DIDACTIC REGULATIONS OF THE DEGREE PROGRAM

BIOLOGY FOR ONE-HEALTH

CLASS L-13

School: Polytechnic and Basic Science

Department: Biology

Regulations in force since the academic year 2025 - 2026

ACRONYMS

CCD	[Commissione di Coordinamento Didattico]	Didactic Coordination Commission
CdS	[Corso/i di Studio]	Degree Program
CPDS	[Commissione Paritetica Docenti-Studenti]	Joint Teachers-Students Committee
OFA	[Obblighi Formativi Aggiuntivi]	Additional Training Obligations
SUA-CdS	[Scheda Unica Annuale del Corso di Studio]	Annual single form of the Degree Program
RDA	[Regolamento Didattico di Ateneo]	University Didactic Regulations

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Art. 1
Object

1. These Didactic Regulations govern the organizational aspects of the CdS in "Biology for One-Health"/ “Biologia per la Salute Unica” (class L-13 - Biological Sciences). The CdS is hinged into the Department of Biology and is delivered in English.
2. The CdS is governed by the Didactic Coordination Commission (CCD), pursuant to Art. 4 of the RDA.
3. The Didactic Regulations are issued in compliance with the relevant legislation in force, the Statute of the University of Naples Federico II and the RDA.

Art. 2
Training objectives

The Bachelor's Degree Program in "Biology for One-Health" trains graduates with solid knowledge in the cultural fields of basic biology that ensure the holistic approach of the One-Health model. This goal becomes increasingly indispensable in the current historical period and in the near future in which the anthropization of new areas, the closest contact with animals, climate change, land consumption, and global travel and trade promote the spread of diseases that pose a serious danger to the health and well-being of humans and ecosystems on a global scale.

The “Biology for One-Health” graduate, through the enhancement of theoretical and practical knowledge from different disciplines, ensures the application of the One-Health model in preventing the incidence of one-health hazards and solving issues that threaten ecosystem health and human well-being.

The CdS aims to train graduates who:

- know the fundamentals of mathematics, statistics, physics and chemistry;
- know the principles underlying biology with particular reference to the relationships between organisms (including humans) and the environment;
- are able to apply a holistic approach to understanding global changes that impact human and environmental health;
- are able to apply methods of analysis and investigation for unique health assessment;
- are able to develop the ability to problem solve, work independently, and communicate and interact in a work group.

The didactic pathway is organized in such a way as to enable the acquisition of:

- skills in the basic disciplines for all science degrees (mathematics, physics and chemistry) that contribute to the development of rational thinking based on demonstrable experience;
- skills in the various disciplines of the biological area aimed at the recognition, prevention and resolution of threats to human well-being and environmental health also through an interdisciplinary approach.

The CdS in "Biology for One-Health" provides basic and characterizing teachings that contribute to the acquisition of knowledge and skills of the principles of mathematics, physics, chemistry and biological area disciplines necessary for a solid training of the biologist. The related or supplementary activities offered by the CdS allow in-depth study of particular areas of biology that contribute to the enrichment of knowledge on specific aspects related to unique health with particular reference to human health, and conservation, preservation and recovery of ecosystems, and the main techniques of investigation in the field. Finally, the student has the opportunity to deepen topics of his or her own cultural interest by customizing the curriculum by including free choice activities and has the opportunity to acquire knowledge of the complex world of work in the biological sector and to appreciate the relationship between university preparation and

professional activities by undertaking internships in biological research laboratories, analytical or monitoring laboratories, production companies in the environmental, bio-health, agri-food and biotechnological sectors, bodies in charge of environmental protection, monitoring and restoration, multidisciplinary professional firms for environmental impact assessment and biological safety. Finally, the foreign student will acquire knowledge of the Italian language.

Art. 3
Professional profile and work opportunities

PROFESSIONAL PROFILE: Junior Biologist.
The "Biology for One-Health" graduate can exercise the profession of junior biologist, with technical-executive roles in biochemical and environmental control laboratories, after passing the state examination (section B of the register, Presidential Decree No. 328/01).

Function in a work setting:

The "Biology for One-Health" graduate applies analytical procedures for:
- the design, development and evaluation of systems for the control, safety and conservation of the environment;
- the control and detection of various types of environmental pollution;
- the identification of the causes of environmental pollution;
- the safety and preservation of the functionality of the environment;
- the verification and evaluation of the biological composition of water, natural or industrial products;
- the diagnosis of animal and plant diseases;
- investigations in the biomedical, agronomic and zootechnic fields.

Skills associated with the function:

The "Biology for One-Health" graduate has acquired the following skills:
- knowledge of the basic concepts of biology;
- interdisciplinary approach to the environmental monitoring and safety;
- interdisciplinary approach to understanding threats to human well-being and environmental health;
- knowledge of the main and current methods of analysis and investigation for one-health assessment;
- knowledge of health challenges at the national and international level;
- ability to develop investigations about human well-being and environmental health with a scientific approach;
- development of problem solving skills;
- ability to work independently;
- ability to communicate and interact in a work group.

