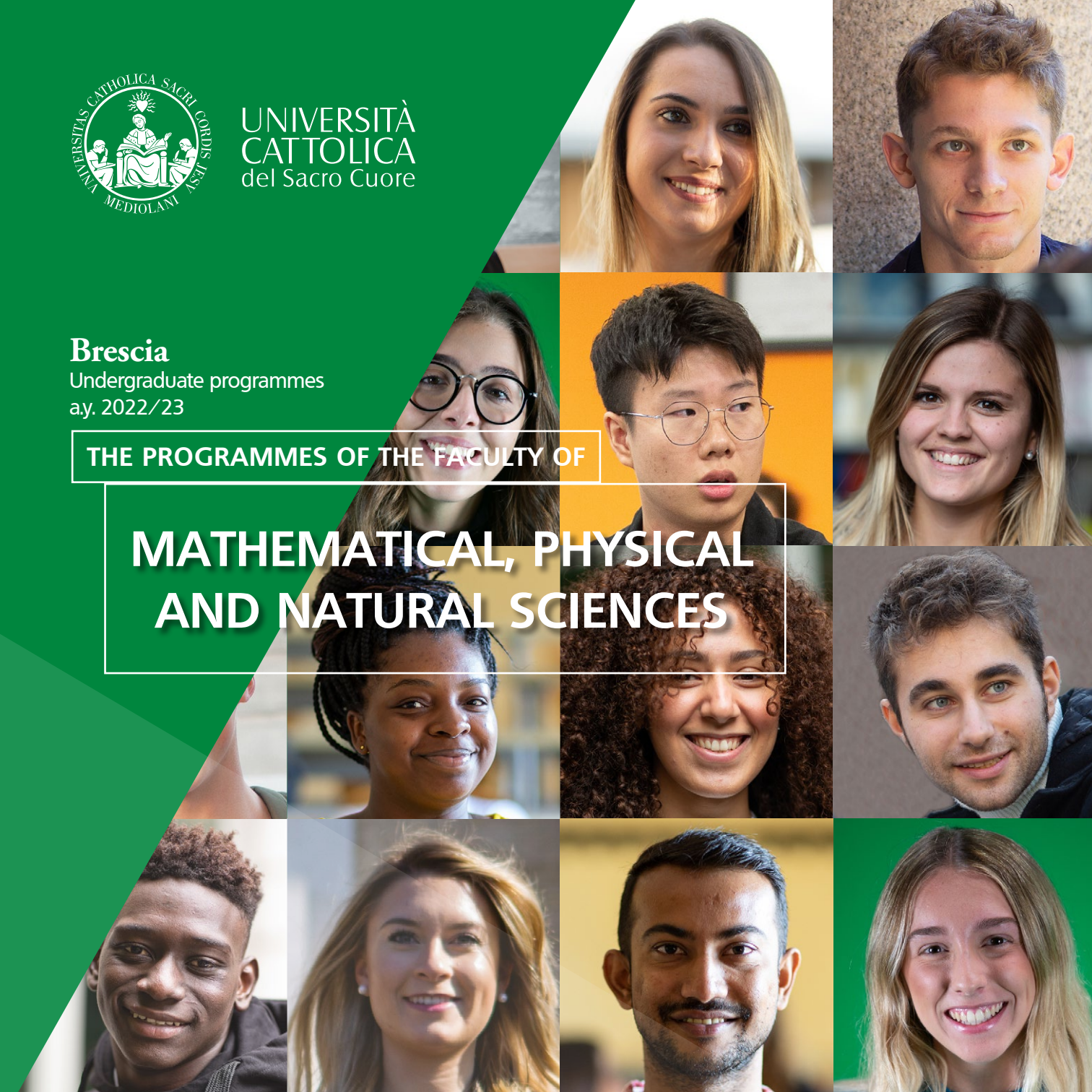
UNIVERSITÀ CATTOLICA del Sacro Cuore

Brescia
Undergraduate programmes
a.y. 2022/23

THE PROGRAMMES OF THE FACULTY OF

MATHEMATICAL, PHYSICAL AND NATURAL SCIENCES



CONTENTS

The programmes of the Faculty of Mathematical, Physical and Natural Sciences

ABOUT US

UNIVERSITÀ CATTOLICA, ACCORDING TO THE SPIRIT OF ITS FOUNDERS, HAS THE OBJECTIVE OF ENSURING THE PRESENCE IN THE UNIVERSITY AND THE CULTURAL WORLD OF PEOPLE COMMITTED TO FACE AND RESOLVE, IN THE LIGHT OF THE CHRISTIAN MESSAGE AND MORAL PRINCIPLES, THE PROBLEMS OF SOCIETY AND CULTURE.

Articles of Association of Università Cattolica,
Article 1

EVERYTHING WE ARE IS IN OUR VALUES

We believe in the person. Because we educate women and men, before professionals, so that everyone can express their full potential.

We believe in the freedom of thought. So that the human and professional baggage that we give our students can always be an ally for them in their future.

We believe in society so that everything we give to each student becomes a resource for society, which we want to imbue with professionalism but above all with humanity and trust.

Above all, we believe in the future with sensible optimism, because building the future is a commitment, but what makes it possible is to build it together, cultivating everyone's inclinations.

WHY UNIVERSITA' CATTOLICA?

Because here everyone can feel free to express their potential.

Because here each path is individual, as is the sensitivity of each one.

Because here everyone is put in the position to give their best.

Because here every person counts and is part of a community to be cultivated with care.

Because our history is made up of our past, but above all of today's commitment to planning an unprecedented tomorrow.

CHOOSE YOUR CAREER

MATHEMATICAL, PHYSICAL AND NATURAL SCIENCES

at Università Cattolica

IDEAS, HISTORY, VALUES

Those who choose to enrol in the Faculty of Mathematical, Physical and Natural Sciences do not want to remain on the surface, but rather prefer to get to the bottom of things: the desire and passion to understand and deepen their knowledge are the fundamental characteristics of this faculty and of those who choose to join it, embarking on at times challenging but always full of stimuli and opportunities.

