



Area Didattica e Servizi agli
Studenti

University of Teramo

**Teaching Relugaton International MSc
LM9 Reproductive
Biotechnologies**

**Academic year
2025/2026**

Art. 1 – General information on the course	
University:	University of TERAMO
Title of the Course in Italian:	Biotechnologie della riproduzione
Title of the Course in English:	Reproductive Biotechnologies
Class:	LM-9 - Medical, veterinary and pharmaceutical biotechnologies
Access programming	<ul style="list-style-type: none"> - Nazionale: no - Local: no
Course Language	English
Methods of carrying out the training activities	Conventional
Legal duration of the course:	Two years
Title released:	Reproductive biotechnologist
Department	Bioscienze e tecnologie agro-alimentari e ambientali
Address of the Course:	Teramo, via R. Balzarini 1
Chair of the Course:	Prof. Nicola Bernabò
Collegiate management body of the Course	Study Course Board
Internet site:	https://www.unite.it/UniTE/Didattica/Corsi di laurea 2022_2023/Reproductive_Biotechnologies_2021_2022

Art. 2 –Short description of the course
--



SUA-Cds frameworks of reference: Quality / Presentation / The course of study in brief

The study course (CdS) in Reproductive Biotechnologies is a master's degree course, delivered in English, established at the Department of Biosciences and Agri-Food and Environmental Technologies, belonging to the Class of degrees in Medical, Veterinary and Pharmaceutical Biotechnologies (LM -9). The course is divided into 2 years of teaching activity for a total of 120 credits.

The headquarters and the logistical structures supporting the teaching and laboratory activities are those of the Department of Biosciences and agro-food and environmental technologies and of Veterinary Medicine (University of Teramo), without prejudice to the possibility that some courses may be borrowed or taught at other CdS and other teaching and scientific structures of the same University. Teaching and internship activities may also be carried out at external public and private bodies, within the framework of specific agreements and conventions.

The CdS in Reproductive Biotechnologies provides theoretical-practical preparation on the most recent theoretical knowledge and methodological skills in the field of reproductive medicine, training specialists capable of managing assisted reproduction laboratories, both in the veterinary and human fields. The veterinary skills are provided, during the first year of the course, by the professors of the scientific pole of the University, active researchers in national and international projects.

Professionalizing skills in the field of human reproduction are provided, during the second year of the course, by university professors and external qualified professionals, who work in both public and private structures that have agreements with the University. The specific skills that the course ensures to the student are related to an updated theoretical-practical preparation on: laboratory methods for the isolation, manipulation, cryopreservation, and biochemical, genetic, morphological and functional evaluation of gametes and embryos; mechanisms governing sperm-oocyte interaction, fertilization and embryonic development; genetic and epigenetic mechanisms causing infertility; a detailed knowledge of legislative, bioethical and scientific communication issues related to assisted reproduction. The provision of teaching in English allows graduates to access higher education courses more easily (doctorates, masters, specialization schools) at an international level.

In addition, the internationalization of the training course significantly increases the employment prospects of graduates in a labor market which, precisely in this highly specialized sector, has a predominantly European and non-European dimension. The possibility of carrying out numerous hours of practical/methodological activities in the laboratory as well as attending public or private structures affiliated with the University, for carrying out specific curricular internships and/or for training activities and experimental theses, is another added value of the course of study; value recognized and appreciated by stakeholders in the sector.

**Art. 3 – Specific training objectives
and description of the training
course**

Regulatory sources: DM 270/2004, art. 1 paragraph 1, lett. m), and art. 11, paragraph 3, lett. a) and b) 1

SUA-CdS frameworks of reference: Quality / Training objectives / Specific training objectives of the course and description of the training path / Framework A4a

Reproductive Biotechnologies graduates possess detailed and up-to-date knowledge of the structure and function of gametes, of the mechanisms that govern their interaction and that guide the process of fertilization and embryonic development. The student acquires, through direct laboratory experience focused on basic and advanced methods, typical of reproductive biotechnologies, an in-depth theoretical-practical training. At the same time, the student knows and knows how to perform the main and most modern analytical evaluation approaches in the morphological-functional, biochemical, molecular biological and genetic fields, using them for the specific study of gametes, embryos or tissues of the reproductive system (ovary, placenta, testicle). All the methods and techniques studied are contextualized to assisted reproduction procedures, whether they are applied for commercial purposes, as in the zootechnical field, or for diagnostic-therapeutic purposes, as in human medicine. The training course deals with the issues of reproduction with a comparative and multidisciplinary approach. During the course, extensive use is made of the animal model but making use of qualified experts who work in the field of human reproduction as external teachers, both in public and private structures, the knowledge and methodologies learned on gametes, embryos and animal tissues are always linked to service activities of reproductive medicine, diagnostic practices related to the control and evaluation of fertility, as well as medically assisted procreation techniques (MAP).