Work opportunities:

The "Biology for One-Health" graduate can exercise the profession of junior biologist, with technical-executive roles in biochemical and environmental control laboratories, after passing the state examination (section B of the register, Presidential Decree No. 328/01). Particularly, he/she can be employed in:

- public and private analytical laboratories in the environmental, bio-health, agri-food and biotechnology sectors;
- bodies in charge of environmental protection, monitoring and restoration;
- multidisciplinary professional companies for environmental impact assessment and biosafety;

- universities and public and private research centres, with technical-executive roles.

Art. 4
Admission requirements and knowledge required for access to the Degree Program[1]

In order to be admitted to the CdS in "Biology for One-Health," the student must possess a secondary school diploma or other qualification obtained abroad, recognized as suitable, and knowledge of the English language at level B2 or higher of the Common European Framework of Reference for Languages (QCER) ascertained in the manner prescribed by the Didactic Regulations. Verification of the English language proficiency requirement takes place upon enrolment. If the enrolling student does not already possess a certification of the level (at least B2 of the QCER) of English language proficiency, the achievement of this level will be ascertained, prior to enrolment, by the University Language Center.
In addition to the diploma, personal preparation is assessed, which in the case of this degree consists of the knowledge and skills listed below:
1) basic knowledge of biology including the general organization of a prokaryote and eukaryote cell: the structure and function of nucleic acids; general concepts of autotrophism and heterotrophism, aerobiosis and anaerobiosis, photosynthesis; general concepts of classification of animal and plant organisms; general concepts of evolution of species;
2) basic knowledge of mathematics, including the fundamentals of algebraic and arithmetic calculus, analytic geometry, and elementary functions;
3) basic knowledge of classical physics, with reference to the fundamentals of mechanics and optics;
4) basic knowledge of chemistry, with reference to the fundamentals of the structure and properties of matter and its states of aggregation, and the periodic properties of the elements;
5) basic knowledge and use of the main widely used computer programs;
The following skills are also required:
- the ability to interpret the meaning of a text and to synthesize or restate it in written and oral form in the language of the Course;
- the ability to solve a problem through the correct identification of data and their use in the most effective form;
- the ability to use elementary logical structures (e.g., the meaning of implication, equivalence, negation of a sentence, etc.) in written and oral discourse;
- the ability to critically evaluate a piece of data or an observation and use them appropriately in their context (e.g., being able to grasp an obvious inconsistency in a scientific measurement).
In order to verify the possession of the knowledge required for access, the enrolling students will have to take an assessment test. This test will be aimed at providing general indications on the status of the required basic knowledge. The criteria and procedures for the access test will be set out in detail in the notice of the call competition, where a minimum score that will guarantee debt-free access to the CdS will also be indicated. The students who will achieve a score below the minimum threshold will be assigned an additional training obligation (OFA) to be fulfilled in the first year of the course according to the current regulations.

[1] Artt. 7, 13, 14 of the University Didactic Regulations.

Art. 5
Procedures for access to the Degree Program (CdS)

1. Access to the CdS in "Biology for One-Health" is by programmed number on a local basis as it involves the use of highly specialized laboratories, information and technology systems or otherwise customized study places. Nationwide programmed access is governed by law 264 of 1999 as amended and supplemented. The Didactic Coordination Commission (CCD) of the Degree Program normally regulates the admission criteria and the any scheduling of enrolments, except in cases subject to different provisions of law, which will be indicated in the call competition for each academic year.
2. Enrolment in the CdS in "Biology for One-Health" is subject to passing a mandatory selective test. The levels of entry requirements are established by the CCD of the Degree Program and are the basis of the mandatory selective test, which is provided by the Department of Biology in collaboration with the School of Polytechnic and Basic Sciences. In order to the enrolment, the students must achieve a minimum test score defined by the CCD, which regulates the admission criteria for each academic year. In the event of negative assessment of the adequate initial preparation regarding knowledge requirements for admission to the Degree Program, the CCD assigns specific Additional Formative Obligations (OFA), indicating the means of verification to be fulfilled within the Program's first year. The CCD organizes in-progress tutoring activities in order to support the student in the recovery of OFAs.

Art. 6
Teaching activities and university training credit (Teaching activities and CFU)

Each training activity, prescribed by the CdS detail sheet, is measured in CFU. Each CFU corresponds to 25 hours of overall training commitment[2] per student and includes the hours of teaching activities specified as well as the hours reserved for personal study or other individual training activities.
For the Degree Program covered by this Didactic Regulations, the hours of teaching activities for each CFU, established in relation to the type of training activity, are as follows[3]:

- Lecture or guided teaching exercises: 8 hours per CFU;
- Seminar: 8 hours per CFU;
- Laboratory activities or fieldwork: 8 hours per CFU;

For internship activities, each credit corresponds to 25 hours of overall training commitment [4].

