

Faculty of

**Medicine and Surgery "Agostino  
Gemelli" - Roma**

**Mathematical, Physical and Natural  
Sciences - Brescia**

Master's degree programme in

**Innovations in Biotechnology  
applied to regenerative medicine**

LM-9



Student guidebook

A.Y. 2023 / 2024

Seat: Fondazione Poliambulanza Istituto Ospedaliero (CREM)-BRESCIA



UNIVERSITÀ  
CATTOLICA  
del Sacro Cuore

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## INTRODUCTION

*Dear Student,*

*the university career you choose will determine the professional and personal horizon towards which you direct your steps. It is a decision that marks the entry into an unrepeatable phase of one's existence, a season of refining one's cultural dimension, of broadening and enriching one's human relations, of discovering one's professional aptitudes. It is, in conclusion, a crucial moment in life, which must be experienced with full awareness, the right enthusiasm and a little courage.*

*Recently we have had the opportunity to experiment and exploit the potential offered by distance learning tools, but at the same time we have understood that technology cannot replace face-to-face activity, which gives a unique character to the educational experience, consolidating the idea that the university remains a place of relationship. This renewed certainty requires us to make our campuses and their services more and more welcoming and accessible so that the University, in its various locations, can continue to be inhabited and lived intensely.*

*However, this is not the only commitment we make to our students.*

*For a century Università Cattolica makes every effort to offers, not only with a solid cultural preparation and professional one, but also an original educational proposal and a method for interpreting contemporary reality in order to responsibly direct their actions as individuals and citizens.*

*This guide contains all the essential information to get to know and appreciate your chosen Faculty. Course syllabi, along with other news and announcements about the University's initiatives, can be found on our website: <https://roma.unicatt.it/polo-studenti-e-didattica-programmi-dei-corsi-e-orari-delle-lezioni>*

*Wishing that your experience at our University will be an important stage in your human development and a decisive step towards the realisation of your best aspirations, I send you my greetings and those of the whole University.*

*The Rector*

*(Franco Anelli)*

## NATURE AND AIMS OF UNIVERSITÀ CATTOLICA DEL SACRO CUORE

Article 1.2 of the Statutes of the University states that “*Università Cattolica is an academic community which facilitates the carrying out of studies, of scientific research and the training of young people for careers in research, teaching, public and private office, and in the liberal professions. Università Cattolica accomplishes these aims through dedicated higher education, and through teaching informed by Christian principles, which respect individual freedom to access all fields of knowledge and are in accordance with the concept of science as being at the service of mankind, conducive to respectful coexistence, and conforming to the principles of Catholic doctrine, in line with the universal nature of Catholicism and its specific call for freedom*”<sup>1</sup>.

The Catholic nature of the University and its connection to the Catholic Church mean that research and teaching in all fields of knowledge, especially with respect to the great questions of our time, are approached with rigorous scientific method and intellectual depth. Research is carried out against a background of Christian values and towards human and Christian development of society. This has allowed the University to establish itself as a home for honest dialogue and lively debate with other cultures.

All those who wish freely to accept becoming part of Università Cattolica are expected to be aware of the scientific and educational aims of the University as set out above and to be committed to embracing them and putting them into practice. It is expected that such awareness will be translated into students’ personal conduct and into sincere, diligent collaboration with all of the University staff, thereby avoiding any conduct not conforming to the guiding values and principles of the University.

The University’s Code of Ethics was published on 1 November 2011 was set down in order to reflect a sense of belonging, with the aim of strengthening fundamental values and principles, and defining effective rules and guidelines for the conduct of all those who work and study at the University — professors, academic staff, students, and technical, administrative and services staff. Compliance with the Code of Ethics is an essential part of the mission, the prestige and the reputation of Università Cattolica. The Code of Ethics is available for reference on the University website at <https://www.unicatt.it/ateneo/universita-cattolica/codice-etico-e-modello-di-organizzazione--gestione-e-controllo.html> and on iCatt.

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<sup>1</sup> Article 1.2 of the Statutes, approved by Rectoral Decree dated 24 October 1996. The university was legally recognized by Royal Decree No. 1661 of 2nd October 1924.

## **GOVERNANCE - ACADEMIC**

### **Rector**

The Rector is the University's highest academic authority and legally represents the institution. The Rector calls and chairs meetings of the Board of Directors, the Executive Committee, the Academic Senate and the Advisory Board. He encourages the convergence of the operations of all parts of the university community towards the aims of Università Cattolica. The Rector may appoint one or more Pro-Rectors, who may be delegated to specific functions, and one Pro-Rector may be appointed to deputise for the Rector. The Rector's mandate is for four years, renewable for no more than two consecutive terms.

The current Rector of the University is Prof. Franco Anelli, full professor of Private Law at the Faculty of Law.

### **Pro-Rectors**

The current Pro-Rectors are: Prof. Pier Sandro Coconcelli, full professor at the Faculty of Agricultural, Food and Environmental Sciences, delegate for the coordination of internationalization projects, to whom vicarious functions have also been attributed; Prof. Fausto Colombo full professor at the Faculty of Political and Social Sciences, responsible for communication and promotion of the University's image; Prof. Raffaella Iafrate, Full Professor at the Faculty of Psychology, delegate for Equal Opportunities at the University; Prof. Giovanni Marseguerra, full professor at the Faculty of Political and Social Sciences, delegate for the coordination of the Educational Offer; Prof. Roberto Zoboli, full professor at the Faculty of Political and Social Sciences, delegate for the coordination and promotion of scientific research and sustainability.

### **Academic Senate**

The Academic Senate is made up of Faculty members and is chaired by the Rector. The Senate deliberates on issues involving scientific/academic matters which affect the university. The Senate may establish degree programmes and has overall responsibility for the planning and coordination of teaching and research activities.

### **Faculty Dean**

The Dean is selected by nomination and election. Full Professors in the faculty are eligible for nomination and all Full Professors in the faculty are eligible to vote. The Rector formally appoints the Dean. The term of office for Deans is four years, renewable for no more than two consecutive terms. The current Dean of the Faculty of Medicine and Surgery is Professor Antonio Gasbarrini.

### **Faculty Board**

The Faculty Board is made up of all Full Professors, Assistant Professors, representatives of course professors, researchers, and student representatives. The Board undertakes planning, organisation and supervision of teaching and proposes amendments to academic regulations, in accordance with the university Statutes.

## GOVERNANCE – ADMINISTRATIVE

### **Board of Directors**

The Board of Directors is vested with the broadest powers of ordinary and extraordinary administration of the University. The Board is made up of eighteen members: the Rector (who also acts as Chair); ten members appointed by the *Istituto Giuseppe Toniolo di Studi Superiori*; a representative of the *Holy See*; a representative of the *Italian Bishops' Conference*; a representative of the Italian government; a representative of the lay organisation *Azione Cattolica Italiana*; and three Full Professors from the University campuses elected by Full Professors and Associate Professors.

### **General Manager**

The General Manager is head of the University's offices and services and directs and coordinates their activities. He oversees the direction, management and control of non-academic staff and personnel. Other responsibilities include ensuring compliance with legislation and university regulations, and implementing resolutions deliberated by University bodies in line with the University statute. The appointment of the General Manager is confirmed by the Board of Directors following a proposal by the Rector. The current General Manager is Dott. Paolo Nusiner.

### **Campus Manager**

The Campus Manager is responsible for the management of local operations and achieving the objectives within the General Manager's overall planning and coordination of activities and as set down by the Board of Directors. Appointment of the Campus Manager is confirmed by the Rector following a resolution by the Board of Directors on the basis of a proposal put forward by the General Manager. The current Campus Manager for the Rome Campus is Dott. Lorenzo Cecchi.

## **PASTORAL SERVICES**

### **General Ecclesial Assistant**

Spiritual guidance and pastoral activity within the University community are coordinated by the General Ecclesial Assistant and undertaken with the support of staff who provide individual assistance for personal and spiritual growth. The General Ecclesial Assistant is also responsible for coordinating the activities of the University Pastoral Board and the organisation of Theology courses.

The current Ecclesial Assistant is H.E. Mons. Claudio Giuliadori.

### **University Pastoral Board**

The University Pastoral Board fulfils an advisory role and shares ecclesiastical responsibility for the proper implementation of the objectives of the campus ministry.

With representatives from all parts of the University among its members, it ensures that the voice of the student and faculty community is heard.