The student's curricular training is integrated with specific internships, organized by the course at public and private centers operating in Italy in the field of reproduction with high levels of qualification. Training is also completed by knowledge of the national and international regulatory framework within which reproductive biotechnologies operate, whether they are used for commercial or zootechnical purposes, or in contexts such as medically assisted procreation or in the research sector. The course intends to provide specific training relating to bioethical and legislative aspects and directs specific teaching activities towards the deepening of fundamental knowledge in the various fields of communication and information sciences. The application of scientific information management methods is addressed both to professional fields and to broader social contexts with information/dissemination purposes.

By combining in-depth theoretical knowledge with his ability to carry out the methods of reproductive biotechnology, when he approaches the end of his training course, the student has the tools to plan experimental investigations in the field of reproductive biology, operating in the field research facilities and public and private affiliated centers.

The internship activity aimed at the production of an experimental thesis can also be carried out at foreign universities in which courses of study coherent with the educational project of the Degree Course are active and with which the Degree Course enters "bilateral agreements" aimed at strengthening the international mobility of students/teachers. This will ensure an improvement in the quality of education/training and research, and at the same time increase the employment prospects of graduates of the Degree Programme. Students who graduate in Reproductive Biotechnologies can also find employment in specific higher education courses (doctorates, second level masters, specialization schools) active at the University of Teramo or at other universities, both Italian and foreign.

**Art. 4 – Expected learning outcomes
expressed through the European
descriptors**

- Knowledge and understanding
- Ability to apply knowledge and understanding

Regulatory sources: DDMM 16/03/2007 art. 3 paragraph 7 (Bachelor's degree and master's degree classes) **2**

SUA-CdS frameworks of reference: Quality / Training objectives / Expected learning outcomes / Knowledge and understanding / Ability to apply knowledge and understanding / A4b frameworks
Knowledge and understanding

Reproductive Biotechnologies graduates must possess a good knowledge and understanding of the structure and functions of the biological systems involved in the preliminary phases of the reproductive process (gametes, zygote, embryo up to the blastocyst stage), from the molecular to the cellular level, and of the tools conceptual, technical, regulatory, ethical, environmental, and economic aspects involved in the production of goods and services from these systems. The ability to keep this knowledge continuously updated and connected to the most innovative and advanced aspects in the contexts of exercising one's profession must also be developed.

Mode of achievement

The knowledge and understanding skills are acquired during the different training activities envisaged in the degree course, which include:

- frontal lessons, capable of providing the student with in-depth and up-to-date basic knowledge that allows the student to critically address the methodological part carried out in the laboratory.
- practical and practical activities carried out in the laboratory, which occupy about half of the hours foreseen for the training activities of the course, relating to the methodologies used in human and animal reproduction. Such activities are carried out by the student initially under the guidance and supervision of the teacher and competent laboratory staff, then progressively in an increasingly autonomous way, thanks to the possibility of carrying out one's practical activities individually, operating in educational laboratories equipped to accommodate students in individual stations.
- specific curricular internships, organized during the training course at qualified public and private centers operating in the field of reproduction and whose managers are part of the teaching staff of the degree course.
- internship activity, which can be carried out in one of the research laboratories of the University or in the laboratories of affiliated external Centers/Bodies.
- participation in seminars/conferences on topics related to the training course, organized on-site by the degree course or off-site by scientific societies/institutions/centers operating in the field of reproductive medicine. The knowledge and understanding skills that



are acquired through the training activities are consolidated by the student through individual study.

Verification teaching tools

The real-time assessment of the level of learning achieved by the individual student and by the class is made possible by the method of organizing the didactic path which provides for single teaching courses in succession, which are articulated in a single-disciplinary theoretical-practical study, lasting on average two-three weeks. Furthermore, during each course intermediate evaluation tests are carried out, using multiple choice or true/false tests, and written tests on specific topics or on scientific articles assigned by the teacher. At the end of each course, the level of knowledge and understanding of the topics covered and the student's ability to link the theoretical knowledge acquired to experimental operations or to the procedures of reproductive biotechnology, applied both to the zootechnical field and to that of the medically assisted procreation (MAP). The choice of this didactic organization is useful on the one hand to encourage the student to verify his knowledge before moving on to the next course, and on the other to offer teachers the possibility of modulating their teaching activity according to the level of learning of the class. Furthermore, by exploiting the strong component of individual work, the goal is to achieve a solid preparation in a uniform and adequate way for many students. A further moment of verification of the expected results occurs at the end of the training course, in the moment of presentation and discussion of the final exam carried out by the student under the guidance of a supervisor. During each academic year, in addition to the supervision of the individual and the carried out by the teacher during the theoretical and practical training activities provided, the expected learning outcomes are also monitored by the Course Tutor teachers, to verify whether the general structure of the course and its organization have allowed the expected results to be achieved in satisfactorily. Otherwise, it is possible to intervene with the corrective actions and the necessary modifications. Finally, to verify the achievement of the expected results, both AlmaLaurea data on the placement of graduates in the class into the world of work and the results of specific interviews/questionnaires administered to employed graduates and Center managers are also taken into consideration. /Reproduction organizations that have welcomed students and graduating students of the course during the internship/traineeship activities.

