises some training contents credits are obsolete, the credits will be removed from the student's career. The Teaching Council sets the students to take again the exam defining topics and verification modality.
5. Once the verification is done, the Teaching Council validates the credits with a resolution. If the training activity has a mark, the same can be different with the mark previously obtained, upon indication of the evaluating exam commission.

**Art. 18 – Criteria to recognise training activities performed during study periods in foreign universities**

1. Training activities and thesis traineeships performed in foreign universities are recognised if carried out in the frame of the Erasmus + projects and International Mobility programmes recognized by the University via international agreements.
2. The “Learning Agreement” or “Training Agreement” are the documents defining the project of the training activities abroad and to be replaced to some of the activities scheduled for the study course. The possibility of recognising credits obtained abroad is previously set by the “Learning Agreement” or “Training Agreement”, signed for approval by the Department professor as Delegate for International Mobility and by the student for teaching activities and traineeships performed abroad. It is the responsibility of the Delegate to certify the coherence of the “Learning Agreement” or “Training Agreement” with the training objectives of the study course.
3. The equivalence of the didactic programme of teachings to attend abroad with respect to the ones set by the study course must be previously approved by the reference professor by written declaration.
4. At the end of the study period abroad, the student will submit to the Teaching Council the certificate of the performed activities for credits recognition, as well as the programme for each course attested by the foreign professor, for the conversion of the marks in the Italian system and for finding any possible integrations.
5. The Department Council to which the degree course or the Teaching Council belongs, appoints a reference professor for Erasmus recognitions. The reference professor is in charge of making the correspondence between teachings/modules or traineeship activities performed abroad with those of the degree course in Medical and Pharmaceutical Biotechnologies, evaluating the coherence of teh performed activities abroad with the topics and scientific contents of the degree course, including possible traineeship activities.
6. The Teaching Council, upon indication of the reference professor for Erasmus who proceeded to verify criteria as set in comma 2, must decide the recognition of specific training activities obtained abroad: 3 CFU of the traineeship defined as “other activities” and possibly 12 CFU for the experimental dissertation preparation of the total 18 CFU appointed for the preparation and discussion of the thesis.
7. for any other subject not mentioned in the current Teaching Regulation, you can peruse articles 47 and 48 of the General University Regulations, art. 22 of Students' Careers Regulation and the International Mobility Regulation.

**Art. 19 – Post-first year admission**

1. There are no post-first year admission conditions.

**Art. 20 – Certificates**

1. Linguistic certificates or other types of certificates like ECDL Informatics cannot be accepted.



UNIVERSITÀ DI PAVIA

FACOLTA' DI MEDICINA E CHIRURGIA

DIPARTIMENTO DI MEDICINA MOLECOLARE

LM - 9- Classe delle lauree magistrali in Biotecnologie mediche, veterinaria e farmaceutiche

Corso di Studio: 37401 - MEDICAL AND PHARMACEUTICAL BIOTECHNOLOGIES

Ordinamento: 2022/2023 - Regolamento: 2024/2025

Percorso: 01 - Pharmaceutical

<https://portale.unipv.it/it>

<https://medicalpharmaceuticalbiotechnologies.cdl.unipv.it/en>

PIANO DI STUDI PER GLI STUDENTI IMMATRICOLATI NELL'ANNO ACCADEMICO: 2024/2025

1° Anno (66 CFU)