Founded in 1971 with the aim of training professors/lecturers, today it can offer its students a much broader perspective and the possibility of making important study and research experience in the best European and non-European universities. The increasingly strong connection with the world of work makes it a path full of stimuli, suitable for those who not only love numbers and theorems, but also want to learn - such as Niccolò Tartaglia, the famous mathematician from Brescia in the 16th century - to use them as a tool to understand the reality around them.

"I BELIEVE THAT CONTEMPORARY UNIVERISTY, IF IT HAS THE DUTY TO COLLABORATE FOR THE PROGRESS OF SCIENCES AND TO FOLLOW THE METHODOLOGY REQUIRED BY EACH OF THEM, MUST NEVER PUT IN THE SECOND PLACE WHAT REQUIRES THE RECOGNITION OF ITS PRIMACY, NAMELY HUMANS, THE HUMAN PERSON, THE WORLD OF SPIRITUALITY"

Father Agostino Gemelli,
Founder dell'Università Cattolica

GALILEO SAID THAT "THE UNIVERSE IS WRITTEN IN MATHEMATICAL LANGUAGE". IT IS A WONDERFUL MYSTERY THAT MAKES MATHEMATICS THE IDEAL TOOL FOR UNDERSTANDING THE WORLD.

Maurizio Paolini,
Dean of the Faculty of Mathematical, Physical and Natural Sciences

THE ACADEMIC OFFER

The programme provides three distinct training profiles:

- **a profile in Mathematics;**
- **a profile in Physics;**
- **a profile in Computer Science.**

In particular, the profiles in Physics and Computer Science provide training equivalent to a degree in Physics and a degree in Computer Science respectively.

All the profiles provide in-depth and modern basic knowledge in the area of mathematics, while at the same time focusing their attention on the different fields of mathematics, physics and computer science according to the different profiles.

All the profiles will allow access to coherent graduate programmes offered by the Faculty, as stated in as provided for by the specific admission procedure announcements to graduate programmes.

An integrative and significant part of the training are the laboratory activities, carried out with technologically advanced instruments. Particular attention is also paid to learning written and oral English and to the knowledge of modern communication and information management tools.


UNIVERSITÀ

OPPORTUNITIES

Being a student of the degree programme in Mathematics at Università Cattolica gives first of all the advantage of being placed into a stimulating research context of avant-garde research, equipped with two Research Centres specialised in the applications of mathematics and physics (I-LAMP: nanostructures and superconducting materials; MATHEX: mathematical models also applicable to the corporate world).

Here are some of the distinctive advantages of this Faculty:

- the relatively small numbers of participants allow a direct and continuous contact with the professors/lecturers: this gives students the possibility to be constantly followed in their training;
- the large spaces, made available in a welcoming and equipped campus, allow everyone to work individually with the specific tools of the different disciplines;
- a strong network with foreign universities gives the opportunity to gain important experience in the best European and non-European universities;
- the direct contact with the world of work, facilitated by the ministerial plan for scientific degrees which also involves Confindustria, favours a positive beginning of the professional career after graduation;
- the strategic role, now universally recognised, that science graduates play in technological development, creates many frequent opportunities to study, financed by scholarships provided by national institutes and industrial associations, whose calls for application are published online on the faculty page.

> " THE ADVANTAGE OF BEING
> **PLACED INTO A STIMULATING RESEARCH CONTEXT**
> OF CUTTING-EDGE RESEARCH "

ADMISSION CRITERIA

Students can access the programme through a simple chronological order (i.e. according to the order in which enrolments are received). There are 90 places target.

www.unicatt.it/scienzematematiche

THE DEGREE PROGRAMMES

BRESCIA

PROFILE IN MATHEMATICS

PROFILE IN PHYSICS

PROFILE IN COMPUTER SCIENCE

PROFILE IN **MATHEMATICS**

The aim of the profile in **Mathematics** is to train people who, in addition to an excellent preparation in Maths, have good skills in Physics and Computer Science and are able to understand and use mathematical descriptions and real situation models of scientific and applicative interest effectively using, in addition to Italian, the English language, in written and oral form. The profile, in addition to training professors and lecturers, prepares professionals able to solve problems and bring innovation to successfully enter the world of work. Contrary to what is commonly thought, to study mathematics it is not necessary to be a genius, it is enough to have a lot of passion: a mathematician is an interested, curious person who, in front of any problem, has the method and the approach to find and implement innovative solutions.

THE STRUCTURE OF THE PROGRAMME

The programme is divided into three years, during which adequate attention is paid to learning English and Computer Science. During the last year, students can choose electives (for a total of 18 ECTS), depending on the interests and attitudes developed in the previous two years.

PROFESSIONAL OUTLETS

A graduate in mathematics, thanks to the knowledge and method learned during his studies, can relatively easily enter the world of work: this profile is in fact required in many wide fields.
In particular,a degree in Mathematics gives you the opportunity to enter:

- **the industrial sector, as a researcher or market analyst;**
- **financial and insurance companies, as a systems engineer, analyst, operator in the field of applied modelling;**
- **training courses dedicated to the training of professors/lecturers for middle and high schools;**
- **universities and national and international research institutes.**

PLEASE NOTE

THEOLOGY COURSES

The study plan provides for the attendance of Theology courses, in order to offer a motivated, reasoned and organic knowledge of the Catholic faith. The programme is delivered over the three years. Classes take place 3 hours per week for 12 weeks, and the course is divided into the following themes:

- **I year:** Fundamental issues: Christological faith and Holy Scripture
- **II year:** Matters of theological anthropology and ecclesiology
- **III year:** Theological questions of Christian ethics and morals.