Ability to apply knowledge and understanding

Graduates in Reproductive Biotechnologies will have to acquire "problem solving" skills and competences, i.e. be able to translate the theoretical information and operational skills acquired to the scientific and technological contexts envisaged in the operations of the various applications of biotechnologies of animal and medical reproduction. Graduates must be able to solve operational questions that require complex skills, such as managing laboratory instruments, knowing culture and cryopreservation methodologies and protocols used in assisted reproduction, applying diagnostic approaches, even advanced, of a morphological-functional type as well as genetic-molecular, making use of subjective and instrumental tools for the analysis and interpretation of the results, as well as being able to adapt the procedures to the legislative regulations operating in the sector and in the country of reference. The graduate must therefore be able not only to analyze and reproduce the biological processes underlying reproduction, but also to use them and intervene on them with the appropriate scientific and technological means and tools in order to obtain useful,



	<p>controllable goods and services , repeatable and certifiable. He/she will therefore have to: a) know how to actively deal with problems in his/her working context; b) knowing how to intervene in the control procedures and management of the operating procedures; c) knowing how to independently plan and conduct one's own technical and/or research work, as well as coordinate the global operations of laboratories in the sector.</p> <p>Mode of achievement The ability to apply knowledge and understanding is achieved through:</p> <ul style="list-style-type: none"> - the numerous practical and practical activities (to which approximately half of the hours foreseen for the training activities of the course are dedicated) carried out in teaching laboratories equipped to accommodate students in individual workstations; during these activities the student uses the theoretical knowledge acquired to consolidate his own <p>methodological skills, useful in the field of human and animal reproduction and to work in the laboratory with a critical spirit, both individually and in relation to the class and the teacher;</p> <ul style="list-style-type: none"> - the specific curricular internships, carried out in qualified public and private centers operating in the field of reproduction; - the internship activity, generally aimed at preparing an experimental thesis work, carried out in research laboratories within the universities of the degree course or in the laboratories of affiliated external centres/institutions. <p>Verification teaching tools The verification of the specific methodological skills gradually learned by the individual student and by the class, as well as their ability to transfer the theoretical knowledge acquired to the applied field, already takes place during the teaching course thanks to the possibility of the teacher to work alongside the student during its practical training activities carried out in the laboratory. Furthermore, during the final exam, through a simulated practical test or directly in the laboratory, the student's ability to use the acquired knowledge to solve operational questions that require critical skills in different operational contexts, ability to manage the laboratory, and a good knowledge of the methodologies and protocols used in common procedures applied to reproductive biotechnology. Finally, the methodological and operational skills acquired by the student are evaluated by the laboratory manager and the supervisor during the internship.</p>
--	---

<ul style="list-style-type: none"> - Autonomy of judgment - Communication skills - Learning ability 	<p>Regulatory sources: DDMM 16/03/2007 art. 3 paragraph 7 (Bachelor's degree and master's degree classes) 2</p> <p>SUA-CdS frameworks of reference: Quality / Training objectives / Making judgements, communication skills, learning ability / Framework A4c</p> <p>Judgment autonomy Reproductive Biotechnologies graduates will have to be able to collect and interpret the data deriving from their activity in an autonomous, critical and authoritative way, identifying the conditions, analyzing the dynamics of transformation and describing the consequences. The ability to analyze must also be aimed at solving critical experimental and facility management issues. He must also be able to connect all aspects of his own operations by evaluating the</p>
--	---



UNIVERSITÀ
DEGLI STUDI
DI TERAMO

Area Didattica e Servizi agli
Studenti

commercial/therapeutic consequences, the effects that the operations carried out have in contexts other than the exclusively scientific one, such as the health and social one, by virtue of his regulatory knowledge and the problems emerging bioethics. Graduates in Reproductive Biotechnologies must also know how to direct their operations in the commercial-patent field, intervening in the optimization of current methodologies, in the development of new technologies and/or protocols, in the identification of innovative molecular markers of the underlying biological processes of reproduction and in the development of qualitative-quantitative diagnostic approaches of gametes and embryos.

Methods and teaching tools for achievement and verification

Independence of judgment is achieved during the training course through:

- carrying out the practical and exercise activities autonomously, albeit under the constant monitoring of the teacher in charge of teaching and of the technical support staff;
- participation in specific curricular internships organized at public and private reproductive medicine centres, during which the student has the opportunity to enter professional/service contexts, observing their operational specificities and problems;
- the internship activity, generally aimed at preparing the final experimental project, carried out in research laboratories within the University or in the laboratories of partnered external Centres/Bodies, during which the student is required to use both acquired, and their own ability to plan, manage, process laboratory activities related to the assigned experimental project. The student's ability to independently or through group work set up experimental tests at different degrees of complexity is assessed during the practical teaching activities carried out in the laboratory by the student, under the guidance of the teaching professor and the technical-scientific support staff. Furthermore, the methodological skills of the student, as well as his ability to analyze and resolve experimental critical issues and to manage and process the results obtained in real time, are assessed by the laboratory manager and/or supervisor during the internship aimed at production of an experimental thesis.