### **Board of Professors of Theology**

Chaired by the Rector and coordinated by the General Ecclesial Assistant, this Board brings together all faculty members teaching Theology at Università Cattolica and has the task of streamlining the organization of theology courses, which are so important in the life of the University: by their very nature, the courses play “a particularly important role in the search for a synthesis of knowledge as well as in the dialogue between faith and reason.” (*Ex Corde Ecclesiae*, 19).

### **Pastoral Centres**

There are pastoral centres on all campuses which operate according to an educational approach based on the principles of Christian values and the centrality of the person. The centres manage the celebration of the Liturgy and provide a space for interaction, discussion, prayer and training. Pastoral assistants are available to meet with students and facilitate dialogue with them directed towards human and spiritual growth. Ecclesial associations and movements collaborate with the pastoral centres, as do prayer and voluntary groups: all bring their own charismatic nature which contributes to the shared commitment to educating, providing witness and to an evangelizing mission.

In order to coordinate the work of the College of Theology Teachers, the Council of Teachers of Theology is established, made up of the twelve teachers who take part in the faculty councils, assisted by a secretary.



## ACADEMIC PROGRAMMES

### **Bachelor's Degree Programmes (*Laurea*)**

The Bachelor's Degree programmes within the academic offering are established with reference to the 45 different degree subject categories set out by the Ministry of Education, Universities and Research (MUR), with the addition of 4 categories related specifically to the Health Care Professions.

These degree programmes are designed to provide both a solid foundation and specialised professional training. The degree qualification is awarded after earning 180 credits. Graduates can then either enter the job market directly or continue their studies by pursuing a Master's Degree.

### **Master's Degree Programmes (*Laurea Magistrale*)**

The two-year Master's Degree programmes within the academic offering are established with reference to 101 degree subject categories set out by MUR, with the addition of 4 categories related specifically to the Health Care Professions.

These degree programmes are designed to provide an advanced level of training to prepare students to be able to undertake specialised work in specific professions. The qualification is awarded after earning 120 credits.

The academic offering also includes single-cycle Master's Degree programmes lasting either 5 or 6 years for which qualifications are awarded after earning respectively 300 or 360 credits.

### **Specialising Master's Programmes (*Master Universitari*)**

These one-year programmes offer further study opportunities after a Bachelor's Degree (a pre-requisite for a first-level Specialising Master's programme) or after a Master's Degree (a pre-requisite for a second-level Specialising Master's programme). The programmes involve practical training undertaken at participating partner organisations and qualifications are awarded after earning 60 credits.

### **Postgraduate Schools**

The aim of the postgraduate schools is to train doctors as specialists in the medical field: students completing a programme will be awarded the qualification of 'specialist' in their particular sector. Applications are open to graduates with academic qualifications in Medicine and Surgery. Applications for some study tracks are open to graduates of subjects other than medicine.

Postgraduate specialising programmes are delivered in line with local legislation or European Union regulations.

### **Doctoral Programmes (*Dottorato di Ricerca*)**

The aim of doctoral programmes is to provide candidates with the necessary skills to carry out research and cover high level positions in universities, and in public and private organisations.

Doctoral programmes last between three and four years. Only graduates holding a Master's Degree may apply. At the end of the programme candidates will be awarded the qualification of Doctor (PhD).

### **Degree Categories**

All degree programmes fall within degree categories established by the Ministry of Education, University and Research (MUR) which set out the essential components that programmes must provide in each particular class. Universities may add their own distinguishing features to their programmes. Therefore, apart from the name that Università Cattolica may give to a degree programme, students should also refer to the category that the programmes belong to.

### **CREDITS (CREDITI FORMATIVI UNIVERSITARI - CFU)**

Credits measure both individual study workload and classwork. One credit is valued at 25 hours of study, divided roughly into 12.5 hours of lecture in the various forms foreseen and 12.5 hours of independent study (made up of 12.5 hours of independent study and 12.5 hours of lectures); and students are expected to accumulate around 60 credits in an academic year.

Credits are not awarded until examinations are passed for the relevant course. Examination grades measure performance while credits quantify progress within the programme.

The Italian credit system (Crediti Formativi Universitari – CFU) uses the same unit measure as the European Credit Transfer System (ECTS).

## HISTORY OF THE FACULTY OF MEDICINE AND SURGERY “AGOSTINO GEMELLI”

Established by Presidential Decree n. 754 dated 18<sup>th</sup> June 1958, the Faculty opened in 1961/1962 academic year. Its headquarters are in Rome, in accordance with the wish expressed by Pope Pius XI in 1934 when donating the Monte Mario property to the Istituto Giuseppe Toniolo di Studi Superiori, the founder body and guarantor of Università Cattolica del Sacro Cuore. This wish was reiterated by Pope Pius XII in 1958, at the time of the mass celebrated to mark the fiftieth anniversary of the ordination and eightieth birthday of Father Agostino Gemelli, founder and first Rector of Università Cattolica, who from the beginning of the university aspired to include a Faculty of Medicine because:

*“Catholics are increasingly aware of the need for doctors who are informed by Christian values in the exercise of their profession, i.e. doctors with a spirit educated to observe Christian rules who thus see patients as unhappy brothers in need of help.” (Perchè i cattolici italiani aspirano ad avere una Facoltà di Medicina, Vita e Pensiero, 1958).*

In line with the overall aim of Università Cattolica del Sacro Cuore, the Faculty of Medicine and Surgery seeks to produce scientifically and technically qualified graduates who can apply a Christian anthropological dimension to their profession. The Faculty aims to achieve this by creating, through its academic offerings and structural organization, an environment of work and study in which the scientific and religious views of the world merge cohesively, in the search for Truth and in interpreting the human experience as a whole.

**THE MASTER'S DEGREE PROGRAMME IN INNOVATIONS IN BIOTECHNOLOGY APPLIED TO  
REGENERATIVE MEDICINE (LM-9)**

Course Title	Innovations in Biotechnology applied to regenerative medicine
Graduate class	LM-9
Mode of access	Local programmed access <i>ex art.</i> 2, paragraph 1, lett. a) L. No. 264/1999
Faculty	Faculty of Medicine and Surgery "Agostino Gemelli" Faculty of Mathematical, Physical and Natural Sciences
Location	<b>Fondazione Poliambulanza Istituto Ospedaliero</b> (Centro di Ricerca Eugenia Menni, CREM) Via Leonida Bissolati, 57 - <b>Brescia</b>
Course Coordinator	Prof.ssa Ornella Parolini e-mail: <a href="mailto:ornella.parolini@unicatt.it">ornella.parolini@unicatt.it</a>

**TRAINING OBJECTIVES**

The course aims to develop professionals with solid scientific and professional skills in biotechnology applied to tissue regeneration, with a profile oriented towards translational research, with a highly competitive international profile on translational research.

The expected learning outcomes, expressed according to the Dublin Descriptors, are as follows:

**a) Knowledge and understanding**

Graduates will demonstrate to have acquired profound knowledge in the field of regenerative medicine and its innovative aspects in order to develop and apply original ideas in scientific research.

Graduates will be able to comprehend different aspects of tissue degeneration and regeneration, and the processes involved, in order to face the current and future challenges in this field.

Graduates will therefore be able to master the scientific foundations of biotechnology applied to regenerative medicine, demonstrating knowledge and understanding of:

- Biology of stem cells and their secretome
- Causes and the molecular and cellular phenomena related to tissue degeneration and regeneration
- Tissue response to exogenous, physiological, and pathological stimuli
- Advanced experimental models for in vitro tissue regeneration studies
- Crucial aspects for in vivo testing, such as knowledge of appropriate models applied in regenerative medicine and ethical aspects related to animal testing
- Applications of regenerative medicine in a broad spectrum of human diseases
- Fundamental elements of biostatistics
- Innovative aspects of tissue engineering and the multiple technological tools needed for its development, including bioinformatics for "omic" profile analysis and microscopic, ultramicroscopic, and functional image analysis techniques
- Ethical aspects associated with the study and use of stem cells and in general related to regenerative medicine, both in

- preclinical studies and clinical trials
- Regulatory aspects related to European legislation of ATMPs.

The course includes lectures, laboratory activities, and individual study time.

During the hands-on laboratory activities students will learn to master numerous advanced technologies applied to stem cell research and used in tissue engineering for innovative applications in regenerative medicine. These include (but are not limited to) multi-omic analyses of cells and biological fluids, techniques for microscopy and ultramicroscopy image acquisition and analysis, functional tests and procedures for preclinical testing in animal models.

