

MASTER’S DEGREE IN ASTROPHYSICS AND SPACE PHYSICS

(CLASS LM-58)

ANNUAL STUDY PLAN FOR THE 2025/2026 ACADEMIC YEAR

1. EDUCATIONAL OFFER

The following tables present the courses and educational activities offered in the 2025/2026 academic year.

YEAR I

Students enrolling in the 2025/2026 academic year please are advised to consult the Regulations document at the following link: [Academic regulations applicable to the 2025/2026 academic year](#)

Mandatory core courses (30 CFU- University Educational Credits)

Educational activity type	Disciplinary area	Code	lessons	Credits	Scientific Disciplinary Sector	Semester
Core Courses	Astronomical - experimental observational	F5803Q024	INTRODUCTION TO GALAXIES	8	FIS/05	I
		F5803Q002	STELLAR ASTROPHYSICS	8	FIS/05	I
	Astronomical-Theoretical	F5803Q004	INTRODUCTION TO COSMOLOGY	6	FIS/05	I
		F5803Q003	RELATIVISTIC ASTROPHYSICS	8	FIS/05	I

The student must acquire 18 CFU by selecting three additional core courses from the following list:

Educational activity type	Disciplinary area	Code	lessons	Credits	Scientific Disciplinary Sector	Semester
Core Courses	Astronomical-technological	F5803Q010	ASTRONOMICAL INSTRUMENTATION	6	FIS/05	II
		F5803Q008	ASTROPHYSICS OF GRAVITATIONAL WAVES	6	FIS/05	II
		F5803Q007	COSMIC STRUCTURE FORMATION	6	FIS/05	II
		F5803Q023	DYNAMICS OF STELLAR SYSTEMS	6	FIS/05	II
		F5803Q009	EXPERIMENTAL COSMOLOGY	6	FIS/05	II
		F5803Q006	LABORATORY OF DATA ACQUISITION	6	FIS/05	I

The student must acquire 12 CFU by selecting form the following related, supplementary courses from the following list:

Educational activity type	Disciplinary area	Code	lessons	Credits	Scientific Disciplinary Sector	Semester
Related/Supplementary	Related, supplementary educational activities	F5803Q020	ASTROSTATISTICS AND MACHINE LEARNING	6	FIS/05	II
		F5803Q013	COSMIC RAYS	6	FIS/01	II
		F5803Q012	GENERAL RELATIVITY	6	FIS/02	I
		F5803Q022	MODERN COSMOLOGY AND GALAXY FORMATION	6	FIS/05	II
		F5803Q015	NUMERICAL RELATIVITY	6	FIS/05	II
		F5803Q011	RADIATIVE PROCESSES	6	FIS/05	I

YEAR II

Students enrolled in the 2024/2025 academic year and entering the II year of the Master's course should consult the Regulations document at the following link: [Academic regulations applicable to the 2024-2025 academic year](#)

The student must acquire 3 credits by selecting one activity from the following list:

Code	Activities	Credits
F5802Q019	FURTHER SKILLS FOR JOB PLACEMENT	3
F5802Q017	FURTHER LINGUISTIC KNOWLEDGE	3

Mandatory activities

Code	Activities	Credits
	ACTIVITIES CHOSEN BY THE STUDENT	12
F5802Q016	MASTER THESIS	45

When compiling their study plan, students must comply with the Regulations corresponding to their year of enrolment, which can be found at the following link: <https://elearning.unimib.it/mod/page/view.php?id=752696>

2. ENROLMENT IN THE COURSE OF STUDY

To be admitted to the Master's Degree Course in Astrophysics and Space Physics, candidates must hold either a university degree, a three-year university diploma, or an equivalent qualification obtained abroad and recognized as suitable.

Curricular requirements include: a degree in the L-30 class or at least 18 credits in the scientific-disciplinary sectors MAT/01-MAT/09 and at least 18 FIS/01-FIS/08 credits in the scientific-disciplinary sectors FIS/01-FIS/08 or equivalent qualification obtained abroad and recognized as suitable.

Once the curricular requirements have been verified, admission to the Master's Degree Course in Astrophysics and Space Physics is conditional on the assessment of the adequacy of the candidate's personal preparation. This evaluation is conducted through an interview with a Committee.

Applicants who do not hold a Bachelor's degree in Physics are invited to contact the Master's Degree in Astrophysics and Space Physics Contact Person prior to the admission interview in order to agree on how to acquire the necessary qualifications for admission.

Unless the candidate's background reflects sufficient introductory preparation in Quantum Mechanics, and Atomic Physics, which may also be acquired by attending single courses and passing relative exams, their aptitude will be evaluated during their interview, which will cover the topics appearing on the list linked below:

https://elearning.unimib.it/pluginfile.php/1118996/mod_resource/content/2/Topics_QM_Admission_LM_Astro.pdf

Applicants holding a degree in **Physics, Astrophysics, or Astronomy** (class L-30) with a final mark of **90/110 or higher** are exempt from the admission interview. Similarly, applicants with an equivalent foreign qualification, such as a **BSc (or equivalent three-year degree)** in Physics, Astrophysics, or Astronomy, with a final grade of **3.0 out of 4.0 (or equivalent)** or higher are also exempt, provided they meet all curricular requirements.