-



Communication skills

Graduates in Reproductive Biotechnologies will have to be able to express themselves correctly and with scientific rigor, in English, both for drafting technical-scientific reports in the business environment and, more generally, for communicating the results of their technical work in the academic-scientific and social fields and/or research. They will therefore have to know how to address both an expert public and a non-specialized public, using understandable but equally rigorous terms. They must know how to use all the methods and technical and IT tools for communication management and must know the processes and logics for efficient and effective communication. He must also have acquired good relational skills in managing his own work activity, knowing how to work in a team with adequate skills for integration into the work environment, also in an international context. Finally, his communication skills must also be addressed to a wide audience, to disseminate the research and service results obtained in the field of reproductive biotechnologies in an understandable, rigorous and effective way, contextualizing them in bioethical and social issues.

Methods and teaching tools for achievement and verification

During the moments of discussion and interaction foreseen during the teaching activities, the teachers continuously stimulate the students to use scientific language and proper terms, and to communicate clearly and appropriately. Students must be able to communicate fluently in English, both in written and oral form.

During the degree course, the student also acquires the basic methodological tools to manage the scientific data obtained and learn to present them with the rigor required in scientific contexts, both thanks to the active collaboration with statistics colleagues and thanks to specific Statistics organized on site.

The educational path also includes a two-year teaching course in Scientific Communication which, during the first year, through the writing of an article for a newspaper or a weekly or a monthly, aims to enable the student to acquire the ability to communicate information in professional field. It also aims to teach students how to communicate during an interview if in their profession they are called by a newspaper to explain issues related to MAP or biotechnology in general. During the second year, the Scientific Communication course has the aim of teaching students the techniques of scientific communication through TV, using a television language.

accessible by all. This part of the teaching is carried out in the special television studio available at the University of Teramo, with adequate equipment (cameras, monitors and microphones) and the support of a specialized technician, so as to reproduce the conditions of a real television studio, where the students are both interviewers and interviewees.



The communicative ability achieved by the student during the training course is specifically assessed both during the moments of discussion on topics related to the lesson, and through the organization of experimental protocols carried out during the exercises in close relationship with the teachers and technical staff, both during the oral presentation in the final profit exam.

A further tool for evaluating the communication skills acquired is represented by the final exam, in which the student is asked to write a thesis paper using rigorous scientific language and making use of statistics for the analysis of the experimental data obtained. The ability to present and discuss the thesis by communicating clearly and using an appropriate technical-scientific language is also evaluated. Students must be able to produce the thesis entirely in English, as well as to present and discuss it in English.

Learning ability

Graduates in Reproductive Biotechnologies must have acquired not only skills and knowledge suitable for obtaining the degree, but above all stimuli, skills and learning methods suitable for updating and continuous improvement of their skills, therefore motivations and methods for progressing to increasingly advanced levels of knowledge through adequate operational autonomy.

Methods and teaching tools for achievement and verification

Updated and qualified information on the teaching subject is provided by the professors of the course during the frontal lessons, thanks also to the close relationship between teaching and research that characterizes them. Progressive and continuous learning can also be obtained by the student first of all by making use of the teaching material, both basic and in-depth, which each teacher makes available for his/her teaching through the University E-learning platform, and which can be used to individual study in order to consolidate the knowledge learned in class. Furthermore, the student is stimulated to deepen his/her knowledge by making use of the main search engines and databases available on the net to retrieve further information material concerning the course of teaching, suggested by the teacher and/or identified independently. The bibliographic research carried out is followed by a phase of discussion in class through which the teacher verifies the learning abilities and operational autonomy of the students in keeping their learning alive. The student's ability to make use of adequate and advanced learning materials and methods is also verified during the drafting of the thesis related to the final exam, which is supervised by the supervisor and evaluated by the degree commission.



Area Didattica e Servizi agli Studenti

Regulatory sources: DM 270/2004, art. 11, paragraph 4 and DDMM 16/03/2007 art. 3 paragraph 7 (Bachelor's and master's degree classes)

SUA-Cds frameworks of reference: Quality / Training objectives / Professional profile and Employment and professional opportunities envisaged for graduates / Framework A2a

Professional profile

Graduates in Reproductive Biotechnologies will be able to carry out functions of:

- operator in Medically Assisted Procreation laboratories (MAP);
- operator in laboratories dealing with animal reproduction;
- responsible or coordinator of PMA laboratories;
- operator in Seminology centres;
- operator in reproductive pathophysiology laboratories;
- researcher in research centers operating in the reproductive field.