#### **b) *Applying knowledge and understanding***

Graduates will be able to translate acquired knowledge into experimental research and development activities. They will enhance their problem-solving skills applied to new and unexplored issues in the field of regenerative medicine.

In particular, graduates will be able to:

- develop experimental protocols applied to the design of new therapeutic strategies;
- apply biotechnology and nanotechnology to the development of tissue engineering approaches;
- independently develop ideas and propose solutions for new challenges in the field of regenerative medicine;
- use animal models suitable for the design of preclinical studies to answer specific scientific questions;
- use innovative technologies (e.g. CRISPR-Cas9, 3D cultures, organoids, etc.) for the development of new therapeutic and diagnostic strategies;
- Consider ethical issues related to stem cell use and pre-clinical research;
- work in the field of clinical trials in regenerative medicine.

#### **e) *Critical reasoning***

Graduates will have the ability to integrate knowledge and manage complexity, as well as to make judgements based on limited or incomplete information, including aspects regarding social and ethical responsibilities related to the application of knowledge and judgments.

Graduates will be able to:

- work independently and take responsibility for managing projects and resources;
- extend knowledge in cross-cutting applications in other areas of biomedical research;
- significantly contribute to interdisciplinary research activities by collaborating with scientists with different backgrounds;
- apply methodological rigor in the evaluation and interpretation of laboratory data;
- demonstrate ethical correctness in relation to the diagnostic and therapeutic applications of biotechnology in human health and awareness about possible conflicts in ethical, legal and professional values, including those that may emerge from economic distress, from the use and genetic manipulation of stem cells, from the commercialization of stem cell-based treatments in regenerative medicine, and from the inappropriate use of modern genetic engineering technologies;
- demonstrate management and technology transfer abilities relevant for the international biotechnology industry;
- be able to constructively criticize and have creative research-oriented attitude;
- solve analytical and complex problems and independently retrieve scientific information.

#### **d) *Communication skills***

Graduates will be able to communicate clearly and to correctly use technical language in order to appropriately disseminate scientific content to colleagues and layman.

They will be able to:

- communicate effectively with their colleagues and all staff members;
- understand, summarize and disseminate information in a clear and concise manner via both written and oral means of communication;
- listen to others, interact and answer questions, and reformulate concepts to ensure understanding by others;
- provide and receive constructive feedback and criticism;
- disseminate scientific content both to colleagues and layman, and adjust terminology based on stakeholders;
- work productively in a multidisciplinary group and propose and communicate ideas;
- understand the different aspects of regenerative medicine and actively contribute to the advancement of the knowledge in the field;
- use IT technologies to analyze and present data.

**e) *Learning skills***

Graduates will develop:

- the ability to learn, develop and refine their skills;
- the ability to find the appropriate sources of scientific knowledge, critically analyze scientific literature, and learn to classify and interpret data and results;
- the ability to advance their knowledge in the field of regenerative medicine;
- the ability to increase and enhance their strengths and to recognize and improve their weaknesses and critical points.

For points a) through e) comprehension will be verified through periodic evaluations (oral and written periodic and final exams, hands-on laboratory tests, written reports, discussions of scientific articles, execution of experimental activities and projects).

## ADMISSION

### Degree

a) the candidate must possess one of the following degrees: one related to ex D.M. n. 270/2004, or a degree related to the classes ex D.M. n. 509/1999, or a degree obtained abroad that has the degree equivalency according to current legislation, to one of the following:

- L- 2 (Biotechnology)
- L-13 (Biological Sciences)
- L-27 (Chemical sciences and technologies)
- L-29 (Pharmaceutical Science and Technology)
- L-32 (Environmental and Natural Sciences)
- LM-13 (Pharmacy and Industrial Pharmacy)
- LM-41 (Medicine and surgery)
- LM-46 (Dentistry and dentures)
- LM-21 (Biomedical Engineering).

Admission can be allowed to graduates coming from other courses than those mentioned above given that the graduates possess the following curricular requirements:

- minimum 10 credits in the following SSDs: MAT/05 (Mathematical Analysis), MAT/06 (Mathematical Probability and Statistics), MAT/09 (Operations Research), INF/01 (Informatics), FIS/01 (Experimental Physics), FIS/07 (Applied Physics - in cultural, environmental, biology and medicine), CHIM/02 (Physical Chemistry), CHIM/03 (General and Inorganic Chemistry), CHIM/06 (Organic Chemistry), CHIM/08 (Pharmaceutical Chemistry)
- minimum 30 credits in the following SSDs: BIO/09 (Physiology), BIO/10 (Biochemistry), BIO/11 (Molecular Biology), BIO/12 (Clinical Biochemistry and Clinical Molecular Biology), BIO/13 (Experimental Biology), BIO/14 (Pharmacology), BIO/15 (Pharmaceutical Biology), BIO/16 (Human Anatomy), BIO/17 (Histology), BIO/18 (Genetics), BIO/19 (General Microbiology), MED/03 (Medical Genetics), MED/04 (General Pathology), MED/07 (Microbiology and Clinical Microbiology).

Admission can be allowed to graduates who obtained a degree abroad and that have the degree equivalency according to current legislation, and admissions is also open to who possess a EQF level 7 degree obtained abroad that meets the minimum curricular requirements for access to the course.

b) english certification - minimum level of B2 CEFR (upper intermediate level), is also required. Language certification is not required for students who have completed an English degree program.

Access to the course is subject to an admission test and the verification of the candidate preparation according to the procedures indicated in the call for admissions.

The number of students enrolled annually is established by the University on the basis of available resources, and the methods of ascertaining the preparation of candidates are made available during the call for admissions.

## DESCRIPTION OF THE PROGRAM

The Master's degree lasts two years and is distributed in semesters. The activities are divided into integrated courses in four learning areas:

- area of biotechnology for the study and applications of stem cells
- area of advanced biotechnology for regenerative medicine and tissue engineering
- area of biotechnology for the development of experimental models and biotechnological applications in the clinical field
  - area of regulatory, economic, technology transfer and soft skills aspects.

All activities will take place at CREM and at the research centers of the Faculty of Mathematical, Physical and Natural Sciences in Brescia, Italy. The program includes the possibility to perform internships at other research laboratories and/or in biotech, pharmaceutical, SME, and spin-off companies, in Italy and abroad.

The entire program is made of a total of 120 credits. According to art. 5, paragraph 1, of Ministerial Decree no. 270 of 22 October 2004, one credit (CFU) corresponds to 25 hours of total commitment per student. The breakdown of the total time commitment for each credit between assisted teaching and individual study is determined as follows:

- 1 credit lecture = 8 hours of lecture + 17 hours of individual study
- 1 credit laboratory = 25 hours of assisted teaching
- 1 credit curricular internship = 25 hours of training activities (at the institution/industry where the internship is carried out)
- 1 credit final exam = 25 hours of individual study

Attendance is required for all activities (lectures and laboratory). In order to be admitted for exams students must have attended at least 65% of the lectures in the classroom and at least 80% of the laboratory activities. Attendance will be verified at the discretion of the Lecturer/Professor.



## EXPERIENCES OF INTERNATIONAL MOBILITY

Università Cattolica del Sacro Cuore offers students numerous opportunities and possibilities for study, research, internship and volunteering abroad.

### **Your Clinical Elective**

Through the program “**Your Clinical Elective**” the student can carry out a 'training experience of internship lasting at least one month at Health Companies and/ or hospitals in Europe or non-European autonomously chosen, on the basis of an application for an internship submitted to the student interest structure.

Students who are regularly enrolled in the Study Course can participate in the program both at the time of the application and at the time of their stay abroad.

The program is promoted through a special call available all year on the website of the University.

Selected students are awarded scholarships to support mobility. The awarding of scholarships varies according to the size and mode of disbursement depending on the programme and the nature of the funding that is used: EU funding, UCSC funds, MUR funds.

The internship experience can be recognized in terms of CFU upon presentation of appropriate documentation proving the activity carried out abroad and approval of the Board of the degree course and gives the student an additional score on the final degree score equal to +0,5 points for 3 months abroad.

The program is also open to new graduates (who have obtained their degree not more than 12 months from the moment of the beginning of the internship) interested in carrying out a 'clinical practice or research activity abroad.