[2] According to Art. 5, c. 1 of Italian Ministerial Decree No 270/2004, "25 hours of total commitment per student correspond to university training credits; a ministerial decree may justifiably determine variations above or below the aforementioned hours for individual classes, by a limit of 20 per cent".
[3] The number of hours considers the instructions in Art. 6, c. 5 of the RDA: "of the total 25 hours, for each CFU, are reserved: a) 5 to 10 hours for lectures or guided teaching exercises; b) 5 to 10 hours for seminars; c) 8 to 12 hours for laboratory activities or fieldwork, except in the case of training activities with a high experimental or practical content, and subject to different legal provisions or different determinations by DD.MM.".
[4] For Internship activities (Inter-ministerial Decree 142/1998), subject to further specific provisions, the number of working hours equal to 1 CFU may not be less than 25.

The CFU corresponding to each training activity acquired by the student is awarded by satisfying the assessment procedures (examination, pass mark) indicated in the Course sheet relating to the course/activity attached to these Didactic Regulations.

Art. 7
Description of teaching methods

The didactic activity is carried out in conventional modality. The Degree Course in "Biology for One-Health" can provide distance learning, through the Teams platform, in synchronous mode on occasions provided for by the SPSB and in any case not exceeding 20% of the training activities.

If necessary, the CCD resolves which teachings also provide for teaching activities offered online, in compliance with Ministerial Decree No. 289 of March 25, 2021 (general guidelines for the three-year planning of universities 2021-2023), in Annex 4, letter A.

Some courses may also take place in seminar form and/or involve classroom exercises, language, and computer laboratories.

Detailed information on how each course is conducted can be found in the course sheets.

Art. 8
Testing of training activities[5]

1. The CCD, within the prescribed regulatory limits[6], establishes the number of examinations and other means of assessment that determine the acquisition of credits. Examinations are individual and may consist of written, oral, practical, graphical tests, term papers, interviews, or a combination of these modes.
2. The examination procedures published in the course sheets and the examination schedule will be made known to students before the start of classes on the Department's website.[7]
3. Examinations are held subject to booking, which is made electronically. In case the student is unable to book an exam for reasons that the President of the Board considers justifiable, the student may still be admitted to the examination, following those students already booked.
4. Before examination, the President of the Board of Examiners verifies the identity of the student, who must present a valid photo ID.
5. Examinations are marked out of 30. Examinations involving an assessment out of 30 shall be passed with a minimum mark of 18; a mark of 30 may be accompanied by honours by a

[5] Article 22 of the University Didactic Regulations.

[6] Pursuant to the DD.MM. 16.3.2007 in each Degree Programs the examinations or profit tests envisaged may not be more than 20 (Bachelor's Degrees; Art. 4. c. 2), 12 (Master's Degrees; Art. 4, c. 2), 30 (five-year single-cycle Degrees) or 36 (six-year single-cycle Degrees; Art. 4, c. 3). Pursuant to the RDA, Art. 13, c. 4, "the assessments that constitute an eligibility evaluation for activities referred to in Art. 10, c. 5, letters c), d), and e) of Ministerial Decree no. 270/2004, including the final examination for obtaining the degree, are excluded from the calculation." For Master's Degree Program and single-cycle Master's Degree Program, however, pursuant to the RDA, Art. 14, c. 7, "the assessments that constitute a progress evaluation for activities referred to in Art.10, c. 5, letters d) and e) of Ministerial Decree no. 270/2004 are excluded from the exam count; the final examination for obtaining the Master's Degree and single-cycle Master's Degree is included in the maximum number of exams".

[7] Reference is made to Art. 22, c. 8, of the University Teaching Regulations, which states that "the Department or School ensures that the dates for progress assessments are published on the portal with reasonable advance notice, which normally cannot be less than 60 days before the start of each academic period, and that an adequate period of time is provided for exam registration, which is generally mandatory."

unanimous vote of the Board. Examinations are marked out of 30 or with a simple pass mark. Assessments following tests other than examinations are marked out with a simple pass mark.

6. Oral exams are open to the public. If written tests are scheduled, the candidate has the right to see his/her paper(s) after correction.
7. The University Didactic Regulations govern Examination Boards [8].

Art. 9
Degree Program structure and Study Plan

1. The legal duration of the Degree Program is 3 years.

The student must acquire 180 CFU[9], attributable to the following Types of Training Activities (TAF):

A) basic,
B) characterising,
C) related or supplementary,
D) at the student's choice (at least 12 CFU)[10],
E) for the final exam,
F) further training activities.

2. The degree is awarded after having acquired 180 CFUs. [see note 9] by passing examinations, not exceeding 20, and the performance of other training activities. Unless otherwise provided for in the legal framework of University studies, examinations taken as part of basic, characterising, and related or supplementary activities, as well as activities chosen autonomously by the student (TAF D) are taken into consideration for counting purposes. Examinations or assessments relating to activities independently chosen by the student may be taken into account in the overall calculation corresponding to one unit[11]. Tests constituting an assessment of suitability for the activities referred to in Article 10, paragraph 5, letters c), d) and e) of Ministerial Decree 270/2004[12] are excluded from the count. Integrated Courses comprising of two or more modules are subject to a single examination.