Course admission also requires at least a B2 level of knowledge of the English language. The requirement for English language knowledge will be considered satisfied if the candidate:

- a) has certification, recognised by the University, issued by an accredited Body, equivalent to level B2;
- b) has passed an exam of at least 4 credits during previous university studies in one of the Scientific and Disciplinary Sectors between L-LIN/10, L-LIN/11, L-LIN/12;
- c) has obtained the open badge B between English B2 of the University of Milano-Bicocca;
- d) has completed a degree course entirely or almost entirely taught in the English language.

For candidates with an Italian academic qualification, the periods and procedures for submitting admission applications and the dates of the interviews are provided in [this](#) document. For further information, please refer to the webpage of the University website dedicated to the Master's Degree Program in Astrophysics and Space Physics: <https://www.unimib.it/graduate/astrophysics-and-space-physics>

Extra-EU citizens requiring a **student visa** and other candidates, including Italian citizens, with foreign qualifications - whether from the EU, equivalent, or extra-EU legally residing in Italy - **must apply** exclusively via <https://apply.unimib.it/>

3. PART-TIME ENROLMENT

As an alternative to full-time enrollment, students may apply for part-time enrollment in accordance with the procedures outlined in Article 12 of the Student Regulations, available at: https://www.unimib.it/sites/default/files/2023-11/reg-stud_Versione%20sito.pdf

4. RECOGNITION OF CREDITS AND TRANSFER PROCEDURES

The recognition of credits earned through educational activities completed in other courses, whether at this or other universities, is subject to approval by the Physics and Astrophysics Teaching Coordination Council, based on the proposal of the Study Plan Committee appointed by that council.

Within the limits set by current legislation (Ministerial Decree No. 931 of 04/07/2024), universities may recognize individually certified professional knowledge and skills. They may also recognize other knowledge and skills acquired through post-secondary training activities in which the university has participated in the design and implementation. These can be counted as university educational credits (CFU), up to a maximum of 24 CFU.

Training activities already recognized as CFU within Bachelor's degree programs cannot be recognized again within Master's degree programs. Recognition is granted solely based on the competencies demonstrated by each individual student; collective or group recognition is not permitted. This recognition is subject to the approval of the Degree Program Committee (CCD) in Physics and Astrophysics, based on a proposal from the Study Plan Committee appointed by the CCD.

Information on how to submit transfer applications is published at the website: <https://www.unimib.it/servizi/segreteria-studenti/passaggi-trasferimenti-e-rinunce>

5. SIMULTANEOUS ENROLMENT

According to current legislation, students are allowed to enrol simultaneously in two higher education courses in order to obtain two different degrees (see Art. 20 of the University's Didactic Regulations).

Information on how to apply and on fees can be found on the University page: <https://www.unimib.it/servizi/studenti-e-laureati/segreteria/contemporanea-iscrizione-due-corsi-studio>

6. REGISTRATION FOR YEARS SUBSEQUENT TO THE FIRST YEAR

For information on registration for years subsequent to the first year please see the website: <https://www.unimib.it/servizi/segreteria-studenti/rinnova-liscrizione>

7. CLASS SCHEDULE

Classes for the **first semester** will be held between **29 September 2025 and 23 January 2026**

Classes for the **second semester** will be held between **2 March 2026 and 19 June 2026**

Class schedules will be posted on the website:

<https://gestioneorari.didattica.unimib.it/PortaleStudentiUnimib/>

8. TEACHING PROGRAMMES

The teaching programmes (Syllabus) are available on the University e-learning platform at the following link:

<https://elearning.unimib.it/course/index.php?categoryid=7450>

9. ELECTIVE COURSES

There are 12 CFU reserved for educational activities freely chosen by the student, in accordance with *Decree No. 270 of 22 October 2004, Art. 10, paragraph 5, letter a)*, provided they are consistent with the educational programme. The student may choose from among all the educational activities offered in the University's Master's degree courses. Courses already taken during the Bachelor's degree, or those with significant content overlap, are not permitted.

10. ADDITIONAL EDUCATIONAL ACTIVITIES

The acquisition of 3 credits (CFU) related to "Further educational activities" is carried out according to the procedures outlined below.

ITALIAN students may choose between:

- 3 Credits for additional skills relevant to the world of work can be earned by participating in the University's I-Bicocca project activities (I-Bicocca Silver, 1 credit; I-Bicocca Gold, 2 credits; I-Bicocca Platinum, 3 credits). Information is published on page <https://openbadge.unimib.it/project/ibicocca/> or
- 3 Credits of additional linguistic skills can be earned by passing a University B2 foreign language assessment in a language other than English, choosing from French, Spanish or German, or by passing a C1 level University English language assessment.

Italian students who already hold certificates issued by the University or by Bodies accredited by the University attesting to language skills at a level equal to or higher than B2 for French, Spanish or German, or C1 or higher for English, will be exempt from the test and awarded the required credits.