Study plans

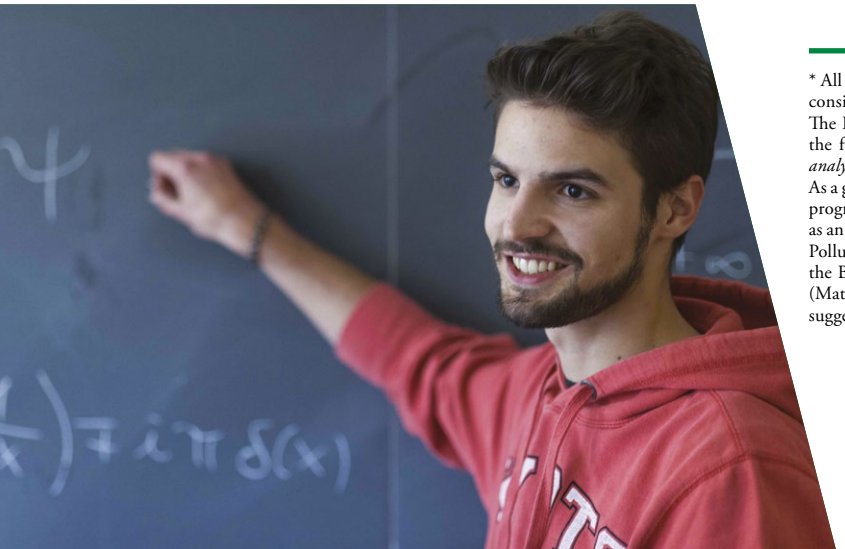
The study plan indicated below and the credits assigned to each course offer a hint of the subjects of this programme. The tables are useful to understand which the reference disciplines are, but you need to know that they may be subject to change. Final study plans will be published in the specific Faculty Guide.

PROFILE IN MATHEMATICS

FIRST YEAR	ETCS
Algebra	12
Mathematical analysis I	12
General Physics I	12
Fundamentals of information technology	6
Geometry I	12
English	6

SECOND YEAR	ETCS
Mathematical analysis II	6
Numerical analysis	12
Complements of mathematical analysis	6
Geometry complements	6
Geometry II	6
Programming laboratory	6
Analytical mechanics	6
Rational mechanics	6
Mathematical statistics I	6

THIRD YEAR	ECTS
General Mathematics II	12
Set theory and logic	6
Statistics II	6
Further basic activity among: In-depth study of algebra, In-depth study of mathematical analysis, In-depth study of geometry, Dynamic systems	6
Electives*	18
Other activities (Internships/Training/IT Skills/Language Skills)	6
Final examination	6



* All the courses of the Faculty's undergraduate programme not already taken are considered electives (see list below).
The Faculty suggests students enrolled in Mathematics to choose at least one of the following courses: *In-depth study of algebra, In-depth study of mathematical analysis, In-depth study of geometry*.
As a general rule, it is not permitted to include courses from the Faculty's graduate programmes in the study plan. If the student envisages teaching at middle school as an occupational outlet, at least one of the courses in General Biology (BIO/07), Pollution Control (GEO/12) and Chemistry (CHIM/03), useful for obtaining the BIO, GEO and CHIM credits required for access to teaching in class A-28 (Mathematics and Science), should be taken into consideration. In this regard we suggest you consult Annex A to Ministerial Decree no. 259 of 9.5.2017.

***electives:**

Algorithms and data structures (6 ECTS)
In-depth study of Algebra (6 ECTS)
In-depth study of mathematical analysis (6 ECTS)
In-depth study of geometry analysis (6 ECTS)
Computer architecture and operating systems (12 ECTS)
Artificial intelligence and machine learning (6 ECTS)
Databases (9 ECTS)
General biology (6 ECTS)
Chemistry (6 ECTS)
Pollution control (6 ECTS)
Data analysis techniques and tools (6 ECTS)
Demography (6 ECTS)
Econometrics (6 ECTS)
Economics of environment and energy (6 ECTS)
Political economy I (microeconomics) (6 ECTS)
Political economy II (macroeconomics) (6 ECTS)
Elements of the states of the matter (6 ECTS)
Mathematical finance (6 ECTS)
Physics of nuclei and particles (6 ECTS)
Physics of the atmosphere (6 ECTS)
Fundamentals of marketing for computer science (6 ECTS)
Introduction to astronomy and astrophysics (6 ECTS)
Electromagnetism laboratory (6 ECTS)
General physics laboratory (12 ECTS)
Modern physics laboratory (6 ECTS)
Optics laboratory (6 ECTS)
Machine learning (6 ECTS)
Actuarial mathematics (6 ECTS)
Discrete mathematics (6 ECTS)
Celestial mechanics (6 ECTS)
Quantum mechanics (12 ECTS)
Mathematical methods for physics I (6 ECTS)
Mathematical methods for physics II (6 ECTS)
Operational research (6 ECTS)
Optics (6 ECTS)
Object-oriented programming (6 ECTS)
Relativity (6 ECTS)
Computer networks (9 ECTS)
Dynamic systems (6 ECTS)
Technologies for web applications (12 ECTS)

PROFILE IN **PHYSICS**

The profile in **Physics** ensures a training equivalent to a degree in Physics, and is, with its cutting-edge research laboratories, one of the flagships of Università Cattolica. The close relationship between teaching and research is one of the factors that contributes to making it one of the most qualified research centres in the field of the environment, nanostructures and superconducting materials. Every year a solid network of contacts with European and American universities gives the best students the opportunity to undertake specialization courses abroad. There is also a collaboration between the Faculty and the Synchrotron Light Laboratory in Trieste, the most powerful particle accelerator installed in Italy.
Studying Physics in Cattolica means choosing a path full of challenges and opportunities, in a stimulating environment, equipped with all the tools and spaces that will allow you to carry out your projects with profit and satisfaction.
The high quality of the basic preparation, together with the possibility of attending cutting-edge research laboratories as protagonists and of interacting easily and constantly with the teaching staff, makes the preparation of our students equal to the most important universities and research centres in the world.

THE STRUCTURE OF THE PROGRAMME

The profile is organised in three years, during which the study of the English language is included.
The study plan provides for both traditional courses and laboratory disciplines, which will help to develop not only specific scientific skills but also the ability to work in team. Already while preparing the dissertation, it is possible to do real research experiences in the laboratories.

SBOCCHI PROFESSIONALI

The profile in Physics of the programme in Mathematics, with its wealth of experimental skills, is closely related to the world of work, especially for all sectors dealing with high-level technological development. A graduate in this field will have the opportunity to enter the world of work in areas such as:

- **electronics, optics, information technology, mechanics, etc.**
- **telecommunications and control of satellite systems quantitative finance**
- **modelling of physical processes and industrial**
- **applications environment**

You can also choose to follow the path of international or national research, both in universities and in the most qualified institutes, or take the path of teaching, becoming a lecturer, or even headmaster of middle or high schools.