Information on the programme and the call for applications are published on the following website: <https://studenticattolica.unicatt.it/clinical-electives-professioni-sanitarie-your-clinical-electives>

### **Summer Programs**

Through the "Summer Programs" the student can study and take exams abroad during the summer at various universities around the world. The duration of the experience can vary from 2 weeks to 2 months.

All enrolled students and recent graduates of the CdS can participate. Students are selected on the basis of linguistic proficiency.

The call for participation in the program is announced on the University website: <https://studenticattolica.unicatt.it/summer-programs-e-corsi-di-lingua-summer-programs>

The program provides for the provision of scholarships that will be assigned on the basis of academic merit to the most deserving UCSC students of each Faculty.

### **Tesi all'estero (International Thesis)**

This program offers students the opportunity to carry out research activities for the preparation of their thesis at a foreign university, a company, a library or other institutions in the European or non-European context.

The student can choose the destination he prefers according to his interest, in agreement with the supervisor of the thesis.

For the purpose of participation in the program, the student must produce a copy of the submission document of the thesis, the presentation letter of the speaker and the acceptance letter of the host institution.

The program is promoted through a special call available all year on the website of the University: <https://studenticattolica.unicatt.it/stage-e-tesi-all-estero-tesi-all-estero>

It is planned to award a scholarship of a fixed amount for the stay abroad up to a maximum of three months. If the funds are exhausted before the closing of entries, it will still be possible to submit the complete documentation and enter the waiting list.

The contribution for the International Thesis program cannot be combined with any other funding provided by the International Bureau of the Università Cattolica, nor can it be requested at the same time as a foreign stay through other programs.

The program includes the activation of an insurance that provides health coverage, RC on the place where research activities are carried out and RC "privacy" (coverage for leisure activities).

The experience can be recognized after presentation of appropriate documentation proving the activity of study abroad and subsequent approval of the Board of the degree course.

### **Corsi di lingua all'estero**

The program in collaboration with Keiron (agency specialized in orientation and organization of language courses), offers intensive language courses abroad, both beginner and advanced level, aimed at improving or certifying language skills; the proposal includes all languages taught at Catholic University, with destinations around the world and starting opportunities throughout the year.

All types of courses are available: from beginner to advanced, standard or intensive, individual or group, as well as preparation courses for the main international certifications.

The Program is open to all members of the Università Cattolica del Sacro Cuore; the opportunity is published throughout the year on the website: <https://studenticattolica.unicatt.it/summer-programs-e-corsi-di-lingua-corsi-di-lingua-all-estero>

### **International Volunteering**

The “**International Volunteering**” program, in partnership with the international association Worldendeavors, offers the opportunity to have an international volunteer experience in different fields and countries.

All students regularly enrolled in the Study Course can participate in the program both at the time of submission of the application and at the time of stay abroad.

Students are selected on the basis of academic merit and linguistic competence, according to the criteria indicated in the call for participation. Selected students receive scholarships to support mobility, the amount of which varies depending on the period of stay abroad.

The call for participation in the programme is announced on the website: <https://studenticattolica.unicatt.it/volontariato>

## ACADEMIC INFORMATION

The academic calendar of academic year 2023/2024 is published on the University *website* page:

<https://studenticattolica.unicatt.it/Innovations%20in%20Biotechnology%20applied%20to%20regenerative%20medicine%20acc%202324%20ver1.pdf>

The exams are normally scheduled at least 5 days after the end of the teaching activities in order to avoid the overlap of different withing the same semester.

Exams of the same course must be planned at least 15 days apart. The date cannot be anticipated but may be postponed for justified reasons. The postponement must be communicated to students at least one week before the scheduled date, except in cases of force majeure.

Exam sessions are normally distributed as follows:

- 2 calls for each ordinary session (winter, summer, autumn)
- 1 call for extraordinary sessions (winter and spring)

Additional sessions may be reserved for out-of-course students.

## STUDY PLAN ACADEMIC YEAR 2023/2024

The schedule with the list of courses and corresponding credits and SSD is found in Annex A to this Guidebook.

In the study plan, the courses chosen by the student belonging to the typology called Regenerative medicine applications are highlighted in red and the courses chosen by the student belonging to the typology called Seminars and journal club are highlighted in blue.

There are no mandatory prerequisites for the courses.

Students who have not passed all the exams for the first year will not be admitted to second year exams.

## OTHER EDUCATIONAL OBLIGATIONS

In accordance with the provisions of Article 10, paragraph 5, of Ministerial Decree no. 270 of 22 October 2004 the study plan includes the following mandatory activities:

- Training activities chosen by the student (“elective courses”) for 8 ECTS;
- Internship for 4 ECTS;
- Training activities related to the preparation of the final exam for 14 ECTS.

Optional courses consist of attending laboratory activities and participating in seminars, conferences and journal clubs on specific topics. Optional courses are organized in modules of 1/2 credit each.

In order to obtain 8 ECTS required by the study plan, the student must choose at least four different types of modules during the periods indicated in this guidebook.

Optional courses are governed by specific Regulations of the Faculty of Medicine and Surgery.

The main objective of the internship is to integrate the university *curriculum* in terms of content and to facilitate the access of undergraduates to work.

The final exam consists in the discussion of an original thesis written in English.

The thesis can be experimental or practical-professional. In case of an experimental thesis, the student has the opportunity to contribute writing a scientific manuscript on his/her work.

## HOW TO OPTION ELECTIVE COURSES

Students personalize their study plan by choosing their own desired courses among those approved by the Master’s Degree Board on their personal page iCatt in the mandatory terms specified above:

- **Students enrolled at 1st year: 20<sup>th</sup> December 2023**
- **Students enrolled at 2<sup>nd</sup> year: 31<sup>st</sup> October 2023**

Once expired these terms, students it won’t be consented any variation of the elective courses.

The student can option only the elective courses taught in the year of the Master’s Degree Course in which he/she is enrolled and cannot choose elective courses taught for subsequent years.

## VERIFICATION OF PROFIT

The student acquires the credits after passing the exam or other forms of verified comprehension.

All exams are public, individual, and ensure fairness in student evaluation.

Each lecturer/professor is required to indicate the specific methods that will be used to verify the verification of the profit for the specific course. This program is published on the website of the Master's degree <https://roma.unicatt.it/polo-studenti-e-didattica-programmi-dei-corsi-e-orari-delle-lezioni/RM/>

The Boards for the exams are comprised of at least two members, one of whom is responsible for the course. In the case of one exam for several integrated teaching modules, all the lecturers/professors in charge of the modules are part of the Commission.

The final grade of exams is expressed by a score out of 30 maximum points. The exam is considered passed and the credits are obtained if the student obtains a score of at least 18/30.

At the end of the exam the President of the Commission informs the student of the grade. During the course of the exam, the student can withdraw without consequences to his future grades. The student's participation in the exam must always be recorded.

Teachers with integrated courses or modules can also make use of periodic tests to evaluate the progress of the course. These do not replace the final exam.

## FINAL TEST

The final exam consists in the discussion of an original thesis written in English, elaborated under the guidance of a supervisor. The thesis can be experimental or practical-professional.

The presentation and discussion of the degree thesis are public.

The final graduation grade is expressed by a score out of 110 points. The degree is obtained by students who pass the final exam with an overall mark of at least 66/110.

The graduation mark is calculated by summing:

- the **weighted average** of the exams carried out during the program. The weighted average is calculated by multiplying the grade of each course by the number of credits assigned to the course (**excluding the English Language and Theology exams**); the sum is then divided by 120 total credits. The result obtained is divided by 3 and multiplied by 11. Where a decimal number is obtained as a result of this calculation, the number will be rounded down if the decimal place is less than or equal to 0.45, or rounded up if the decimal place is greater than 0.45. For the purpose of calculating the weighted average, the grade 30/30 cum laude is equivalent to 31.

- **an additional score (up to a maximum of 10 points)** can be assigned by the Graduation Commission that takes into account not only the content and scientific value of the thesis, but also the clarity of presentation, ability to summarize, the degree of experience achieved in the use of multimedia communication tools, and consideration for the methodological and ethical aspects of biotechnologies applied to regenerative medicine.

- **another additional score (up to a maximum of 0.3 points)** can be assigned by the Graduation Commission that takes into account the mark obtained in the Theology exam, according to the following scale:

- Theology grade in the range 18-24 – 0.1 points
- Theology grade in the range 25-27 – 0.2 points
- Theology grade in the range 28-30 – 0.3 points

- **a third additional score (up to a maximum of 0.5 points)** can be assigned by the Graduation Commission that takes into account international mobility of at least two months for study, internships, research and thesis execution.