Skills associated with the function

The overall skills acquired during the training course will allow the graduate to:

- manage, manipulate, cultivate and cryopreserve gametes and embryos, both of animal and human origin, working in public or private laboratories operating in the field of reproduction: graduates will in fact be able to correctly manage gametes in the laboratory from the moment of their collection up to the first stages of embryonic development; will have the theoretical and methodological skills to reproduce in vitro the physiological processes of egg cell maturation (IVM) and fertilization (IVF); will be able to perform the intracytoplasmic fertilization technique (ICSI); will be able to evaluate the success of in vitro processes through morphological and functional parameters and to define the quality of gametes and embryos obtained during the process of embryonic development up to the blastocyte stage, the stage in which the transfer of the embryo into a recipient organism by other competent operators must necessarily take place; finally, he will have the skills to cryopreserve gametes and embryos using the main protocols of slow freezing and vitrification.

- manage and coordinate advanced biological laboratories aimed at medically assisted procreation: the graduate, through the knowledge acquired during the course both in the management and legislation of reproductive medicine laboratories, will be able to proceed with the preparation and organization of the PMA laboratory, as well as the correct management and maintenance of the specific instrumentation envisaged therein. Furthermore, thanks to his knowledge of the regulations governing these laboratories at a national and international level, he will be able to appropriately coordinate the specific procedures used in reproductive medicine laboratories.
- work as an expert in centers of production, selection and marketing of germinal products: thanks to their in-depth knowledge of the biology of the male gamete and andrology, graduates working in the zootechnical field will be able to manage seminal material of animal origin, from the time of its collection at the time of its use or its conservation, making use of standardized techniques for the definition of morpho-functional parameters (spermiogram) useful for the evaluation and selection of the seminal material
- operate in advanced diagnostic laboratories in the field of reproductive pathophysiology: the knowledge and methodologies acquired by graduates will allow them to implement the most modern diagnostic practices aimed at identifying the causes of infertility, as well as connected to Medically Assisted Procreation techniques.
- assist, as an auxiliary figure, the operations of the obstetric-gynecological departments: graduates will be able to support the medical personnel who work in these departments by making use of their knowledge and ability to manage gametes and embryos.
- carry out research activities in a critical, autonomous and authoritative way, but also coordinated with other researchers, within structures operating in the field of reproduction: in this context the graduate, by combining his theoretical knowledge with methodological ones, his mastery with the English language and her experiences lived abroad during her training, she will have the specific and transversal skills to conceive and take part in research projects related to Molecular Medicine and Reproductive Biotechnology developed both in Italian research centers and foreigners.



Employment and professional opportunities

Graduates in Reproductive Biotechnologies will be able to continue their studies by taking part in specific higher education and specialization courses activated within the university of reference or in other Italian or foreign universities. They will also be able to find specific professional opportunities in public or private assisted reproduction centres, in reproductive medicine centres, in artificial insemination zootechnical centres, or in public or private research institutions operating in the sector, both nationally and international. Furthermore, in addition to the specific field of reproduction, as a graduate of a master's degree course of the class LM-9, having high levels of proficiency in programming and scientific and technical-productive development of biotechnologies applied in the field of human and animal health, will be able to operate with highly responsible functions and will also be able to find employment opportunities in the following areas: diagnostics (through the management of molecular analysis technologies and biomedical technologies applied to medical and veterinary medicine) medico-legal, toxicological and reproductive-endocrinological fields (including transgenic animals, molecular probes, cellular systems, bioartificial tissues and cellular systems producing biologically active molecules and other advanced biosanitary techniques); bioengineering, with particular reference to the use of biomaterials or engineered organs and tissues; experimentation in the biomedical and animal fields, with particular reference to the use of in vivo and in vitro models for understanding the pathogenesis of human and animal diseases; therapeutic, with particular regard to the development and testing of innovative pharmacological products (including gene therapy and cell therapy) to be applied to human and animal pathologies; production and design in relation to patents in the health field.

Graduates will be able to direct laboratories with mainly biotechnological and pharmacological characterization and coordinate, also at a management and administrative level, development and surveillance programs of biotechnologies applied in the human and animal fields with particular regard to the development of pharmacological products and vaccines taking into account the ethical implications, technical, legal and environmental protection.