NOTE

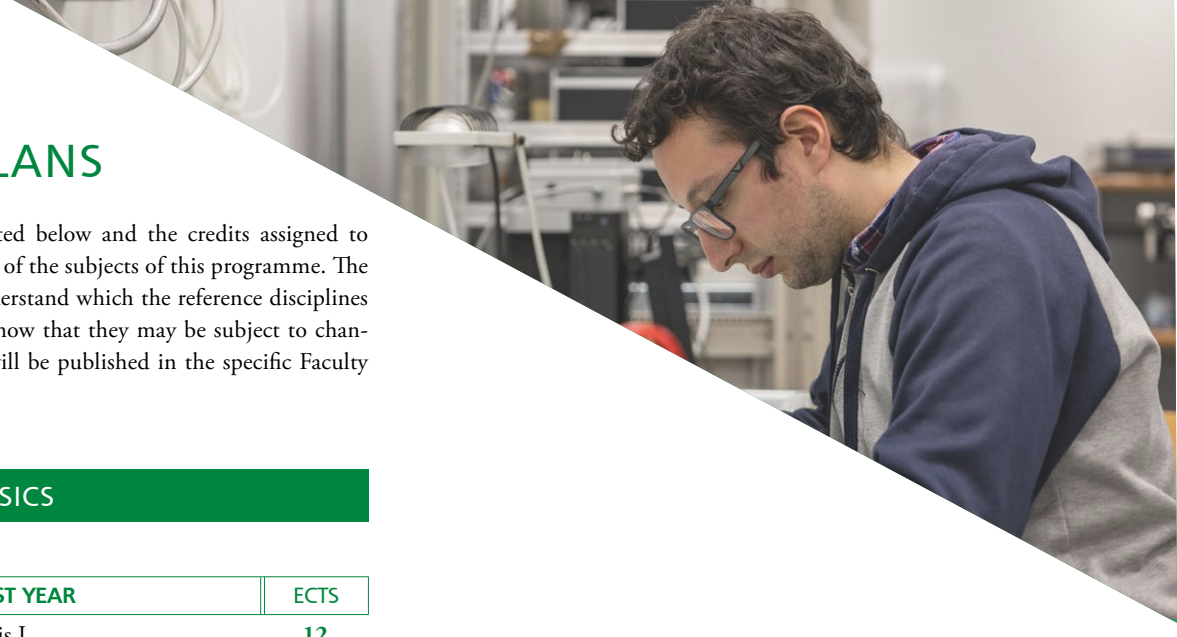
THEOLOGY COURSES

The study plan provides for the attendance of Theology courses, in order to offer a motivated, reasoned and organic knowledge of the Catholic faith. The programme is delivered the three years. Classes take place 3 hours per week for 12 weeks, and the course is divided into the following themes:

- **I year**: Fundamental issues: Christological faith and Holy Scripture
- **II year**: Matters of theological anthropology and ecclesiology
- **III year**: Theological questions of Christian ethics and morals.

STUDY PLANS

The study plan indicated below and the credits assigned to each course offer a hint of the subjects of this programme. The tables are useful to understand which the reference disciplines are, but you need to know that they may be subject to change. Final study plans will be published in the specific Faculty Guide.



PROFILE IN PHYSICS

FIRST YEAR	ECTS
Mathematical analysis I	12
Chemistry	6
General Physics I	12
Geometry I	12
English	6
General physics laboratory	12

SECOND YEAR	ECTS
Mathematical analysis II	6
Complements of mathematical analysis	6
General Mathematics II	12
One of the following course: Algorithms and data structures, Programming laboratory, Object-oriented programming, Data analysis techniques and tools	6
Electromagnetism laboratory	6
Analytical mechanics	6
Rational mechanics	6
One of the following courses: Physics of the atmosphere, Relativity	6
Elective*	6

THIRD YEAR	ECTS
Quantitative methods for physics I	6
Elements of the structure of the matter	6
Physics of nuclei and particles	6
Quantitative methods for physics II	6
Quantum mechanics	12
Electives*	12
Other activities (Internships/Training/IT Skills/Language Skills))	6
Final examination	6

* All the courses of the Faculty's undergraduate programme not already taken are considered electives (see list below).
The Faculty advises students enrolled in the Physics profile to include the following courses among electives: *Laboratory of Optics* (2nd year), *Optics* (3rd year), *Laboratory of Modern Physics* (3rd year).
As a general rule, it is not permitted to include courses from the Faculty's graduate degree programmes in your study plan.
If the student envisages teaching at middle school as an occupational outlet, we suggest consulting Annex A to Ministerial Decree no. 259 of 9.5.2017.

***Electives:**

Algebra (12 ECTS)
Algorithms and data structures (6 ECTS)
Numerical analysis (12 ECTS) Algebra (6 ECTS)
In-depth study of mathematical analysis (6 ECTS)
In-depth study of geometry (6 ECTS)
Computer architecture and operating systems (12 ECTS)
Artificial intelligence and machine learning (6 ECTS)
Databases (9 ECTS)
General biology (6 ECTS) Complements of geometry (6 ECTS)
Pollution control (6 ECTS)
Data analysis techniques and tools (6ECTS)
Demography (6 ECTS)
Econometrics (6 ECTS)
Environment and energy economy (6 ECTS)
Political Economy I (microeconomics) (6 ECTS)
Political Economy II (macroeconomics) (6 ECTS)
Mathematical Finance (6 ECTS)
Physics of the atmosphere (6 ECTS)
Fundamentals of computer science (6 ECTS)
Marketing fundamentals for information technology (6 ECTS)
Geometry II (6 ECTS)
Introduction to astronomy and astrophysics (6 ECTS)
Fundamentals of higher analysis (9 ECTS)
Laboratory of modern physics (6 ECTS)
Laboratory of optics (6 ECTS) Laboratory of programming
(6 ECTS) Logic and set theory (6 ECTS)
Machine learning (6 ECTS)
Actuarial mathematics (6 ECTS)
Discrete mathematics (6 ECTS)
Celestial mechanics (6 ECTS)
Operational research (6 ECTS)
Optics (6 ECTS)
Object-oriented programming 6 ECTS)
Relativity (6 ECTS)
Computer networks (9 ECTS)
Dynamic systems (6 ECTS)
Mathematical statistics I (6 ECTS)
Mathematical statistics II (6 ECTS)
Technologies for web applications (12 ECTS)

PROFILE IN **COMPUTER SCIENCE**

The profile in **Computer science** offers training equivalent to a degree in Computer Science and aims to train professionals who combine solid mathematical and physical skills with a broad, up-to-date and in-depth computer science background. The peculiarity of the training proposal is to provide the necessary knowledge to follow the evolution of information technologies, with particular attention to the development of web applications and data analysis, which are strategic sectors in strong expansion. The skills acquired, as well as guaranteeing the continuation of studies in the field of Computer Science, also allow to enter immediately in the labour market, as witnessed by various businesses in the Brescia tertiary sector.
Synergies and collaborations with the world of work guarantee a preparation that combines scientific and methodological rigour with the problems and experiences of those who work in the IT sector on a daily basis.
Studying computer science in Brescia means entering into a highly competitive world characterized by continuous technological evolution and also allows you to acquire a proactive mindset, useful to play a leading role in the information technology sector.