Praise may be awarded, by unanimous decision of the Commission, to the candidate who achieves an overall score of at least 112/110.

The Commissions for the final exam are constituted in accordance with the provisions of Article 7 of the University Regulations.

## HOW TO GRADUATE

### Choice of topic for final examination

In order to obtain approval of the topic and the subsequent authorisation to submit an application for graduation, it is necessary to complete the relevant online section on iCatt.

In order to be admitted to the final examination, students must comply with the following requirements:

- submission of the dissertation project to the supervisor (to be agreed upon with the professor);
- submission of the dissertation title on the iCatt dedicated page;
- assignment of the dissertation by the supervisor on MyEsse3-Docente;
- approval of the dissertation by the supervisor on MyEsse3-Docente;
- submission of the application for admission to the final examination which can be made after the dissertation has been approved by the supervising professor.

### Submitting the final dissertation

The .pdf file of the dissertation must be sent to the professor via the iCatt personal page. In addition, two typewritten, book-bound copies of the dissertation must be handed in to the supervisor and co-supervisor within 7 days before the graduation call.

The paper must be uploaded to the iCatt personal page no later than 7 days before the date of the session.

Before obtaining the degree, the student must:

- deliver the university transcript (if in possession) and the badge to administrative offices;
- deliver the keys to the locker assigned for the internship (if in possession) to the specific secretariat of the degree programme or to the Director of Internship Activities.

### Inability to take the final examination

Graduating students who, for whatever reason, are unable to graduate in the session for which they have applied must promptly inform the dissertation supervisor and the Student Services Centre, via the Request for Information function of iCatt, and are obliged to cancel their Application for graduation on iCatt and submit a new one for the following session.

### Other relevant information

1. No graduating student will be admitted to the final exam if he/she has not complied with the deadlines published on the web page of the Faculty.
2. Graduating students must have taken and recorded all the exams by the deadline for delivery of the university transcript.
3. Graduating *status* is acquired upon presentation of the graduation application for a specific graduation session, having the requisites. Students who believe they will be awarded a degree by the extraordinary session do not have to enrol in the following academic year, nor pay the first instalment (which is non-refundable), but must pay the relevant graduation fee. If the graduation is postponed, the students must enrol in the following academic year with delay and pay the first instalment and the relevant late payment.

## **ADMINISTRATIVE REGULATIONS**

### **Examination Regulations**

It is the responsibility of each student to make sure that they are aware of the rules and regulations relating to the study plan of their degree programme. Each student is personally responsible for the cancellation of the results of any examination taken that fails to comply with rules and regulations.

Students are reminded that cancellation of examination results can be avoided by complying with the rules of year-to-year progression and by ensuring that they have passed the relevant prerequisite exams before progressing to subsequent exams. Results for exams not taken in the correct order will be cancelled and those exams will have to be taken again.

Grades awarded by examination panels are final and cannot be changed. Once a pass grade has been registered in student records, that particular exam cannot be re-taken (see Article 6.6, Part I – ‘General Rules’ of the University Academic Regulations). The Faculty has the prerogative to stipulate that a failed examination may not be taken again before a specified time period not exceeding four weeks.

Students may leave an examination before it has finished. Students given a pass grade have the right to refuse that grade until it is registered in student records. If a fail grade is given, the information will be retained for statistical purposes only and will not be recorded in the student’s grade book or in the student’s academic records.

Students are required to present the following documentation at exam sessions:

- academic transcript (*libretto*);
- exam registration confirmation form;
- Badge (Student ID card);
- valid ID document.

### **Procedures and conditions**

Students may only take exams if they:

- a) are up to date with payment of tuition and university fees;
- b) have registered for the examination in line with relevant regulations.

### **Examination panels for curricular exams**

Members of examination panels for curricular exams are nominated by the Faculty Dean. Each panel is made up of a minimum of two members: the official professor for the course who acts as Chair, and one other official faculty member, researcher, teaching assistant or expert on the subject. Should the Chair of an examination panel be absent for any reason, the position will be taken by another faculty member appointed by the Dean of the Faculty or by the Chair of the Degree Program Committee or by the Chair of the examination panel him/herself.

The Chair of an examination panel may divide the panel into sub-panels to ensure that the exam is run properly and efficiently. Should any student request to be examined by the Chair him/herself, every effort will be made to satisfy this request.



## TRANSFER CONDITIONS

### **Transferring to another University**

Enrolled students may request transfer to another university. After a proper check of the study rules and regulations of the potential destination university, application for transfer can be submitted to Student Services between 15 July and 13 October. Please note that if the deadline for the other university is earlier than 31 October, application will have to be made earlier to allow for sufficient processing time.

Transfer applications submitted after 31 October and before 31 December will be subject to a late application fee based on submission date. Transfer may not take place without prior acceptance by the destination university.

The student who intends to transfer to another University is required to follow the online procedure "Transfer to another University" by accessing the following page: <https://studenticattolica.unicatt.it/strumenti-e-supporto-modulistica?rdeLocaleAttr=en>

Before authorisation for transfer can be given, the student in question must have:

- verified via iCatt his/her academic record and notified the registrar of any correction to be made or request the addition of missing data;
- requested via iCatt a transcript of records from Student Services showing all exams passed;
- settled all related tuition and university fees outstanding at the moment of application.

The transfer application must bear a revenue stamp to the value set down by legislation in force.

Students may not take any further examinations after submission of an application for transfer. Students who transfer to another university may not transfer back to Università Cattolica before one year of the date of transfer. Students who are readmitted to Università Cattolica are admitted to a particular year based on passed exams and not on their previous enrolment year. They may also be required by the Faculty Board to pass further examinations to bring their studies up to the level of the Università Cattolica students.

### **Transferring to Università Cattolica from another University**

Admission procedures after year one for programmes with limited numbers of places are decided by the relevant University bodies, in line with University regulations. These procedures are determined on the basis of the number of places available each given year, and take into account compliance with the selection criteria as stated in the call for admissions and the admission rules.

An Evaluation Committee appointed by the Chair of the Master's Degree Programme Committee Council Master's Degree Programme Committee Council Council rules on recognition of previous studies carried out at other universities.

### **Withdrawal/Intermitting**

Students have the right to withdraw from their programme. First, they will be required to settle any outstanding tuition and university fees before applying for withdrawal.

The student who intends to renounce his studies is required to follow the online procedure "Application for renunciation of studies" by accessing, with his iCatt credentials, the following page: <https://studenticattolica.unicatt.it/strumenti-e-supporto-modulistica?rdeLocaleAttr=en>

No terms or conditions can be added to the written request/reason for withdrawal in the application.

Students who withdraw can request documentation certifying their academic record up to the date of withdrawal as long as their administrative record is up to date.

The following categories of students may not enrol on a new academic year and will therefore no longer be officially considered as current students:

- those who have not enrolled for five consecutive years;
- those who, at the end of their prescribed programme duration, have not passed any examinations for five consecutive academic years. This does not apply to students whose only outstanding exam is their final exam, i.e. those students who have accumulated all necessary credits apart from those for the final exam.

Enrolled students have the right to submit application to intermit, i.e. to suspend studies temporarily for the purpose of enrolling on and attending a specialising master's programme, a specialty training programme, or a doctoral programme. At completion of intermission students may go back to their original study programme provided it is still being offered.

### **Teaching Evaluation**

The Ministry of University and Research (MUR), has issued directives that universities must carry out assessment of course teaching for every Integrated Course.

Students will be required to complete an assessment questionnaire in order to register for an examination.

## ONLINE SERVICES

### **Students' personal online page (iCatt)**

All students have a personal iCatt web-page which provides access to administrative services and information about courses, e.g. timetables, exam sessions, announcements etc. The online registrar section provides access to students' Study Plans and to their current exam situation (exams already taken and outstanding exams). It also allows students to register for exams and update their income and tax information. The iCatt homepage will show communications from Student Services via an online notice board.

Students can access iCatt by going to <http://icatt.unicatt.it> and by entering their personal login and password.

Students can write to [gestione.iam@unicatt.it](mailto:gestione.iam@unicatt.it) for assistance in accessing iCatt.

### **Faculty personal online pages**

Faculty have their own online page giving relevant information such as email addresses, office hours, courses and syllabi.