The CdS prepares for the profession of (ISTAT code):

1. Biologists and similar professions - (2.3.1.1.1)
2. Biotechnologists - (2.3.1.1.4)
3. Researchers and graduate technicians in biological sciences - (2.6.2.2.1)
- Researchers and technicians graduated in medical sciences - (2.6.2.2.3)

Art. 6 - Knowledge required for access - Verification methods (and possible OFA recovery - only for undergraduate and undergraduate degrees single-cycle master's degree)

Regulatory sources: DM 270/2004, art. 6, paragraph 1 (for bachelor's and single-cycle master's degrees) 4

SUA-CdS frameworks of reference: Quality / Training objectives / Admission requirements / Knowledge required for access / Framework A3a

1. The CdS in Reproductive Biotechnologies is established without access restrictions other than those established by law.
2. To be admitted to the master's degree course in Reproductive Biotechnologies, it is necessary to have a first level degree or master's degree of a biological, biotechnological or medical-health type obtained in any national university, or another equivalent qualification obtained in abroad and recognized as



Area Didattica e Servizi agli
Studenti

eligible. More specifically, for candidates holding a degree obtained in Italy or abroad, the curricular requirements are met by holding a three-year degree in one of the following classes of the D.M. 270/2004 (or corresponding in the ex D.M. 509/99)

3. or a master's degree in one of the following classes of the D.M. 03/16/2007:

- L-2 Biotechnology
- L-13 Biological sciences
- L-38 Zootechnical sciences and animal production technologies
- L/SNT3 Class of degrees in technical health professions
- LM-6 Biology
- LM-9 Medical, veterinary and pharmaceutical biotechnologies
- LM-13 Pharmacy and industrial pharmacy
- LM-41 Medicine and surgery
- LM-42 Veterinary medicine

and whose Study Plans have earned the following credits:

- at least 15 credits in the sectors BIO/10, BIO/11, BIO/12, BIO/18, MED/03;
- at least 15 credits in the sectors BIO/06, BIO/09, BIO/13, BIO/16, BIO/17, VET/01, VET/02, MED/04, MED/46.

3. Admission requires possession, at the time of enrollment, of adequate knowledge and skills to be able to profitably follow the Degree Programme. This knowledge includes a satisfactory preparation in the following disciplines and the relative basic methodologies applied to them: cytology, cell physiology and cell cultures, biochemistry and molecular biology, applied and medical genetics.

4. Pursuant to art. 6, paragraph 2, of the D.M. 270/04, in addition to the curricular access requirements mentioned above, the adequacy of personal preparation is verified by means of multiple-choice and true/false tests and/or an interview with a specific commission.

The detailed topics relating to the required knowledge requirements and all the information concerning the individual preparation assessment test for admission to the degree program will be advertised well in advance on the University website.

5. Candidates in possession of a foreign qualification, not previously declared equivalent by an Italian academic authority, may ask the Degree Program Board for recognition of the qualification for the sole purpose of enrollment, by sending a degree certificate issued by the competent authority (duly confirmed by the Embassy for students residing in a non-EU country) complete with Syllabus, certifying the exams passed, the detailed programs of the disciplines and the hours of theoretical-practical teaching activity scheduled for the achievement of the degree.

7. The curricular requirements possessed by the student are preliminarily assessed by the AQ Commission of the CdS and recognized by the Course Council.

8. At the time of enrolment, the student can opt for a part-time study relationship ('part-time student'). The part-time student carries out the teaching activities and obtains the credits of each academic year in a maximum of two years. It is thus possible to obtain the degree in a greater span of academic years, up to double those foreseen, without falling into the condition of out of course.

9. Part-time students cannot exceed the maximum credits foreseen for each year (about half, according to what is decided each year by the Department Council). The part-time job has a duration of at least two years and the relative declaration must be renewed at the end of the two-year period. In the absence of renewal, the student will automatically be considered full-time.

Art. 7 – Calendar and type of teaching activities and attendance



Area Didattica e Servizi agli Studenti

UNIVERSITÀ DEGLI STUDI DI PERUGIA
In accordance with the approved teaching system, the CdS in Reproductive Biotechnologies provides for specific training activities including disciplinary scientific sectors (SSD), credits disbursed (CFU) and permanent teaching equipment as articulated in Annex 1.

2. The didactic program foresees the provision of the entire course of study in English and will present the names of all the teachings in English.

3. The CdS in Reproductive Biotechnologies has a duration of two years, corresponding to the achievement of at least 120 university training credits (120 CFU), including those relating to passing the final exam. The didactic activity includes 12 thematic courses (to which 95 credits are dedicated) which follow the structure indicated below.

Year Courses

I I.C. Structure and function of the reproductive system (10 CFU) I I.C.

Biology of gametes, IVM and IVF Techniques (11 CFU)

I Andrology I (6 CFU)

I I.C.

Molecular markers in Reproduction

(12 CFU) I

Embryology (6 CFU)

I

I.C. Cryobiology (11 CFU)

I Scientific communication - part I (3 CFU)

II Andrology II (6 CFU)

II Diagnostic Histology Applied to Cells and Tissues of the Reproductive System (5 CFU)



Area Didattica e Servizi agli Studenti

- UNIVERSITÀ DEGLI STUDI DI TERAMO
- II I.C. Genetics of Human Reproduction (10 CFU)
 - II Procedure and Advanced Techniques in Medically-Assisted Procreation (6 CFU)
 - II Legislation and Bioethics in Medicine of Reproduction (6 CFU)
 - II Scientific communication, part II (3 CFU)

4. The student must submit an application to the CdS for the approval of the elective disciplines if these are not those provided by the CdS.