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[8] Reference is made to Art. 22, paragraph 4 of the RDA according to which "Examination Boards and other assessments committees are appointed by the Director of the Department or by the President of the School when provided for in the School's Regulations. This function may be delegated to the CCD Coordinator. The Commissions comprise of the President and, if necessary, other professors or experts in the subject. In the case of active courses, the President is the course instructor, and in such cases, the Board can validly make decisions even in the presence of the President alone. In other cases, the President is a professor identified at the time of the Board's appointment. In the comprehensive evaluation of the overall performance at the conclusion of an integrated course, the professors in charge of the coordinated modules participate, and the President is appointed when the Commission is appointed."

[9] The total number of CFU for the acquisition of the relevant degree must be understood as follows: six-year single-cycle Degree, 360 CFU; five-year single-cycle Degree, 300 CFU; Bachelor's Degree, 180 CFU; Master's Degree, 120 CFU.

[10] Corresponding to at least 12 ECTs for Bachelor's Degrees and at least 8 CFU for Master's Degrees (Art. 4, c. 3 of Ministerial Decree 16.3.2007).

[11] Pursuant to the D.M. 386/2007.

[12] Art. 10, c. 5 of Ministerial Decree. 270/2004: "In addition to the qualifying training activities, as provided for in paragraphs 1, 2 and 3, Degree Programs shall provide for: a) training activities autonomously chosen by the student as long as they are consistent with the training project [TAF D]; b) training activities in one or more disciplinary fields related or complementary to the basic and characterising ones, also with regard to context cultures and interdisciplinary training [TAF C]; c) training activities related to the preparation of the final exam for the achievement of the degree and, with reference to the degree, to the verification of the knowledge of at least one foreign language in addition to Italian [TAF E]; d) training activities, not envisaged in the previous points, aimed at acquiring additional language knowledge, as well as computer and telematic skills, relational skills, or in any case useful for integration in the world of work, as well as training activities aimed at facilitating professional choices, through direct knowledge of the job sector to which

3. In order to acquire the CFU relating to independent choice activities, the student is free to choose among all the Courses offered by the University, provided that they are consistent with the training project. This consistency is assessed by the Didactic Coordination Commission. Also, for the acquisition of the CFU relating to autonomous choice activities, the "passing the exam or other form of profit verification" is required (Art. 5, c. 4 of Ministerial Decree 270/2004).
4. The student may also include among the choice credits any internship credits in excess of those required by the regulations, subject to the approval of the CCD.
5. Choice credits may also be taken in years other than the scheduled year, as long as they do not exceed, in total, those required for the entire Degree Program.
6. The study plan summarises the structure of the Degree Program, listing the envisaged teachings broken down by course year and, in case, by curriculum. At the end, the prerequisites envisaged by the Degree Program are listed. The study plan offered to students, with an indication of the scientific-disciplinary sectors and the area to which they belong, of the credits, of the type of educational activity, is set out in Annex 1 to these Didactic Regulations.
7. Pursuant to Art. 11, paragraph 4-bis, of Ministerial Decree 270/2004, it is possible to obtain the Degree according to an individual study plan that also includes educational activities different from those specified in the Didactic Regulations, as long as they are consistent with the CdS detail sheet of the academic year of enrollment. The individual study plan is approved by CCD.

Art. 10
Attendance requirements[13]

1. In general, attendance of lectures is strongly recommended but not compulsory.
2. If the lecturer envisages a different syllabus modulation for attending and non-attending students, this is indicated in the individual Course details published on the CdS web page and on the teacher's UniNA website.
3. Attendance at seminar activities that award training credits is compulsory. The relative modalities for the attribution of CFU are the responsibility of the CCD.

Art. 11
Prerequisites and prior knowledge

1. The list of incoming and outgoing prerequisites (necessary to sit a particular examination) can be found at the end of Annex 1 and in the teaching/activity course sheet (Annex 2).
2. Any prior knowledge deemed necessary is indicated in the individual Teaching Schedule published on the course webpage and on the teacher's UniNA website.

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the qualification may give access, including, in particular, training and guidance programs referred to in Decree no. 142 of 25 March 1998 of the Ministry of Labour [TAF F]; e) in the hypothesis referred to in Article 3, paragraph 5, training activities relating to internships and apprenticeships with companies, public administrations, public or private entities including those of the third sector, professional orders and colleges, on the basis of appropriate agreements".

[13] Art. 22, c. 10 of the University Didactic Regulations.

Art. 12
Degree Program Calendar

The Degree Program calendar can be found on the Department's website well before the start of the activities (Art. 21, c. 5 of the RDA).

Art. 13
Criteria for the recognition of credits earned in other Degree Programs in the same Class[14]

For students coming from Degree Programs of the same Class, the Didactic Coordination Commission ensures the full recognition of CFU, when associated with activities that are culturally compatible with the training Degree Program, acquired by the student at the originating Degree Program, according to the criteria outlined in Article 14 below. Failure to recognise credits must be adequately justified. It is without prejudice to the fact that the number of credits relating to the same scientific-disciplinary sector directly recognised by the student may not be less than 50% of those previously achieved. In the event that the home course is conducted in distance learning mode, the minimum quota of 50% is recognized only if the home course is accredited in accordance with the ministerial regulation referred to in Article 2, paragraph 148, of Decree-Law No. 262 of October 3, 2006, converted by Law No. 286 of November 24, 2006.