Access is via <http://docenti.unicatt.it>.

## **EDUCATT**

### *Università Cattolica del Sacro Cuore organisation for the right to education*

EDUCatt is a non-profit foundation which Università Cattolica has engaged to support students with regard to access to study, attendance and compliance with academic rules by managing services related to the right to university education.

EDUCatt is active on Università Cattolica campuses in Milan, Brescia, Piacenza-Cremona and Rome, offering a series of services designed to facilitate and enhance the study experience:

- assistance to newcomers, financial aid, scholarships, supplementary financial support, student loans and other financial solutions;
- accommodation, student housing and University residences, and private advertisements for housing;
- meals catered to university users, available in facilities directly managed or sub-contracted;
- books – solutions and resources, distribution of EDUCatt editions specifically for university courses, free book loans and facility for the sale of used books;
- health care and psychological assessment and counselling, infirmary, general and specialist appointments;
- travel and study-holiday opportunities, special offers by CTS (student travel agent and EDUCatt partner);
- student support for cultural activities;
- direct communication with EDUCatt for enquiries and information about the services available.

## **SERVICES FOR INCLUSION, AIMED AT STUDENTS WITH DISABILITIES, WITH SPECIFIC LEARNING DISABILITIES (DSA), AS WELL AS WITH SPECIAL EDUCATIONAL NEEDS (BES)**

The Università Cattolica del Sacro Cuore warrants to all students with disabilities and specific learning disorders (DSA) all the measures and compensatory instruments in order to preserve their rights.

At the Student Center Services (Polo Studenti) it is established the “Services Secretariat for the integration of students with disabilities and with DSA”, whose role is to support students with disabilities and diagnoses of specific learning disorders (DSA) during their university experience, from the early stages of orientation up to the attainment of the Degree, through technical-administrative and academic support, provided by specialized staff.

Technical-administrative support consists of:

- management of administrative procedures;
- accompanying service for students with disabilities to the classes;
- mediation on educational material.

The academic support consists of:

- orientation: support for students with disabilities and DSA diagnosis in the choice of study programmes and during the initial phase of the attendance to the activities, through useful information and strategies on how to undertake the course;
- pedagogical advisory service: through individual interviews and group meetings, specific educational needs of students with disabilities and DSA diagnosis are identified, in order to guarantee successful attendance to classes and exams results.

Students with disabilities and DSA diagnoses can access the aforementioned support services by submitting one of the following valid documents to the “Secretariat of Services for the integration of students with disabilities and with DSA”:

- civil invalidity certificate, pursuant to Articles 1 and 2 D.L. 1 July 2009, n. 78, or corresponding document issued by the relevant institution of the student’s own country
- report of handicap verification, pursuant to Article 4 Law n. 104, 5th February 1992 or corresponding document issued by the relevant institution of the student’s own country
- certification (no older than 3 years) issued by an healthcare institution or by other accredited institutions or specialists, that certifies the diagnosis of one of the specific learning disorders referred to in Law n. 170/2010 - dyslexia, dysgraphia, dysorthography, dyscalculia - and the appropriate nosographic codes.

Students with temporary disabilities can also apply for support, upon provision of a medical certificate attesting the temporary disability (e.g.: fracture of a limb).

## THEOLOGY REQUIREMENT

### Objectives

Theology courses are a distinguishing feature of Università Cattolica. They complement curricular content with a critical development of thorough reasoned knowledge of Catholic values which can be applied to an educational and professional path. All students enrolled on *Degree Programmes* at Università Cattolica are required to attend Theology courses, in addition to activities set down in their study plan.

### Master's Degree Programmes

For the two-year master's degree course, a six-month course, lasting 30 hours, is offered in seminar and/or monographic form on topics related to the curriculum attended, according to the denominations set by the College of Professors of Theology. The course ends with a test set by the teacher.

Students can choose the Theology course through the *iCatt* student's personal page, within the deadline defined with a specific communication published on the *iCatt* student's personal page. For students who do not enroll within this deadline, the University will proceed with the official assignment of the teacher.

## PROFESSORS AND COURSE PROGRAMMES

Information about Theology courses and professors/instructors is available on on the University *website* page: <https://www.unicatt.it/ateneo/governance-e-organismi-dell-ateneo/collegio-dei-docenti-di-teologia/corsi-e-docenti-di-teologia.html>

The programs of the Theology courses can be consulted by accessing the section of the University *website*: <https://roma.unicatt.it/polo-studenti-e-didattica-programmi-dei-corsi-e-orari-delle-lezioni/RM/>

## **PROTECTION OF PERSONAL DATA**

Università Cattolica has adopted appropriate structural, logical and organisational measures regarding the delivery of its services to ensure respect for patients' rights, fundamental freedom and dignity, as well as patients' confidentiality. One of the specific organisational measures taken is the setting down of a code of conduct to ensure that patient data is kept confidential. This code of conduct applies to both healthcare professionals and University Cattolica staff that handle data/personal information. Students are expected to respect and adopt this code in all academic and professional activities. The most important rules to follow are the following:

1. all data that comes into your possession should be considered as confidential and, as such, according to law, subject to professional secrecy. Therefore, the code of conduct must be adhered to for each individual work phase so that data is not lost or accessed by unauthorized individuals;
2. data must only be used for the purposes for which they were collected i.e. prevention, diagnosis and treatment, and generally for the protection of the health of the patient;
3. conduct during consultations with patients should be carried out in such a manner that no information which may reveal their state of health comes to the knowledge of a third party;
4. to protect patients' interests, medical records, medical reports and any other documentation that includes health information must be stored in a safe place and in any event in a location that ensures that the information remains confidential. To this end, the information pertaining to the health status of a patient may be disclosed only to the patient or to persons specifically named by the patient;
5. data regarding genetic identity must be handled exclusively within protected spaces accessible only to those dealing with the treatment and to those specifically authorized to access them;
6. the greatest care must be taken with regard to bone marrow donors who, under Law No. 52 dated 6 March 2001, have the right and duty to remain anonymous both to the receiver of the transplant and to third parties.

## **Personal Data Protection Legislation**

**(Legislative Decree No. 196, 30 June 2003 - EU Regulation 2016/679 General Data Protection Regulation - GDPR)**

This section gives general information about legislation regarding the protection of personal data as set out in Legislative Decree No. 196 of 30 June 2003, 'Personal Data Protection Regulations' and in EU Regulation 2016/679 General Data Protection Regulation (GDPR). It is a guide for students who come into contact with information about the state of health and the sexual life of a patient while carrying out their studies. This information is usually considered to be the most private and sensitive of personal data since it exposes the individual and may document weaknesses, which may lead to a real risk of social discrimination.

Considering this critical aspect and given all the regulations governing data protection, when students come into contact with sensitive information during the course of their studies they are required to adhere to the code of conduct set out for University healthcare staff responsible for the handling of data.

To ensure that the purpose and aim of the legislation are fully understood, the main points of the regulations are described below.

### **Purpose of the data protection legislation**

The life of an individual can be contained in a cluster of information which on the one hand can identify the person, but on the other hand, if not properly protected, can expose the person to risk of discrimination because of their particular opinions, religious beliefs or state of health. It is for this reason that the right to privacy is essential in an equal society.

The dynamic changes in technology and culture, and the interconnections between various sectors of today's society e.g. health, finance, telecommunications, politics, business and so on, mean that the concept of privacy has evolved, leading to the emergence of a strong connection between privacy and the right to liberty, equality, dignity, and democracy as guaranteed by the Constitution. The concept has developed to the point that the traditional definition of privacy as 'the right to be left alone' has been superseded.

Article 1 of the data protection legislation establishes in fact that every person has the right to the protection of their personal data. This right is recognised as a new form of personal liberty, or rather the freedom to have control over the dissemination of one's personal data. In the system of protection foreseen by the legislation, therefore, individuals have the right of control over their personal information, the right to confidentiality and the right to a private life — all being expressions of the right to privacy.

### **What is personal data?**

The basic concept on which the legislation is based is the concept of 'personal data' (Article 4, (b), of Legislative Decree No. 196/2003): personal data is any information pertaining to a person, a legal entity, organisation or association, identified or identifiable, even indirectly through reference to any other information, including a personal ID number.