THE STRUCTURE OF THE PROGRAMME

The profile is organised into three years, within which, in addition to a solid preparation in computer science, adequate attention is paid to learning mathematics, physics and English. In the second and third year of the course students will be able to choose electives (for a total of 18 ECTS) which will allow them to study specific topics in depth and to enhance their own skills.

PROFESSIONAL OUTLETS

Thanks to interdisciplinary knowledge and specific skills in the fields of information technologies, the profile in Computer Science of the programme in Mathematics makes it easy to enter the world of work.

In particular, this profile gives the opportunity to work in various sectors with different roles:

- **in the IT sector, as a developer of complex applications and Internet/Cloud services;**
- **in the tertiary sector, as a researcher, systems engineer and analyst of scientific, financial and commercial data;**
- **in the field of Data Science, as an analyst specialised in knowledge extraction;**
- **from large volumes of data (Big Data); within universities and research institutes.**

NOTE

THEOLOGY COURSES

The study plan provides for the attendance of Theology courses, in order to offer a motivated, reasoned and organic knowledge of the Catholic faith. The programme is delivered over the three years. Classes take place 3 hours per week for 12 weeks, and the course is divided into the following themes:

- **I year:** Fundamental issues: Christological faith and Holy Scripture
- **II year:** Matters of theological anthropology and ecclesiology
- **III year:** Theological questions of Christian ethics and morals.

Study plans

The study plan indicated below and the credits assigned to each course offer a hint of the subjects of this programme. The tables are useful to understand which the reference disciplines are, but you need to know that they may be subject to change. Final study plans will be published in the specific Faculty Guide.

PROFILE IN COMPUTER SCIENCE

FIRST YEAR	CFU
Mathematical analysis I	12
Databases	9
Fundamentals of IT	6
Geometry I	12
English	6
Computer networks	9
Discrete Mathematics	6

SECOND YEAR	CFU
Algorithms and data structurs	6
Computer architecture and operating systems	12
General Physics I	12
Programming workshop	6
Set theory and logic	6
Mathematical Statistics I	6
Object-oriented programming	6
Elective*	6

THIRD YEAR	CFU
Numerical analysis	12
Operational research	6
Data analysis techniques and tools	6
Technologies for web application	12
Electives*	12
Other activities (Internships/Training/IT Skills/Language Skills)	6
Final examination	6

(*) All the courses of the Faculty's undergraduate programmes not already taken are considered electives (see list below).
The Faculty advises students enrolled in the Computer Science profile to include the *Marketing Fundamentals for Information Technology* course among the electives.
As a general rule, it is not permitted to include in the study plan courses of the graduate degree programme of the Faculty.

***Electives:**

Algebra (12 ECTS)
Mathematical analysis II (6 ECTS)
In-depth study of algebra (6 ECTS)
In-depth of mathematical analysis (6 ECTS)
In-depth study of geometry (6 ECTS)
Artificial intelligence and machine learning (6 ECTS)
General biology (6 ECTS)
Chemistry (6 ECTS)
Complements of mathematical analysis (6 ECTS)
Complements of geometry (6 ECTS)
Pollution control (6 ECTS)
Demography (6 ECTS)
Econometrics (6 ECTS)
Economics of environment and energy (6 ECTS)
Political economy I (microeconomics) (6 ECTS)
Political economy II (macroeconomics) (6 ECTS)
Elements of the structure of the matter (6 ECTS)
Mathematical finance (6 ECTS)
Physics of nuclei and particles (6 ECTS)
Physics of the atmosphere (6 ECTS)
General physics II (12 ECTS)
Marketing fundamentals for information technology (6 ECTS)
Geometry II (6 ECTS)
Introduction to astronomy and astrophysics (6 ECTS)
Electromagnetism laboratory (6 ECTS)
General physics laboratory (12 ECTS)
Modern physics laboratory (6 ECTS)
Optics laboratory (6 ECTS)
Machine learning (6 ECTS)
Actuarial mathematics (6 ECTS) Analytical mechanics
6 ECTS) Celestial mechanics (6 ECTS)
Quantum mechanics (12 ECTS)
Rational mechanics (6 ECTS)
Mathematical methods for physics I (6 ECTS)
Mathematical methods for physics II (6 ECTS)
Optics (6 ECTS)
Relativity (6 ECTS) Dynamic systems (6 ECTS)
Mathematical statistics II (6 ECTS)


Invasion in Syrien

UNIVERSITY TERMINOLOGY

What does it mean...

REGISTRATION

Registration is enrolment in the first year of university. With it you receive a registration number, which is required when registering for examinations and using the services of the university. The Italian term is *immatricolazione*, hence the term *matricola* to describe first-year students.

DEGREE CLASSES

Course classes, including degree classes (established by Article 4 of the Decree of the Ministry of Universities and Scientific and Technological Research of 3 November 1999, No. 509 and confirmed by Article 4 of Ministry of Education, University and Research Decree No. 270 of 22 October 2004), are groupings of university degree courses of the same level that share certain educational objectives and award degrees with identical legal value. To date, there are 49 degree classes,

97 master's degree classes and 8 single-cycle master's degree classes. With Ministerial Decree no. 446/2020, the Ministry of Universities and Research established three new professionally-oriented degree classes, which provide for the inclusion of at least 48 ECTS credits for workshop and internship activities, aimed at better placing graduates in the world of work. Individual universities may activate one or more degrees in each class, choose their names and decide on their curricula, subject to certain constraints.