5. The student completes the training course by also acquiring the following credits:

- elective courses/training events (8 ECTS)
- internship activity (5 credits)
- final exam (12 ECTS)

6. Each credit of frontal lesson corresponds to a number of 8 hours; those relating to the internship correspond to 25 hours/ECTS of student activity. The internship credits, corresponding to 125 hours of activity, are autonomously acquired by students who produce an experimental final thesis or through specific internship activities for students who opt for a final thesis that only includes a bibliographic study.

6. An internship carried out at qualified external centres, exceeding that necessary to acquire the 5 standard CFU of the obligatory internship for the compilation theses, can be transformed into optional credits, in an amount not exceeding 4 CFU (corresponding to half of the optional credits).

7. 8. The calendar of teaching activities (lessons and exams) is proposed by the CdS and approved each academic year by the Department Council.

8. 9. To respond to justified teaching needs, the teachings and their organization can be modified on the proposal of the Course Council and resolution of the Department Council.

9. 10. For each academic year, the curricular teaching activities (thematic courses) begin in the month of January and end within the month of July.

10. 11. Attendance, even if not compulsory, is strongly recommended for all teaching activities.

11. 12. The calendar of teaching activities is established annually by the Department Council, having consulted the CdS and advertised on the Department web page <https://www.unite.it/UniTE/Engine/RAServePG.php/P/512381UTE0601/>

13. For each training activity indicated, a final assessment is envisaged at the end of the period in which the activity was carried out. For the training activities of the integrated courses, the final evaluation of the profit is unitary and collective. By passing the exam or test, the student achieves the credits attributed to the training activity in question.

14. The final assessments can consist of an oral exam or a written test with free-answer or multiple-choice questions. The procedures for carrying out the assessment must be the same for all students and must comply with what is reported in the individual teaching sheet.

15. The period for carrying out the exam sessions is set at the beginning of each academic year and is included in the didactic activities calendar.

16. The exam sessions begin at the end of the teaching activity of the individual teaching courses and the exam calendar is established by the Department Council. If, for a justified reason, an exam session has to be postponed or the planned teaching activity cannot be carried out, the teacher must promptly notify the students and the head of the teaching structure for the appropriate measures.

17. Exam dates, once published, cannot be brought forward in any case. The interval between two successive appeals is at least ten days.

18. The examining commissions for the exams are appointed by the Department Council.

19. The student is required to register online according to the University procedure shown on the website.

Art. 8 – Activities autonomously chosen by the student



Area Didattica e Servizi agli Studenti

<p>Regulatory sources: DM 270/2004, art. 1, paragraph 1, lett. o) and art. 10 paragraph 5, lett. to); DDMM 16/03/2007 art. 3 paragraph 5 (Graduate and master's degree classes); Ministerial Decree 07/26/2007, attachment 1, point 3, lett. n) (Guidelines) 6</p> <p>SUA-CdS cadres of reference: Administration / Section F: Training activities and didactic organization / Other activities and related notes</p> <ol style="list-style-type: none">1. During the two years of the study programme, the student must acquire 8 elective credits on the basis of the provisions of Article 7, paragraph 5.2. The student can freely acquire these credits by taking part in:<ul style="list-style-type: none">- elective teaching courses given by the CdS and other University CdS, provided that they are congruent with the CdS in Reproductive Biotechnologies;- training events organized by the University of Teramo, or by other academic structures;- training events (conferences, seminars, refresher courses, etc.) organized by public or private bodies or by scientific societies provided they are recognized as qualified. Some of these scientific Societies annually guarantee the free participation of students of the Degree Course through their seminar/congress activity and which can be consulted on the Degree Course website.

<ol style="list-style-type: none">3. Participation in elective courses is verified through a certificate of attendance from the referring teacher or from the organizing body.4. It is the responsibility of the Course Council to assess the adequacy of the elective courses undertaken by the student as well as the attribution of the related credits. The student must therefore submit to the QA Commission of the CdS the documentation deemed useful for the purposes of the aforementioned evaluation.5. The certification of elective credits is carried out on a special booklet issued by the Department's Quality and Teaching Support Service, after approval of the course by the QA Commission of the CdS and resolution of the Department Council.6. The certification of the acquisition of elective credits is carried out by the referring professor, among the official professors of the course and subject to verification by of the same certificate of attendance.