FOREIGN students must obtain:

- 3 credits of additional linguistic knowledge, by passing a University test of knowledge of the Italian language, level A2. Foreign students who already hold certificates issued by the University or by Bodies accredited by the University attesting to their language skills, with a level equal to or higher than A2, will be exempt from the test and awarded the required credits.

Information on how to take assessments or acquire credits is provided by the University and available on the University's website at <https://www.unimib.it/didattica/lingue-unimib.>"

11. SUPERNUMERARY CREDITS

Pursuant to Art. 22 paragraph 4 of the [University's Didactic Regulations](#), students enrolled in a Master's degree course, also in order to pursue the adequacy of their personal preparation, may include in their study plan one or more additional lessons in addition to those required for the degree, involving the acquisition of no more than 16 CFU. The CFUs and marks obtained for the additional courses are not included in the calculation of the average marks for the profit exams but are recorded in the student's career.

12. EXAMS

Exams may be written and/or oral. Laboratory courses may also include practical tests. Attendance of at least 75% of the course is mandatory for laboratory courses.

Teachers may schedule additional assessments, including written tests, which conclude with a final evaluation. For detailed examination procedures specific to each course, please refer to the Course of Study webpage <https://elearning.unimib.it/course/index.php?categoryid=7450&lang=en>

Students can enrol to final exams through the online Secretariats:

https://s3w.si.unimib.it/Home.do?sessionId=41E3EE425F1E009622B09AFD504368E3.esse3-unimib-prod-02?cod_lingua=eng

The Exam Session Board <https://s3w.si.unimib.it/ListaAppelliOfferta.do?> will show the exam sessions for each activity, Degree Course or Department.

13. PRESENTATION OF THE STUDY PLAN

The study plan is the set of mandatory educational activities, the activities provided as elective extras and the educational activities chosen independently by the student in accordance with the Teaching system (Ordinamento Didattico) and Course Regulation. It is possible to submit an individual study plan that also includes training activities other than those envisaged by the Course Regulations, provided that they are consistent with the teaching system (Ordinamento Didattico) for the academic year of enrolment.

When enrolling for the first year, the student is automatically allocated a study plan, which constitutes the statutory study plan. Subsequently, the student must present his/her own study plan with indication of the elective and chosen activities according to the times and procedures provided by the academic bodies; the study plan presented by the student must obtain the approval of the Physics and Astrophysics Teaching Coordination Council. The student's right to take tests related to a type of course is subject to the presence of the activity in the last approved study plan.

Please refer to the University Regulations for Students for anything not listed on this page:

https://www.unimib.it/sites/default/files/2023-11/reg-stud_Versione%20sito.pdf

The methods and deadlines for submitting the study plan are defined by the University.

More information will be posted on the website: <https://www.unimib.it/servizi/segreteria-studenti/piani-degli-studi/area-scienze>

14. FINAL EXAM

Master's thesis in Astrophysics and Space Physics (Master's Thesis 45 credits)

The student must have earned at least 75 CFU to be admitted to the final exam.

The final exam consists of a thesis written in an original way by the student under the guidance of a supervisor. The discussion of the thesis will take place in front of a Committee appointed by the President of the School of Science. The thesis must be written in English. The discussion will be conducted in English. The final grade will be conferred taking into account the candidate's academic career and the Supervisor and Committee's opinion, according to the criteria decided by the Physics and Astrophysics Teaching Coordination Council. The assessment procedures are explained in the final exam regulation approved by the Physics and Astrophysics Teaching Coordination Council and available at the following link: <https://elearning.unimib.it/mod/page/view.php?id=861547>

Please refer to the Course of Study e-learning website to consult the calendar of graduation sessions: <https://elearning.unimib.it/course/view.php?id=39341&lang=en>

15. CONTACT DETAILS

Course Location: "G. Occhialini" Department of Physics, Piazza della Scienza 3, 20126 Milan, Italy.

Chair of the Physics and Astrophysics Teaching Coordination Council: Professor Alessio Ghezzi

Course contact person: Professor Monica Colpi

Subject contact people:

Astrophysics - Professor Monica Colpi

Biophysics - Professor Maddalena Collini

Electronics - Professor Andrea Baschirotto

Applied Physics - Professor Luca Gironi

Particle Physics - Professor Maurizio Martinelli

Plasma Physics - Professor Claudia Riccardi

Solid State Physics - Professor Marco Bernasconi

Theoretical Physics - Professor Mattia Bruno

Teaching secretariat: Dr. Maria Grazia Perrone

phone +39 02 6448 4080, e-mail didattica.fisica@unimib.it

The Physics Department website dedicated to the Course of Study:

<https://www.fisica.unimib.it/en/teaching/degree-courses/master-astrophysics-and-space-physics-new-course-english>

Course of study e-learning site: <https://elearning.unimib.it/course/index.php?categoryid=7449>

For all information not contained in this document, please refer to the reference teaching regulations which can be consulted at <https://elearning.unimib.it/mod/page/view.php?id=752696>