All degrees that belong to a class have the same legal value; this is why public competition notices refer to classes and not to degrees.

ATHENAEUM

The term 'athenaeum' (*ateneo* in Italian) derives from the goddess Athena and therefore, by extension, the temple dedicated to her, where rhetoricians and poets recited their poems. Today it is synonymous with university.

THREE-YEAR DEGREE

The three-year degree, also known as a first-level degree, is obtained by acquiring 180 ECTS credits over three academic years. It provides the student with an adequate command of general scientific methods and content and guarantees the acquisition of specific professional knowledge. At the end of the course one obtains the title of *dottore*. A secondary school diploma is required for admission onto three-year degree courses.

ECTS CREDITS

ECTS credits are a method used in universities to measure the quantity of learning required of a student. Each university examination is associated with a certain number of ECTS credits, which are intended to reflect the amount of effort required; traditionally, 1 ECTS credits is equal to 25 hours of work (either personal study or attendance in workshops or lectures). Each course is assigned a certain number of credits, the same for all students, and a mark (out of 30) that varies according to the level of preparation. ECTS credits may be acquired not only by taking examinations, but also through extra-curricular activities recognised by the Faculty.

FACULTY

Università Cattolica is divided into Faculties, i.e. organisational structures that comprise one or more degree courses. They have the primary task of organising the academic activities provided for by law, the Statute and the regulations. They cooperate with the departments in organising the research doctorates.

SINGLE-CYCLE MASTER'S DEGREE

Certain types of degree last five or six years. Specifically, these are degrees in Architecture and Building

Engineering, Conservation and Restoration of Cultural Heritage, Pharmacy and Industrial Pharmacy, Law, Veterinary Medicine, Primary Education Sciences (5-year duration), Medicine and Surgery and Dentistry and Dental Prosthetics (6-year duration).

In order to be eligible for the single-cycle master's degree, students require a secondary school diploma.

DEGREE PROGRAMME

The degree programme is the set of courses, broken down for each year of the course, which the student must attend, taking the relevant examinations, in order to obtain the degree.

ACADEMIC YEAR/A.Y.

The academic year begins with the start of classes (end of September-beginning of October) and ends in September of the following year.

LECTURES

Lectures run from September/October to May/June for YEAR-LONG courses. Courses whose number of hours and duration are equivalent to half of an annual course, are called SEMESTER-LONG courses. The two semesters begin in September/October and/or February and examinations are held at the end of each semester. SEMESTRALISED courses are courses whose teaching hours are equivalent to an annual course but concentrated in the time frame of a semester course. It still counts as an annual course.

EXAM DATE AND EXAM SESSION

An exam date is the date on which an examination can be taken. Each faculty decides independently, in accordance with the University's Academic Regulations, how many exam dates to schedule during the year and in which months. The period during which lectures are suspended and examinations can be taken is called a 'session'. Each academic year has three or four examination sessions (depending on the faculty).

INTERNSHIP

Internships are educational activities that bring students into contact with the world of work. Some degree courses include a compulsory internship or work experienceperiod within organisations or companies that have an agreement with the university, to be carried out preferably during the final year. Students may also participate in internships and work experience outside the curricular course, both in Italy and abroad.

DISSERTATION OR FINAL EXAMINATION

This is a written assignment in which the student develops a personal project or research project, usually on a topic related to a subject included in his/her degree programme. It is carried out under the guidance of a lecturer. The overall assessment, which also takes into account the results of individual examinations, is given as a mark out of 110.

MASTER'S DEGREE

Master's degrees, also called second-level degrees, last two years (120 ECTS credits) and require students to already have a degree. It provides advanced theoretical and methodological training for performing highly specialist activities in specific fields. At the end of the course, graduates are awarded the title of *dottore magistrale*.

FIRST AND SECOND-LEVEL UNIVERSITY MASTER'S DEGREES

University master's degrees are professional training courses. They include first-level university master's degrees, which can be accessed after a three-year, and second-level university master's degrees, which can be accessed after a master's degree. They can last one or more years and at the end there is a final examination.

NURTURE YOUR TALENTS

STUDYING AND LIVING THE UNIVERSITY

Entering the University means facing a world of courses and exams to choose, of professors/lecturers and colleagues to meet and know, of times to learn how to manage. Taking this path means starting to build one's future, following one's passions and interests, in a period of life full of dreams, projects, energy. Università Cattolica is the fertile ground where everyone can cultivate their talents. To this end, we provide tools and services to face with awareness and serenity all the challenges and create opportunities to get to know each other, to deepen knowledge, to grow from a human and cultural point of view.

STUDY SUPPORT SERVICES

Online services, books, tools and spaces

- **iCatt**
  The portal that allows you to manage your university career and to have access to all personalised information on services, courses and teaching. For smartphones and tablets there is the iCatt Mobile app, which can be downloaded free of charge from both the Apple Store and Google Play.
  Info: icatt.unicatt.it
- **Mailbox @icatt.it**
  Registered students have at their disposal an institutional mailbox where they will receive notices and secretarial communications, information on services and extracurricular opportunities offered by the University.
  Info: www.unicatt.it/cloudmail-icatt
- **Blackboard**
  It is the online platform for interaction and collaboration between students and professors/lecturers, on which tools and aids are available for learning and for a more in-depth study of individual course programmes.
  Info: ilab.unicatt.it/blackboard
- **Books**
  It Is possible to consult, book and check, from computer, tablet or smartphone, through the personal Mylibrary page, the books of one of the best Italian university libraries, with a heritage of over two million volumes that cover the history of writing, from Sumerian tables to digital resources. The books used in the courses can be purchased in the campus bookshop. The "Digital Hub" service, which opens up a wide range of possibilities for students on multimedia content, e-books used in courses, mp3 music files and online newspapers, is also active and available online.
  Info: brescia.unicatt.it/libreria; biblioteche.unicatt.it/brescia; sbda.unicatt.it; vitaepensiero.it; libri.educatt.online
- **Our Campuses**
  There are different possibilities to study at the Campus: the library (with the consultation room where you can also access the Internet with your notebook or a laptop provided by the library itself) and several study rooms in various locations. Since 2022, for the campus in Via Trieste, the newly restored Sala Polifunzionale of the Ristorante Panorama, has also been available.
- **Tutoring**
  The group tutor facilitates the integration of first-year students into the university world by supporting students in solving administrative problems, organizing their study plan, planning examination sessions, and developing an effective study method. Each student can contact and meet individually with his or her tutor and participate in the various initiatives organized to address issues and problems of general interest.
  Info: www.unicatt.it/tutorato-bs