Article 14
Criteria for the recognition of credits acquired in Degree Programs of different classes, in university or university-level Degree Programs, through single courses, at online Universities and in international Degree Programs[15]; criteria for the recognition of credits acquired in extra-curricular activities

1. With regard to the criteria for the recognition of CFU acquired in Degree Programs of different Classes, in university or university-level Degree Programs, through single courses, at online Universities and in International Degree Programs, the credits acquired are recognised by the CCD on the basis of the following criteria:
   - analysis of the activities carried out;
   - evaluation of the congruity of the disciplinary scientific sectors and of the contents of the training activities in which the student has earned credits with the specific training objectives of the Degree Program and of the individual training activities to be recognised.

   Recognition is carried out up to the number of credits envisaged by the didactic system of the Degree Program. Failure to recognise credits must be adequately justified. Pursuant to Art. 5, c. 5-bis, of Ministerial Decree 270/2004, it is also possible to acquire CFU at other Italian universities on the basis of agreements established between the concerned institutions, in accordance with the regulations current at the time [16].

[14] Art. 19 of the University Didactic Regulations.
[15] Art. 19 and Art. 27, c.6 of the University Didactic Regulations.
[16] Art. 6, c. 9 of the University Didactic Regulations.

2. Any recognition of CFU relating to examinations passed as single courses may take place within the limit of 36 CFU, upon request of the interested party and following the approval of the CCD. Recognition may not contribute to the reduction of the legal duration of the Degree Program, as determined by Art. 8, c. 2 of Ministerial Decree 270/2004, except for students who enrol while already in possession of a degree of the same level[17].
3. With regard to the criteria for the recognition of CFU acquired in extra-curricular activities, within the limit of 12 CFU the following activities may be recognised:
   - Professional knowledge, skills, and certified skills, taking into account the congruence of the activity carried out and/or of the certified skill with the aims and objectives of the Degree Program as well as the hourly commitment of the duration of the activity.
   - Knowledge and skills acquired in post-secondary-level training activities, which the University contributed to developing and implementing.

Art. 15
Criteria for enrolment in individual teaching courses

Enrolment in individual teaching courses, provided for by the University Didactic Regulations[18], is governed by the "University Regulations for enrolment in individual teaching courses activated as part of the Degree Program"[19].

Article 16
Features and modalities for the final examination

The final examination for the degree in "Biology for One-Health" will consist of an exposition of the results achieved during the activities carried out in a research laboratory, either within university facilities or at research centers, companies or external bodies, according to the modalities established by the CdS, or of the internship activities carried out in public and private facilities, or of the bibliographic research activities. The discussion of the thesis will take place in the presence of a committee appointed for this purpose and may include the use of audio-visual aids.
The student may begin the thesis activity after acquiring at least 130 CFU.
The thesis activity is carried out by the student with the support of a lecturer supervisor, who may be chosen from among the teaching holders of the CdS in "Biology for One-Health" or pertaining to the teaching area of science.

The Degree Committee will meet according to a schedule that will be published on the Biology Department website. The proclamation of the candidates will be made by public session. The final grade awarded to the student is obtained by taking into account the student's career, the final paper submitted and the presentation of the paper to the committee. The Degree Committee will express the score in one hundred and tenths. By unanimous vote, the Committee may award honors to the candidate who achieves the highest grade.

[17] Art. 19, c. 4 of the University Didactic Regulations.
[18] Art. 19, c. 4 of the University Didactic Regulations.
[19] R.D. No. 348/2021.

Article 17
Guidelines for traineeship and internship

1. Students enrolled in the Degree Program may decide to carry out internships or training periods with organisations or companies that have an agreement with the University. Traineeship and internship are not compulsory and contribute to the award of credits for the other training activities chosen by the student and included in the study plan, as provided for by Art. 10, par. 5, letters d and e, of Ministerial Decree 270/2004[20].
2. The CCD regulates the modalities and characteristics of traineeship and internship with specific regulations.
3. The University of Naples Federico II, through the Student Internship Office (http://www.unina.it/didattica/tirocini-studenti) ensures constant contact with the world of work to offer students and graduates of the University concrete opportunities for internships and work experience and to promote their professional integration.

Article 18
Disqualification of student status[21]

A student who has not taken any examinations for eight consecutive academic years incurs forfeiture unless his/her contract stipulates otherwise. In any case, forfeiture shall be notified to the student by certified e-mail or other suitable means attesting to its receipt.