Attività Formativa		CFU	Settore	TAF/Ambito	Tipo insegnamento
509941 - CELL TECHNOLOGIES I		6	BIO/13	Caratterizzante / Discipline biotecnologiche comuni	Obbligatorio
509944 - CHEMICAL AND BIOCHEMICAL FOUNDATIONS		12			Obbligatorio
	Unità Didattiche				
	509945 - BIOMARKERS & BIOCHEMICAL DIAGNOSIS	6	BIO/12	Caratterizzante / Medicina di laboratorio e diagnostica	Obbligatorio
	509947 - DRUG DISCOVERY & BIOTECHNOLOGICAL DRUGS	6	CHIM/08	Caratterizzante / Discipline farmaceutiche	Obbligatorio
509939 - GENETIC FOUNDATIONS		12			Obbligatorio
	Unità Didattiche				
	509940 - RNA TECHNOLOGIES & PROTEIN ENGINEERING & SYSTEMS BIOLOGY	9	BIO/11	Caratterizzante / Discipline biotecnologiche comuni	Obbligatorio
	509948 - GENES AND GENOMES	3	MED/03	Affine/Integrativa / Attività formative affini o integrative	Obbligatorio
509946 - THE ROOTS OF DISEASE I		6	MED/03	Caratterizzante / Medicina di laboratorio e diagnostica	Obbligatorio
509936 - THE ROOTS OF DISEASE II		12			Obbligatorio
	Unità Didattiche				
	500458 - BIOCHEMISTRY	6	BIO/10	Caratterizzante / Discipline biotecnologiche comuni	Obbligatorio
	504494 - PHYSIOLOGY	6	BIO/09	Caratterizzante / Discipline biotecnologiche comuni	Obbligatorio
509942 - THE ROOTS OF DISEASE III		12			Obbligatorio
	Unità Didattiche				
	509943 - DEGENERATIVE & CANCER	6	MED/04	Caratterizzante / Discipline biotecnologiche comuni	Obbligatorio
	509949 - METABOLIC	3	MED/09	Affine/Integrativa / Attività formative affini o integrative	Obbligatorio
	509950 - INFECTIOUS	3	MED/17	Affine/Integrativa / Attività formative affini o integrative	Obbligatorio

OPTIONAL TEACHING ACTIVITIES (OTA)		3		THE STUDENT MUST CHOOSE 9 CREDITS DURING THE 1st OR THE 2nd YEAR, AMONG THE ELECTIVES REPORTED BELOW AND SUGGESTED/INCLUDED IN THE UNIVERSITY'S EDUCATIONAL OFFER, IN COHERENCE WITH THE CHOSEN STUDY PATH	
510292 - BIOLOGICAL NMR		3	BIO/11	A scelta dello studente / A scelta dello studente	
				FOREIGN STUDENTS WHO ARE NOT IN POSSESSION OF AN ITALIAN LANGUAGE CERTIFICATE AT B1 LEVEL, MUST CHOOSE THE FOLLOWING TEACHING AS AN ALTERNATIVE OF THE 2ND YEAR "OTHER ACTIVITIES"	
509536 - ITALIAN LANGUAGE FOR FOREIGN STUDENTS		3	NN	Altro / Ulteriori conoscenze linguistiche	
<b>2° Anno (81 CFU)</b>					
Attività Formativa		CFU	Settore	TAF/Ambito	Tipo insegnamento
509952 - BIOTECHNOLOGICAL DRUGS FORMULATION & REGULATORY ASPECTS		6	CHIM/09	Caratterizzante / Discipline farmaceutiche	Obbligatorio