EDUCATT

EDUCatt, the Right to Study Foundation of Università Cattolica, is the Foundation that supports the University in the management of certain services that are fundamental to improving the student's quality of life. These include, in particular, aid for economic needs (scholarships and other facilities), listening and information, but also catering, housing solutions, health care, sports and travel.
Info: educatt.it

KNOW THE WORLD

The study of foreign languages and experiences abroad

- **SeLdA**
  The University's Language Service promotes foreign language learning for all students. Active on all campuses, it has a self-study centre in Brescia where it is possible to continue the language learning process independently. It also organises courses aimed at achieving some international certifications.
  Info: selda.unicatt.it
- **Ucsc international**
  It offers a wide range of programmes to study or work abroad: from studying in prestigious international universities to the possibility of doing research experiences in other countries for your dissertation; from intensive language courses in the best European and non-European campuses to internships and work experience in the world, with the possibility of obtaining contributions and competing for scholarships.
  Info: ucscinternational.unicatt.it

TEST YOURSELF

Jobs: opportunities and guidance

- **Internships and placements**
  The Internships and Placements Service organises classroom meetings with companies, provides consultancy for the compilation of the curriculum vitae, offers simulations of selection tests and makes internship and work experience proposals available online on a dedicated portal. These opportunities, both in Italy and abroad, are open to students and recent graduates.
  Info: sep.unicatt.it
- **Work at the university**
  During the course of study, it is possible to work at the university, to start a paid experience by collaborating with the various structures of the University (libraries, secretariats, offices) for a time equal to 200 hours per year. The call to participate in the selection is published between October and November. In addition, there is the possibility to apply for a fixed-term job (Student Work project), tailored to students, in a way that does not compromise the time to devote to studying and attending courses.
  Info: www.unicatt.it/200ore; www.educatt.it/SWE

OFF-SITE?

- **Residencies**
  The University has an agreement with some facilities, which guarantee students affordable accommodation (according to their income bracket) and above all an ideal environment to study and experience community life, always followed by an educational project and with the presence of a Head of the facility. In order to be admitted to housing offer, the student must submit an application for admission via web procedure at www.educatt.it, after reading the Competition Notice published on the website itself.
  Info: www.collegiunicattolica.it
- **Housing Network**
  In addition to traditional housing solutions EDUCatt is committed to finding alternative channels to make it easier for Università Cattolica students to find accommodation.
  Housing Network offers user-friendly solutions through partnerships with digital platforms.
  Info: www.educatt.it\HousingNetwork

RESPECT YOURSELF

Nutrition and health

- **Catering and canteens**
  Access to catering facilities at a reduced price is possible for all students enrolled at Università Cattolica who have paid the regional tax for the right to university study. The amounts for each meal and the access rules are available on the web; in order to access the service, it is necessary to accredit yourself online to the system, using the registration procedure.
  Info: ristorazione.educatt.online
- **Health care and psychological counselling**
  EDUCatt offers students at Università Cattolica a health care service with general practitioners and specialists. The Psychological Counselling service is also active: it gives students the opportunity to discuss with a professional the personal, relational and study difficulties they encounter during their university experience.
  Info: www.educatt.it/centrosanitario

VALUE YOUR FREE TIME

Culture and entertainment

- **Cultural activities**
  There are many opportunities to take advantage of at Università Cattolica. Conferences, lectures, book presentations with the author will put you in touch with representatives of the cultural and entertainment world.
  Those who want to do theatre can enrol at the University Theatre Centre (CUT), which organises shows and exhibitions for the promotion and practice of theatre.
  Info: progetti.unicatt.it/cut; brescia.unicatt.it

SERVICES FOR THE INTEGRATION OF STUDENTS WITH DISABILITIES AND SPECIFIC LEARNING DISORDERS

In compliance with the provisions of Law no. 17 of 28 January 1999, which stipulates "individualised treatment for passing university examinations after agreement with the professor/lecturer of the subject [...] the use of specific suitable technical means and the possibility of carrying out equivalent tests on the proposal of the specialised tutoring service' and to the Law of 8 October 2010 no. 170 for which 'students with Specific Learning Disorders are guaranteed, during their education and training at school and university, adequate forms of verification and assessment, also with regard to State examinations and university entrance examinations as well as university examinations', Università Cattolica del Sacro Cuore has established the Services for the integration of students with disabilities and with Specific Learning Disorders which, through the technical-administrative and teaching support of specialised pedagogical staff, aim to accompany students in the university experience by supporting them from the early stages of orientation to graduation and the first steps into the world of work.

Info: studenticattolica.unicatt.it/home-services-and-campus-life#section-disability-and-dsa

SPIRITUAL SUPPORT

The Pastoral Centre is a welcoming reference point for those who are looking for a moment of listening or open confrontation on their personal growth, for those who want to help their neighbour with activities of volunteering or for those who want to widen their theological knowledge. It promotes numerous cultural activities related to music, theatre, the relationship between art and spirituality and actively collaborates with the various Catholic student associations.

Info: centropastorale.unicatt.it

STAY CONNECTED

News and social networks

Being informed and updated on the life of Università Cattolica is easy: the channels **Facebook** (facebook.com/unicatt), **Instagram** (instagram.com/unicatt), **LinkedIn** (www.linkedin.com/school/universita-cattolica-del-sacro-cuore), the videos and live broadcasts on **Youtube** (youtube.com/younicatt) tell all the news and initiatives of the University. The world of Cattolica's five campuses is also described in an online magazine, **Cattolicanews**, with a weekly newsletter and related social media Facebook, Instagram, Twitter pages: real virtual pages for in-depth analysis and information. The media centre "Secondo Tempo", a content-factory within the University that produces, collects and publishes podcasts, videos, articles and web reports, helps to enrich the website and the world of news. Finally, **YouCatt**, the webtv of the Brescia campus, which was created in collaboration with the degree programme in Science and and Technologies of the Arts and Performing Arts - Stars.