Article 19
Teaching tasks, including supplementary teaching, guidance, and tutoring activities

1. Professors and researchers carry out the teaching load assigned to them in accordance with the provisions of the RDA and the Regulations on the teaching and student service duties of professors and researchers and on the procedures for self-certification and verification of actual performance[22].
2. Professors and researchers must guarantee at least two hours of reception every 15 days (or by appointment in any case granted no longer than 15 days) and, in any case, guarantee availability by e-mail.
3. The tutoring service has the task of orienting and assisting students throughout their studies and of removing the obstacles that prevent them from adequately benefiting from attending courses, also through initiatives tailored to the needs and aptitudes of individuals.
4. The University ensures guidance, tutoring and assistance services and activities to welcome and support students. These activities are organised by the Schools and/or Departments under the coordination of the University, as established by the RDA in Article 8.

[20] Traineeships ex letter d can be both internal and external; traineeships ex letter e can only be external.
[21] Art. 24, c. 5 of the University Didactic Regulations.
[22] R.D No. 2482//2020.

Article 20
Evaluation of the quality of the activities performed

1. The Didactic Coordination Commission implements all the quality assessment forms of teaching activities envisaged by the regulations in force according to the indications provided by the University Quality Presidium.
2. In order to guarantee the quality of teaching to the students and to identify the needs of the students and all stakeholders, the University of Naples Federico II uses the Quality Assurance (QA)[23] System, developed in accordance with the document "Self-evaluation, Evaluation and Accreditation of the Italian University System" of ANVUR, using:
   - surveys on the degree of placement of graduates into the world of work and on post-graduate needs;
   - data extracted from the administration of the questionnaire to assess student satisfaction for each course in the curriculum, with questions relating to the way the course is conducted, teaching materials, teaching aids, organisation, facilities.

   The requirements deriving from the analysis of student satisfaction data, discussed, and analysed by the Teaching Coordination Committee and the Joint Teachers' and Students' Committee (CPDS), are included among the input data in the service design process and/or among the quality objectives.
3. The QA System developed by the University implements a process of continuous improvement of the objectives and of the appropriate tools to achieve them, ensuring that planning, monitoring, and self-assessment processes are activated in all the structures to allow the prompt detection of problems, their adequate investigation, and the design of possible solutions.

Article 21
Final Rules

The Department Council, on the proposal of the CCD, submits any proposals to amend and/or supplement these Rules for consideration by the Academic Senate.

Article 22
Publicity and Entry into Force

1. These Rules and Regulations shall enter into force on the day following their publication on the University's official notice board; they shall also be published on the University website. The same forms and methods of publicity shall be used for subsequent amendments and additions.
2. Annex 1 (CdS structure) and Annex 2 (Teaching/Activity course sheet) are integral parts of this Didactic Regulations.

[23] The Quality Assurance System, based on a process approach and adequately documented, is designed in such a way as to identify the needs of the students and all stakeholders, and then translate them into requirements that the training offer must meet.

ANNEX 1.1

DEGREE PROGRAM DIDACTIC REGULATIONS
BIOLOGY FOR ONE-HEALTH

CLASS L-13

School: Polytechnic and Basic Sciences

Department: Biology

Didactic Regulations in force since the academic year 2025 -2026

STUDY PLAN

KEY

Type of Educational Activity (TAF):

A = Basic
B = Characterising
C = Related or Supplementary
D = At the student's choice
E = Final examination and language knowledge
F = Further training activities

Year I									
Title Course	**SSD**	**Module**	**Credits**	**Hours**	**Type Activities *(lectures, workshops, etc.)***	**Course Modalities *(in-person, by distance)***	**TAF**	**Disciplinary area**	**Mandatory/ optional**
Biomathematics	MATH03/A – MATH03/B	single	6	48	Frontal lesson	In-person	A	Mathematical, physical and informatics disciplines	Mandatory
Cell and tissue biology (with laboratory)	BIOS-04/A	single	8 + 2	64 + 16	Frontal lesson and laboratory	In-person	A	Biological disciplines	Mandatory
Zoology for One Health (with laboratory)	BIOS-03/A	single	8 + 2	64 + 16	Frontal lesson and laboratory	In-person	B	Botanical, zoological and ecological disciplines	Mandatory
Organic chemistry and principles of chemical biology (with laboratory)	CHEM-05/A	single	10 + 2	80 + 16	Frontal lesson and laboratory	In-person	A	Chemical disciplines	Mandatory

Plant Biology (with laboratory)	BIOS-01/A	single	8 + 2	64 + 16	Frontal lesson and laboratory	In-person	A	Biological disciplines	Mandatory

Year II									
Title Course	**SSD**	**Module**	**Credits**	**Hours**	**Type Activities *(lectures, workshops, etc.)***	**Course Modalities *(in-person, by distance)***	**TAF**	**Disciplinary area**	**Mandatory / optional**
Physics and elements of Statistics	PHYS06/A	single	6	48	Frontal lesson	In-person	A	Mathematical, physical and informatics disciplines	Mandatory
Natural and man-made habitats (with laboratory)	BIOS-05/A	single	8 + 2	64 + 16	Frontal lesson and laboratory	In-person	B	Botanical, zoological and ecological disciplines	Mandatory
Microbiology and global health (with laboratory)	BIOS-15/A	single	8 + 2	64 + 16	Frontal lesson and laboratory	In-person	B	Biomolecular disciplines	Mandatory
Physiology of health and well-being (with laboratory)	BIOS-06/A	single	8 + 2	64 + 16	Frontal lesson and laboratory	In-person	B	Discipline fisiologiche e biomediche	Mandatory
Basic and environmental biochemistry (with laboratory)	BIOS-07/A	single	8 + 2	64 + 16	Frontal lesson and laboratory	In-person	A	Biological disciplines	Mandatory
One health molecular foundations (with laboratory	BIOS-08/A	single	8 + 2	64 + 16	Frontal lesson and laboratory	In-person	B	Biomolecular disciplines	Mandatory