509951 - MEDICINAL CHEMISTRY & DRUG DESIGN		6	CHIM/08	Caratterizzante / Discipline farmaceutiche	Obbligatorio
509953 - NANOBIOLOGY		6	CHIM/09	Caratterizzante / Discipline farmaceutiche	Obbligatorio
510290 - ANALYSIS OF BIOTECHNOLOGICAL DRUGS		6			Obbligatorio
	Unità Didattiche				
	509955 - ANALYTICAL TECHNIQUES FOR BIOTECHNOLOGICAL DRUGS	3	CHIM/08	Affine/Integrativa / Attività formative affini o integrative	Obbligatorio
	509956 - ANALYSIS AND QUALITY CONTROL OF BIOTECHNOLOGICAL DRUGS	3	CHIM/08	Affine/Integrativa / Attività formative affini o integrative	Obbligatorio
509957 - INDUSTRIAL BIOPROCESSES FOR DRUG PRODUCTIONS		6	CHIM/11	Affine/Integrativa / Attività formative affini o integrative	Obbligatorio
				FOREIGN STUDENTS WHO ARE NOT IN POSSESSION OF AN ITALIAN LANGUAGE CERTIFICATE AT B1 LEVEL, MUST CHOOSE THE FOLLOWING TEACHING AS AN ALTERNATIVE OF THE 2ND YEAR "OTHER ACTIVITIES"	
511396 - PRACTICAL ACTIVITIES		3	NN	Altro / Tirocini formativi e di orientamento	
509901 - DISSERTATION		18	PROFIN_S	Lingua/Prova Finale / Per la prova finale	Obbligatorio
OPTIONAL TEACHING ACTIVITIES (OTA)		30		THE STUDENT MUST CHOOSE 9 CREDITS DURING THE 1st OR THE 2nd YEAR, AMONG THE ELECTIVES REPORTED BELOW AND SUGGESTED/INCLUDED IN THE UNIVERSITY'S EDUCATIONAL OFFER, IN COHERENCE WITH THE CHOSEN STUDY PATH	
500190 - BIOINFORMATICS		3	ING-INF/06	A scelta dello studente / A scelta dello studente	
509958 - BIOPHARMACEUTICS AND FORMULATION DEVELOPMENT		3	CHIM/09	A scelta dello studente / A scelta dello studente	
510771 - CHIRALITY IN PHARMACEUTICAL RESEARCH AND DEVELOPMENT		3	CHIM/08	A scelta dello studente / A scelta dello studente	
510633 - COMPUTATIONAL BIOLOGY FOR DRUG DESIGN		3	CHIM/06	A scelta dello studente / A scelta dello studente	
506419 - MODELLI SPERIMENTALI IN BIOFARMACEUTICA		3	CHIM/09	A scelta dello studente / A scelta dello studente	
510531 - NANOTECHNOLOGY - BASED MEDICINES		3	CHIM/09	A scelta dello studente / A scelta dello studente	
501605 - NUOVE PROSPETTIVE IN COSMETOLOGIA		3	CHIM/09	A scelta dello studente / A scelta dello studente	
510620 - PROPRIETA' CHIMICO-FISICHE E FUNZIONALI DI SISTEMI MICRO E NANOPARTICELLARI		3	CHIM/09	A scelta dello studente / A scelta dello studente	
510765 - PROTEIN DESIGN		3	BIO/11	A scelta dello studente / A scelta dello studente	
501606 - VEICOLAZIONE E DIREZIONAMENTO DEI FARMACI		3	CHIM/09	A scelta dello studente / A scelta dello studente	