Info: secondotempo.cattolicanews.it; cattolicanews.it

HOW MUCH DOES IT COST TO STUDY AT UNIVERSITÀ CATTOLICA

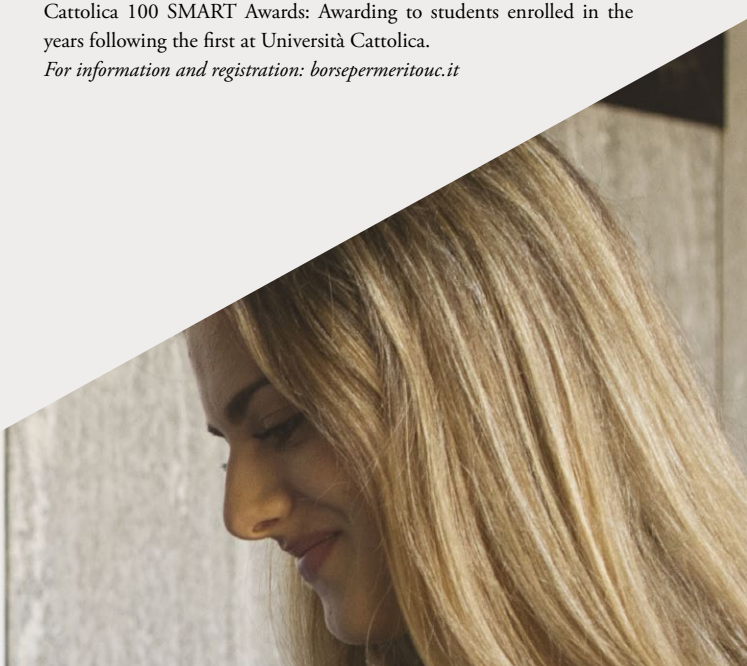
The tuition fee is determined on the basis of family income. Every year, approximately 3,000 students, based on merit and financial conditions, are exempt from paying university fees, while 4,000 gain access to additional financial benefits. Students with a certified disability equal to or greater than 66% and students with a recognised disability pursuant to art. 3, subsection 1 or subsection 2 of Law no. 104 of 5 February 1992 are entitled to total exemption from enrolment fees and university contributions, paying €100 upon registration in the first year and then upon enrolment onto each subsequent academic year. In order to obtain the exemption, the aforementioned students must present original, valid documentation to the Services for the Integration of Students with Disabilities and SLD of the relevant campus. There are also concessionary rates for off-site students resident in the colleges of the Università Cattolica.

SCHOLARSHIPS AND FINANCIAL AID

- **Economic benefits**
  Scholarships, reimbursement of tuition fees, monetary aids, admission and re-admission to university colleges at reduced rates, access to the catering service at lower prices These are the formulas proposed to reduce the costs of study according to income and merit requirements.
  The online platform MyEDUCatt is a direct thread that allows you to submit your application and check the processing status of the file at any time.
  Info: educatt.it/agevolazioni
- **Other benefits**
  The benefits are available to students committed to study and work, students enrolled and belonging to the same household at the same time, students with a certified disability or in whose household there are family members with CERTIFIED disability. In addition, special benefits are provided for those who, although already in the minimum income bracket, are in particularly difficult and serious economic conditions and are unable to obtain the scholarship. There are also various competitions organised by private bodies, foundations, associations or organisations. The list is updated and available online.
  Info: agevolazioni.unicatt.it

SCHOLARSHIPS FOR DESERVING STUDENTS

Promoted by Università Cattolica and the Giuseppe Toniolo Institute, with the collaboration of the EDUCatt Foundation, establish every year 100 Scholarships + 100 Study Awards for merit only. These scholarships and study awards are intended for all students and future students of Università Cattolica, divided into the following categories: 60 START scholarships: a competition open to high-school diploma holders or students about to finish high school who intend to enrol in Università Cattolica 40 RUN scholarships: competition reserved for students about to graduate or graduate students who intend to enrol at Università Cattolica 100 SMART Awards: Awarding to students enrolled in the years following the first at Università Cattolica.
For information and registration: borsepermeritouc.it



ADVICE AND GUIDANCE AT UNIVERSITÀ CATTOLICA

Throughout the year, Università Cattolica offers numerous opportunities - both virtual and in-person - for support on your orientation journey and help you think clearly about your choice of future university studies.
Take part in **appointments dedicated to presenting the University's courses and services**, during which lecturers go into detail about the structure and content of the courses on the degree programmes, while students are on hand to tell you about their experiences.
You can discover the university environment at first hand by taking part in **psycho-aptitude orientation** with group workshops, **faculty discovery workshops** and real **university lectures**.
During the summer period, Università Cattolica offers **technical support for enrolment** through a dedicated information desk, as well as **meetings** on the options available, **workshops**, **seminars** and **info sessions** with testimonials from professionals and young graduates.

UNICATT "ORIENTAKIT"

We have created a page where you can find all the useful information material for your orientation: visit the Orientakit!

Click here or scan the QR Code

KEEP IN TOUCH

Subscribe to our newsletter: you will be kept up-to-date on important initiatives, appointments and deadlines.

Click here or scan the QR Code

ORIENTATION INTERVIEWS

For an individual advice and guidance interview in which you can learn more about degree courses, enrolment procedures and the services offered to students, we invite you to make an appointment - in person or virtually - with the staff of the Advice and Guidance Office at each campus.

Book your orientation interview
Click here or scan the QR Code

Milan - Largo A. Gemelli, 1
Brescia - Via Trieste, 17 and Via della Garzetta, 48
Piacenza - Via Emilia Parmense, 84
Cremona - Via Bissolati, 74
Rome - Largo F. Vito, 1

For further information:
800 954 459 if you are an Italian student
+39 02 7234 7234 if calling from abroad
Monday to Friday from 8 a.m. to 7 p.m,
Saturdays from 9 a.m. to 1 p.m.

WEB & SOCIAL MEDIA

Visit us at **www.unicatt.it**
and follow the **official Cattolica social media profiles**.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YOUR

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CATTOLICA
del Sacro Cuore

Brescia

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www.unicatt.it/scienzematematiche