Year III									
Title Course	**SSD**	**Module**	**Credits**	**Hours**	**Type Activities *(lectures, workshops, etc.)***	**Course Modalities *(in-person, by distance)***	**TAF**	**Disciplinary area**	**Mandatory / optional**
Genetics and genomics for one-health (with laboratory)	BIOS-14/A	single	8 + 2	64 + 16	Frontal lesson and laboratory	In-person	B	Biomolecular disciplines	Mandatory
Human pathology (with laboratory)	MEDS-02/A	single	5 + 1	40 + 8	Frontal lesson and laboratory	In-person	B	Physiological and biomedical disciplines	Mandatory
General and applied hygiene (with laboratory)	MEDS-24/B	single	5 + 1	40 + 8	Frontal lesson	In-person	B	Physiological and biomedical disciplines	Mandatory

Physiology of crops and food improvement (with laboratory)	BIOS-02/A	single	8+2	64+16	Frontal lesson and laboratory	In-person	C	Related or Supplementary	Mandatory
Diseases dynamics and models in a changing world (with laboratory)	MVET-02/A	single	6+2	64	Frontal lesson and laboratory n	In-person	C	Related or Supplementary	Mandatory
Topics in one-health and case studies (with laboratory)	BIOS-05/A	single	6	48	Frontal lesson and laboratory	In-person	C	Related or Supplementary	Mandatory
At the student's choice activity			12	96			D	At the student's choice	Mandatory
Further knowledge useful for job placement / further linguistic knowledge *		single	8	200	Tirocinio/lingua italiana	In-person	F	Further knowledge useful for job placement/	Mandatory
Thesis Activity		single	10	250	Tesi	In-person	E	For Final examination	Mandatory

**** For foreign students 4 credits: further linguistic knowledge***

ANNEX 2.1

DEGREE PROGRAM DIDACTIC REGULATIONS

BIOLOGY FOR ONE-HEALTH

CLASS L-13

School: Polytechnic and Basic Sciences

Department: Biology

Didactic Regulations in force since the academic year 2025 -2026

Course: Biomathematics	**Teaching Language:** English
SSD (Subject Areas): **MATH-03/A-MATH-03/B**	**CREDITS: 6**
Course year: first	**Type of Educational Activity: A** - Basic
Teaching Methods: In-person	
Contents extracted from the SSD declaratory consistent with the training objectives of the course: Research in SSD MATH-03/A-MATH-03/B includes the development of rigorous and innovative methodologies for the analysis of problems arising both within mathematics and in applications to the physical, natural, social and life sciences. Skills and areas of research include ordinary differential equations; dynamical systems; partial derivative equations; innovative analytical and stochastic methods for physical theories. New analytical and stochastic methods to frame the study, validation and simulation results of mathematical models for the life sciences in a rigorous framework are developed.	
Objectives: The course aims to provide students with introductory knowledge and basic methodological tools necessary to deal, through the mathematical approach, with the study of elementary processes of evolution typical of fields such as Population Dynamics, Ecology, Biology. More generally, the course aims to educate in the language of mathematical modeling and its multidisciplinary applications.	
Propaedeuticities: None **Is a propaedeuticity for:** None	
Types of examinations and other tests: Oral examination	

Course: Cell and tissue biology (with laboratory)	**Teaching Language:** English
SSD (Subject Areas): **BIOS-04/A**	**CREDITS: 10**
Course year: first	**Type of Educational Activity: A** - Basic
Teaching Methods: In-person	

Contents extracted from the SSD declaratory consistent with the training objectives of the course:
The scientific group is interested in scientific and educational-training activities in disciplines characterized by an integrated set of skills that address development and training in animal biology. The fundamental correlations between molecular, sub-cellular, cellular, tissue and organological levels are explored with the use of advanced techniques. The relationships between environment, morphogenesis and phylogeny are studied to identify at various levels, also with a comparative approach, the interconnection between structure, function and adaptation, in various processes such as reproduction, embryonic development, aging, integration endocrine and neural and immune defense. Furthermore, the sector studies the morpho-functional and embryological modifications caused by environmental alterations.

Objectives:
Provide the tools for understanding fundamental knowledge about living organisms, from biological macromolecules to cells and tissues, on the relationships between structure and function, using a transdisciplinary approach and highlighting the interrelationship with the environment. We will analyze the molecular mechanisms that regulate cellular processes such as proliferation, differentiation, metabolism, survival and cell death. Students, through analytical and problem-solving approaches, will develop the ability to better understand cellular responses to environmental changes, including the mechanisms that lead to the transformation of cells into tumor cells. Finally, the laboratory part will provide basic knowledge of microscopic, histological and cell culture techniques.