<b>OPTIONAL TEACHING ACTIVITIES (OTA)</b>		<b>30</b>		<b>THE STUDENT MUST CHOOSE 9 CREDITS DURING THE 1st OR THE 2nd YEAR, AMONG THE ELECTIVES REPORTED BELOW AND SUGGESTED/INCLUDED IN THE UNIVERSITY'S EDUCATIONAL OFFER, IN COHERENCE WITH THE CHOSEN STUDY PATH</b>	
510292 - BIOLOGICAL NMR		3	BIO/11	A scelta dello studente / A scelta dello studente	
				<b>FOREIGN STUDENTS WHO ARE NOT IN POSSESSION OF AN ITALIAN LANGUAGE CERTIFICATE AT B1 LEVEL, MUST CHOOSE THE FOLLOWING TEACHING AS AN ALTERNATIVE OF THE 2ND YEAR "OTHER ACTIVITIES"</b>	
<b>509536 - ITALIAN LANGUAGE FOR FOREIGN STUDENTS</b>		<b>3</b>	NN	Altro / Ulteriori conoscenze linguistiche	
<b>2° Anno (91 CFU)</b>					
<b>Attività Formativa</b>		<b>CFU</b>	<b>Settore</b>	<b>TAF/Ambito</b>	<b>Tipo insegnamento</b>
<b>509961 - NON PHARMACEUTICAL THERAPIES II - CELL TECHNOLOGIES &amp; CELL THERAPY</b>		<b>6</b>	BIO/13	Caratterizzante / Discipline biotecnologiche comuni	Obbligatorio
<b>509962 - PHARMACEUTICAL THERAPIES I - DRUGS &amp; DISEASES</b>		<b>6</b>	BIO/14	Caratterizzante / Discipline farmaceutiche	Obbligatorio
<b>509963 - FROM BENCH TO BEDSIDE</b>		<b>6</b>			Obbligatorio
	<b>Unità Didattiche</b>				
	510761 - INTELLECTUAL PROPERTY AND REGULATORY AGENCIES	3	IUS/04	Affine/Integrativa / Attività formative affini o integrative	Obbligatorio
	510762 - ESSENTIALS OF PRECLINICAL AND CLINICAL TRIALS	3	MED/09	Affine/Integrativa / Attività formative affini o integrative	Obbligatorio
<b>509967 - NON PHARMACEUTICAL THERAPIES I</b>		<b>9</b>			Obbligatorio
	<b>Unità Didattiche</b>				
	509968 - IMMUNOTHERAPY	3	MED/04	Affine/Integrativa / Attività formative affini o integrative	Obbligatorio
	509969 - VIRUSES & VACCINES	3	MED/07	Affine/Integrativa / Attività formative affini o integrative	Obbligatorio
	509970 - GENE THERAPY	3	MED/03	Affine/Integrativa / Attività formative affini o integrative	Obbligatorio
<b>509965 - TECHNIQUES IN PATHOLOGY</b>		<b>3</b>	MED/08	Affine/Integrativa / Attività formative affini o integrative	Obbligatorio
				<b>ITALIAN STUDENTS AND/OR THOSE WHO ARE IN POSSESSION OF AN ITALIAN LANGUAGE CERTIFICATE AT B1 LEVEL, MUST CHOOSE THE FOLLOWING TEACHING AS AN ALTERNATIVE OF THE 1ST YEAR "ITALIAN LANGUAGE FOR FOREIGN STUDENTS"</b>	
511396 - PRACTICAL ACTIVITIES		3	NN	Altro / Tirocini formativi e di orientamento	
509901 - DISSERTATION		18	PROFIN_S	Lingua/Prova Finale / Per la prova finale	Obbligatorio
<b>OPTIONAL TEACHING ACTIVITIES (OTA)</b>		<b>40</b>		<b>THE SECOND-YEAR STUDENT MUST CHOOSE 9 CREDITS AMONG THE ELECTIVES REPORTED BELOW AND SUGGESTED/INCLUDED IN THE UNIVERSITY'S EDUCATIONAL OFFER, IN COHERENCE WITH THE CHOSEN STUDY PATH</b>	
510763 - CLINICAL BIONFORMATICS		3	BIO/11	A scelta dello studente / A scelta dello studente	
511397 - IMAGING - RADIOMICS AND ARTIFICIAL INTELLIGENCE APPLICATION		3	MED/36	A scelta dello studente / A scelta dello studente	
511395 - LABORATORY ASPECTS OF RHEUMATIC DISEASES		3	MED/16	A scelta dello studente / A scelta dello studente	
509639 - LIFESTYLE, NUTRITION AND HEALTH DURING LIFESPAN		1	MED/49	A scelta dello studente / A scelta dello studente	
509972 - MEDICAL DEVICES		3	MED/14	A scelta dello studente / A scelta dello studente	
509978 - MEDICAL STATISTICS		3	MED/01	A scelta dello studente / A scelta dello studente	
510764 - NANOMEDICINE AND TISSUE ENGINEERING		3	BIO/10	A scelta dello studente / A scelta dello studente	
510765 - PROTEIN DESIGN		3	BIO/11	A scelta dello studente / A scelta dello studente	
509971 - RIPRODUZIONE UMANA		3	MED/40	A scelta dello studente / A scelta dello studente	

508282 - TECNICHE DI INDAGINE BIOMOLECOLARE NEL LABORATORIO DI GENETICA FORENSE		6	MED/43	A scelta dello studente / A scelta dello studente	
504976 - TOSSICOLOGIA FORENSE		3	MED/43	A scelta dello studente / A scelta dello studente	
509979 - TRANSLATIONAL AND MOLECULAR CARDIOLOGY		3	MED/11	A scelta dello studente / A scelta dello studente	
510795 - TREATMENT AND PREVENTION OF INFECTIOUS DISEASES		3	MED/07	A scelta dello studente / A scelta dello studente	