A further aspect of this concept is that of 'sensitive data', which is information pertaining to the utmost personal sphere of an individual, defined in the legislation as personal data which may reveal racial and ethnic origin, religious, philosophical or other beliefs, political opinions, membership of political parties, unions, associations or religious, philosophical, political or union organisations as well as personal data that may reveal an individual's state of health and sexual life.

Of particular interest here are the regulations for handling sensitive data in healthcare situations and the related civil and legal responsibility.



### **What does ‘handling personal data’ mean?**

In the legislation (Article 4, No. 1, (b)), ‘handling personal data’ is defined as any operation or group of operations undertaken with or without the use of a computer or an automated procedure, which concern the operations involved in the gathering, recording, organisation, archiving, consultation, processing, alteration, selection, extraction, comparison, use, interconnecting, blocking, communication, dissemination, cancellation and destruction of data even if such data are not recorded on a database.

‘Handling personal data’ therefore refers to all operations which form part of the life cycle of a piece of information, from gathering to destruction. It is pointed out that even a simple viewing of data comes within the activity of ‘handling personal data’.

### **Responsibilities**

Those involved in dealing with personal data as set out in the legislation are as follows:

- The sole holder of ultimate responsibility for handling data, i.e. Università Cattolica del Sacro Cuore, statutory body with no shareholders, whose functions in this regard are performed by the director of the Rome Campus for the Rome Campus and by the director of the A. Gemelli University Hospital for the A. Gemelli University Hospital and all connected facilities;
- Data controllers i.e. the directors of the various departments and institutes who have been given the responsibility of dealing with personal data by the Campus Director and the Director of the university hospital;
- Authorised data processors i.e. all personnel who actually handle personal information whilst carrying out the work.

### **Sanctions**

The legislation provides for the application of severe sanctions for any breach of the regulations and sets out legal sanctions and a specific set of norms for civil responsibility, as well as specific administrative sanctions.



UNIVERSITÀ  
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## ***Annex A – STUDY PLAN A.Y. 2023/2024***



## Regolamenti Didattici

27 luglio 2023

**Sede: Fondazione Poliambulanza Istituto Ospedaliero (CREM)-BRESCIA****Corso di Studio: Innovations in Biotechnology applied to regenerative medicine - 3RCA [DM270]****Ordinamento: 3RCA-23****Regolamento: 3RCA-23-23****Percorso: 3RCA-23-99****Totale Crediti Obbligatori 106****Totale Crediti Opzionali 32**

Anno Corso	CI	Periodo	CFU	Disciplina	SSD	Periodo	TAF	Ore	CFU	Tipo Attività		
1	AB000097	THEOLOGY (SEMINARIAL COURSE)	Annualità	0,00	AB000098	THEOLOGY (SEMINARIAL COURSE)	NN	Annualità	F	30,00	0,00	OBB
	AB000002	ADVANCED STEM CELL BIOLOGY	Primo Semestre	8,00	AB000025	GENOME EDITING AND STEM CELL REPROGRAMMING	BIO/11	Primo Semestre	B	24,00	3,00	OBB
					AB000027	MECHANOBIOLOGY AND SIGNAL TRANSDUCTION	BIO/13	Primo Semestre	B	16,00	2,00	OBB
					AB000028	OMIC PROFILING OF STEM CELLS	BIO/10	Primo Semestre	B	24,00	3,00	OBB
	AB000004	ANALYTICAL TOOLS IN APPLIED BIOLOGY	Primo Semestre	10,00	AB000041	BASICS OF IMAGING AND SPECTROSCOPY	NN	Primo Semestre	C	24,00	3,00	OBB
					AB000036	FUNDAMENTALS OF PROGRAMMING FOR BIOLOGICAL SCIENCES	ING-INF/05	Primo Semestre	B	24,00	3,00	OBB
					AB000043	MACHINE LEARNING FOR BIOLOGICAL SCIENCES	ING-INF/05	Primo Semestre	B	16,00	2,00	OBB
					AB000038	PROTEIN MODELING	BIO/10	Primo Semestre	B	16,00	2,00	OBB
	AB000003	MECHANISMS OF DEGENERATION AND REGENERATION	Primo Semestre	9,00	AB000030	CELLULAR BASIS OF DEGENERATIVE PROCESSES	BIO/13	Primo Semestre	B	8,00	1,00	OBB
					AB000031	CELLULAR BASIS OF DEGENERATIVE PROCESSES LAB	BIO/13	Primo Semestre	B	25,00	1,00	OBB
					AB000034	CELLULAR BASIS OF REGENERATIVE PROCESSES	BIO/13	Primo Semestre	B	24,00	3,00	OBB
					AB000033	ENVIRONMENTAL TOXICANTS IN TISSUE DEGENERATION	NN	Primo Semestre	C	16,00	2,00	OBB



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				AB000032 INFLAMMATION IN TISSUE DEGENERATION (INFLAMMAGING)	MED/04	Primo Semestre	B	16,00	2,00	OBB
	AB000001 THE REVOLUTION OF STEM CELL RESEARCH	Primo Semestre	10,00	AB000020 CELLULAR SECRETOME: COMPONENTS AND PROPERTIES	BIO/13	Primo Semestre	B	16,00	2,00	OBB
				AB000021 CELLULAR SECRETOME: COMPONENTS AND PROPERTIES LAB	BIO/13	Primo Semestre	B	25,00	1,00	OBB
				AB000017 STEM CELL BIOLOGY	BIO/13	Primo Semestre	B	16,00	2,00	OBB
				AB000019 STEM CELL BIOLOGY LAB	BIO/13	Primo Semestre	B	25,00	1,00	OBB
				AB000023 STEM CELL RESEARCH: AN ANTROPOLOGICAL QUESTION	MED/43	Primo Semestre	B	16,00	2,00	OBB
				AB000022 TISSUE REGENERATION DURING EVOLUTION: FROM INVERTEBRATES TO VERTEBRATES	BIO/13	Primo Semestre	B	16,00	2,00	OBB
	AB000090 ADVANCED ENGLISH	Secondo Semestre	2,00	AB000090 ADVANCED ENGLISH	L-LIN/12	Secondo Semestre	F	16,00	2,00	OPZ
	AB000008 BIOMATERIALS AND TISSUE ENGINEERING	Secondo Semestre	8,00	AB000071 NANOMATERIALS	NN	Secondo Semestre	C	24,00	3,00	OBB
				AB000074 PRINCIPLES OF BIOMATERIAL ENGINEERING AND SCAFFOLD DESIGN	NN	Secondo Semestre	C	16,00	2,00	OBB
				AB000066 SCIENCE AT THE NANOSCALE: PHYSICS AND CHEMISTRY OF SURFACES	FIS/03	Secondo Semestre	C	24,00	3,00	OBB
	AB000048 ITALIAN LANGUAGE	Secondo Semestre	2,00	AB000048 ITALIAN LANGUAGE	L-FIL-LET/12	Secondo Semestre	F	16,00	2,00	OPZ
	AB000009 REFINING PROJECT PITCHES AND PROPOSALS	Secondo Semestre	8,00	AB000075 ACADEMIC GRANT WRITING FOR REGENERATIVE MEDICINE APPLICATIONS: SALIENT FEATURES OF A SUCCESSFUL PROPOSAL	MED/46	Secondo Semestre	B	16,00	2,00	OBB