Art. 9 – Tutoring

<p>Regulatory sources: DM 270/2004, art. 11, paragraph 7, lett. c) and h) 7</p> <p>SUA-CdS frameworks of reference: Quality / Student experience / Orientation and ongoing tutoring / Framework B5</p> <p>Some teachers of the CdS carry out personalized orientation and tutoring activities annually, and are defined as "Teacher Tutors". In fact, there is a tutoring activity specifically aimed at the students of the Degree Course, which is carried out through an internal systemic monitoring by 4-5 Tutor professors who teach in the Degree Course; they have the task of closely and continuously following the careers of 5-10 students assigned to them in order to promptly identify any problems encountered along the way. The ultimate goal is to develop timely corrective actions aimed at achieving prompt active reintegration into the study programme.</p> <p>In addition, orientation and tutoring activities are continuously carried out by all the Professors of the Degree Program for enrolled students who need advice regarding their curricular situation, or any other individual problem concerning the Degree Programme.</p>
--

Art. 10 - Internships and apprenticeships

<p>Regulatory sources: DM 270/2004, art. 10, paragraph, lett. e) 8</p> <p>SUA-CdS frameworks of reference: Quality/Student experience/Assistance for carrying out training periods abroad/B5 framework</p>
--



Area Didattica e Servizi agli Studenti

The five training credits related to the internship activities can be acquired by the student through a training experience carried out in a research facility (university or public or private external body, provided that it has an agreement). This activity can be aimed at the production of data for the drafting of the experimental thesis for the final exam. If the final thesis is the product of a bibliographic study, the student must acquire the credits through internship activities carried out in one of the University's research units or in an affiliated external body. This activity ends after the student has completed at least 125 hours of laboratory work under the guidance of a supervisor. The certification of the acquisition of credits relating to the internship is carried out by the contact professor identified by the student, by signing the certificate of attendance issued by the Department's Quality and Teaching Support Service.

Art. 11 – Final exam

Regulatory sources: DM 270/2004, art. 11, paragraph 3, lett. d) and paragraph 5; Ministerial Decree 07/26/2007, attachment 1, point 3, lett. i) (Guidelines) 9

SUA-CdS frameworks of reference: Quality / Training objectives / Final exam / Characteristics of the final exam / A5 frameworks

The educational credits relating to the final exam are acquired by the student following the presentation and discussion in front of an evaluation commission of a written work in English concerning a topic relating to one of the disciplines included in the course.

The final test for obtaining the degree in Reproductive Biotechnologies consists in the written elaboration and oral presentation in English of an original thesis elaborated under the guidance of a supervisor.

The thesis must represent the product of: research activity carried out in the research laboratories of the CdS, in order to acquire further technical skills, and/or to develop particular methods and procedures, and/or to develop one's own research project (internal experimental thesis); research activity carried out at external companies or bodies, Italian or foreign, of recognized qualification and affiliated with it (external experimental thesis); bibliographic and documentary study on a specific topic related to the themes of the training course (compiling thesis).

In all cases, the research activity and the written elaboration must be conducted under the supervision of a supervisor, identified among the professors in charge of the two-year courses as per the teaching plan approved by the Degree Program Board.

The student can also indicate a co-supervisor if the thesis is interdisciplinary or is partly carried out in partner public/private bodies.

The final report must be available to all members of the Graduation Commission at least 10 days before the session is called

degree in order to allow the teacher Supervisor and all the Commissioners to critically view the contents, evaluating their descriptive qualities and experimental rigour.

The student has 12 credits for the preparation of the written thesis and for its presentation. These credits are acquired when the student, following a satisfactory presentation and discussion of the thesis which can be carried out using multimedia supports, passes the final test obtaining the approval of the work carried out by the Degree Commission, the which also assigns the final degree mark.

The final vote, expressed out of one hundred and ten, will take into account:

- the results of the exams taken during the course of study,
- the type of thesis carried out.

Up to a maximum of 10 points are awarded for the compilation/experimental thesis, which are added to the mathematical average of the exams taken. For the formulation of the degree mark, the Commission considers the curriculum of studies and the number of years of enrollment, the type of thesis (experimental or compiling), the opinion of the supervisor (of the co-supervisor, if present) and of the co-supervisor on the quality of the written paper, the judgment of the entire Commission on the presentation and discussion of the paper. There are 2 additional reward points to the final degree grade for students who have achieved international mobility within the LLP/Erasmus Program for study or for Placement, 3 additional points in total if the graduating student has achieved both forms of mobility (reception of the resolution of the Academic Senate of 16 October 2013). Honors is proposed by the President of the Graduation Commission and can only be awarded if there is a unanimous positive opinion from all commissioners.

The Commissions are appointed by the Degree Course President and are made up of at least 7 members, of which at least four teaching professors and the remainder by contract professors, subject matter experts or, in any case, belonging to the SSDs envisaged in the Degree Course and/or to the Department of reference.

The final exams take place in at least four sessions that the Department Council decides on the proposal of the Course Council.

Art. 12 – Final and transitional rules

1. The didactic regulations of the Degree Course are approved by the Department Council on the proposal of the Degree Course.
2. Changes to these Regulations are proposed by the Course Council and approved by the Department Council.
3. The educational regulation is annually adapted to the public Educational Offer and consequently is valid for the referenced cohort of students in the academic year of first enrolment.
4. For anything not covered by these teaching regulations, please refer to the University teaching regulations.