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				AB000076	ACADEMIC GRANT WRITING FOR REGENERATIVE MEDICINE APPLICATIONS: SALIENT FEATURES OF A SUCCESSFUL PROPOSAL LAB	MED/46	Secondo Semestre	B	25,00	1,00	OBB	
				AB000077	CRITICAL REASONING - ANALYSIS OF CURRENT SCIENCE	MED/46	Secondo Semestre	B	16,00	2,00	OBB	
				AB000078	CRITICAL REASONING - ANALYSIS OF CURRENT SCIENCE LAB	MED/46	Secondo Semestre	B	25,00	1,00	OBB	
				AB000079	THE PROCESSES OF PATENT APPLICATION	MED/46	Secondo Semestre	B	8,00	1,00	OBB	
				AB000080	THE PROCESSES OF PATENT APPLICATION LAB	MED/46	Secondo Semestre	B	25,00	1,00	OBB	
	AB000006	SCIENTIFIC ENGLISH 1	Secondo Semestre	2,00	AB000051	SCIENTIFIC ENGLISH	L-LIN/12	Secondo Semestre	B	16,00	2,00	OBB
	AB000007	TRANSLATING STEM CELL RESEARCH FROM BENCH TO BED	Secondo Semestre	10,00	AB000055	BASICS OF APPLIED ECONOMICS	SECS-P/06	Secondo Semestre	B	16,00	2,00	OBB
				AB000058	INTRODUCTION TO ETHICS IN CLINICAL TRIALS: ETHICAL COMMITTEES	MED/43	Secondo Semestre	B	16,00	2,00	OBB	
				AB000059	REGULATORY ASPECTS IN ATMPs AND BEYOND	IUS/14	Secondo Semestre	B	16,00	2,00	OBB	
				AB000057	TECHNOLOGY TRANSFER IN BIOTECHNOLOGY	SECS-P/06	Secondo Semestre	B	16,00	2,00	OBB	
				AB000053	TRANSLATING INTO THE CLINICS: RESEARCH PROCESSES AND PHASES OF CLINICAL TRIALS	IUS/14	Secondo Semestre	B	16,00	2,00	OBB	
2	AB000016	EXPERIMENTAL THESIS	Annualità	14,00	AB000016	EXPERIMENTAL THESIS	PROFIN_S	Annualità	E	350,00	14,00	OBB
	AB000010	BASIC LABORATORY	Primo Semestre	2,00	AB000018	LABORATORY SAFETY	MED/46	Primo Semestre	B	50,00	2,00	OBB



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	AB000011	FROM IN VITRO TO IN VIVO PRECLINICAL MODELS, TOWARDS CLINICAL APPLICATIONS	Primo Semestre	8,00	AB000046	ADVANCED THERAPIES IN IMMUNE-RELATED DISEASES	MED/16	Primo Semestre	C	16,00	2,00	OBB
					AB000045	ANIMAL MODELS FOR REGENERATIVE MEDICINE	VET/02	Primo Semestre	B	8,00	1,00	OBB
					AB000037	MICROFLUIDIC-BASED MODELS: ORGAN ON CHIP, HUMAN ON CHIP, BIOREACTORS	FIS/01	Primo Semestre	B	8,00	1,00	OBB
					AB000035	MODELING NEURODEGENERATIVE DISORDERS	BIO/09	Primo Semestre	B	16,00	2,00	OBB
					AB000040	STATISTICS AND MATHEMATICAL MODELS IN BIOLOGY	MAT/07	Primo Semestre	C	16,00	2,00	OBB
	AB000012	LABORATORY 1	Secondo Semestre	5,00	AB000047	CELL CULTURE LAB: CELL ISOLATION AND CULTURE	BIO/13	Secondo Semestre	B	50,00	2,00	OBB
					AB000049	MOLECULAR BIOLOGY LAB	MED/46	Secondo Semestre	B	75,00	3,00	OBB
	AB000013	LABORATORY 2	Secondo Semestre	10,00	AB000052	ADVANCES IN IMAGING AND SPECTROSCOPY	FIS/01	Secondo Semestre	B	75,00	3,00	OBB
					AB000084	ANIMAL EXPERIMENTATION	VET/02	Secondo Semestre	B	50,00	2,00	OBB
					AB000054	FLOW CYTOMETRY	BIO/13	Secondo Semestre	B	50,00	2,00	OBB
					AB000050	IMAGING IN CELL BIOLOGY: TECHNIQUES, TECHNOLOGY AND TOOLS	BIO/13	Secondo Semestre	B	75,00	3,00	OBB
	AB000015	SCIENTIFIC ENGLISH 2	Secondo Semestre	2,00	AB000063	SCIENTIFIC ENGLISH FOR BIOMEDICAL COMMUNICATION IN THE FIELD OF BIOLOGY AND REGENERATIVE MEDICINE	L-LIN/12	Secondo Semestre	B	16,00	2,00	OBB
	AB000061	STAGES AND INTERNSHIPS ABROAD	Secondo Semestre	4,00	AB000062	LEARNING INNOVATIONS: HANDS ON INDUSTRIAL PROCESSES	NN	Secondo Semestre	F	100,00	4,00	OPZ
	AB000056	STAGES AND INTERNSHIPS IN ITALY	Secondo Semestre	4,00	AB000060	LEARNING INNOVATIONS: HANDS ON INDUSTRIAL PROCESSES	NN	Secondo Semestre	F	100,00	4,00	OPZ



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	AB000070	ADVANCED CELL THERAPY IN SKIN REGENERATION	Primo Semestre	1,00	AB000070	ADVANCED CELL THERAPY IN SKIN REGENERATION	BIO/13	Primo Semestre	D	8,00	1,00	OPZ
	AB000086	ADVANCES IN TISSUE ENGINEERING	Primo Semestre	2,00	AB000086	ADVANCES IN TISSUE ENGINEERING	ING-IND/22	Primo Semestre	D	16,00	2,00	OPZ
	AB000081	APPLICATIONS IN GYNAECOLOGY AND OBSTETRICS	Primo Semestre	1,00	AB000081	APPLICATIONS IN GYNAECOLOGY AND OBSTETRICS	MED/40	Primo Semestre	D	8,00	1,00	OPZ
	AB000072	APPLICATIONS IN OPHTALMOLOGY	Primo Semestre	1,00	AB000072	APPLICATIONS IN OPHTALMOLOGY	MED/30	Primo Semestre	D	8,00	1,00	OPZ
	A000818	ATMP: THE REGULATORY JOURNEY TO GO FROM BENCH TO BEDSIDE	Primo Semestre	2,00	A000818	ATMP: THE REGULATORY JOURNEY TO GO FROM BENCH TO BEDSIDE	MED/46	Primo Semestre	D	16,00	2,00	OPZ
	AB000065	BIOINFORMATICS AND BIostatISTICS	Primo Semestre	1,00	AB000065	BIOINFORMATICS AND BIostatISTICS	MAT/07	Primo Semestre	D	8,00	1,00	OPZ
	A000815	BIOTECHNOLOGY APPROACHES TO TREAT CANCER	Primo Semestre	1,00	A000815	BIOTECHNOLOGY APPROACHES TO TREAT CANCER	BIO/13	Primo Semestre	D	8,00	1,00	OPZ
	A000816	CELL THERAPIES IN HEMATOLOGY	Primo Semestre	1,00	A000816	CELL THERAPIES IN HEMATOLOGY	MED/15	Primo Semestre	D	8,00	1,00	OPZ
	A000814	CELL-BASED APPROACHES FOR LUNG REGENERATION	Primo Semestre	1,00	A000814	CELL-BASED APPROACHES FOR LUNG REGENERATION	MED/10	Primo Semestre	D	8,00	1,00	OPZ
	A000813	CELLULAR MECHANISMS AND ADVANCED CELL THERAPIES IN CARDIAC REGENERATION	Primo Semestre	1,00	A000813	CELLULAR MECHANISMS AND ADVANCED CELL THERAPIES IN CARDIAC REGENERATION	BIO/13	Primo Semestre	D	8,00	1,00	OPZ
	A000817	HEALTH BIOTECH INDUSTRY TODAY: CHALLENGES AND OPPORTUNITIES	Primo Semestre	2,00	A000817	HEALTH BIOTECH INDUSTRY TODAY: CHALLENGES AND OPPORTUNITIES	ING-IND/34	Primo Semestre	D	16,00	2,00	OPZ
	AB000082	INNOVATIVE THERAPIES IN DENTISTRY AND ORTHODONTICS	Primo Semestre	1,00	AB000082	INNOVATIVE THERAPIES IN DENTISTRY AND ORTHODONTICS	MED/28	Primo Semestre	D	8,00	1,00	OPZ
	AB000089	STEM CELL DERIVATIVES AND MECHANISMS OF ACTION	Primo Semestre	2,00	AB000089	STEM CELL DERIVATIVES AND MECHANISMS OF ACTION	BIO/13	Primo Semestre	D	16,00	2,00	OPZ
	AB000064	TISSUE ENGINEERING IN OSTEOCHONDRAL REGENERATION	Primo Semestre	1,00	AB000064	TISSUE ENGINEERING IN OSTEOCHONDRAL REGENERATION	MED/33	Primo Semestre	D	8,00	1,00	OPZ



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	AB000087	TREATMENT EFFECT EVALUATION IN QUASI-EXPERIMENTAL SETTINGS	Primo Semestre	2,00	AB000087	TREATMENT EFFECT EVALUATION IN QUASI-EXPERIMENTAL SETTINGS	SECS-P/06	Primo Semestre	D	16,00	2,00	OPZ