Propaedeuticities:
None
Is a propaedeuticity for:
None

Types of examinations and other tests:
Oral examination

Course: Zoology for One Health (with laboratory)	**Teaching Language:** English
SSD (Subject Areas): **BIOS-03/A**	**CREDITS: 10**
Course year: first	**Type of Educational Activity: B** - Characterising

Teaching Methods:
In-person

Contents extracted from the SSD declaratory consistent with the training objectives of the course:
The scientific group deals with research, teaching and scientific communication on topics of animal and human evolution and biodiversity, at various organizational levels. In the field of Zoology, the group deals with the study of protozoans, metazoans, their evolution and biodiversity. The theoretical and experimental research, conducted in the field and in the laboratory, investigates morpho-functional organization, reproduction, morphogenesis and development, internal defense systems, ecophysiology, behavior, intra- and interspecific interactions and with the environment and free-living and parasitic animals. The disciplines of the group have applicative relevance in the field of conservation and management of animal biodiversity.

Objectives:
The objectives of the course “Zoology for One Health” aim to integrate the study of animal biology with the principles of One Health, emphasizing the fundamental interconnection between human, animal, and environmental health. Furthermore, it seeks to provide students with a comprehensive understanding of the complex relationships between animals, humans, and the environment. Lastly, the course aims to prepare students for future careers in various fields, including research, conservation, public health, and related sectors, by equipping them with the necessary skills and knowledge to address global challenges in these areas.

Propaedeuticities:
None
Is a propaedeuticity for:

None
Types of examinations and other tests: Oral and written examination

Course: Organic chemistry and principles of chemical biology (with laboratory)	**Teaching Language:** English
SSD (Subject Areas): **CHEM - 05/A**	**CREDITS: 12**
Course year: first	**Type of Educational Activity: A** - Basic
Teaching Methods: In-person	
Contents extracted from the SSD declaratory consistent with the training objectives of the course: The course addresses the scientific study and educational training on natural and synthetic carbon compounds, including biomolecules. The main aims include the elucidation of the mechanisms through which organic compounds are formed and transformed in laboratory, nature and the environment, their supramolecular interactions, the structural characterization of organic products and the structure-reactivity relationships. The students will acquire a high level of scientific preparation and in-depth knowledge and skills on the isolation of organic compounds of animal, plant and marine origin, including those with biological activity, as well as the determination of their structure including stereochemistry and the development of methods suitable for this purpose and their synthesis. The lessons will concern the chemical synthesis of biologically active compounds, supramolecular systems, biopolymers, also with reference to their development in application areas. The course also covers the effect and function of organic molecules in the environment, as well as the circularity and sustainability of processes involving organic compounds. It also concerns the history of chemistry and includes teachings relating to basic and specialist courses consistent with this declaration.	
Objectives: The aim of the course is to provide the basic concepts of organic chemistry and understand their importance in biological systems. Students will be introduced to reactions and chemical characteristics of organic compounds, together with a view of the chemical techniques in use in the biological study, from ecology to physiology, including the rational search for products related to health and well-being. The objectives of the course “Zoology for One Health” aim to integrate the study of animal biology with the principles of One Health, emphasizing the fundamental interconnection between human, animal, and environmental health. Furthermore, it seeks to provide students with a comprehensive understanding of the complex relationships between animals, humans, and the environment. Lastly, the course aims to prepare students for future careers in various fields, including research, conservation, public health, and related sectors, by equipping them with the necessary skills and knowledge to address global challenges in these areas.	
Propaedeuticities: None **Is a propaedeuticity for:** None	
Types of examinations and other tests: Oral and written examination	

Course: Plant Biology (with laboratory)	**Teaching Language:** English
SSD (Subject Areas): **BIOS-01/A**	**CREDITS: 10**
Course year: first	**Type of Educational Activity: A** - Basic

Teaching Methods:
In-person

Contents extracted from the SSD declaratory consistent with the training objectives of the course:
The course proposes the study of " "plant biology ... to interpret, also from an evolutionary perspective, structures and reproductive mechanisms ... [It] highlights ... the relationships between cytological, histological, morpho-physiological and molecular aspects, and the role of secondary metabolites ...".

Objectives:
The main objective of this course is to allow the acquisition of basic knowledge on the structure, function and diversity of plant organisms:
1.Study of the structure of a corm plant: from the cytological and histological characteristics to the anatomical ones of the root, stem and leaves. 2.Definition of the cytological structures characterizing a plant cell and related functions: wall, vacuole, plastid. 3.Study of the main plant tissues and related functions. 4.Knowledge of problems relating to the evolution of plants. 5.Knowledge of the main biological and reproductive characteristics of Cyanobacteria and the main groups of Algae, Fungi, Bryophyta and Tracheophyta. 6.Basic knowledge on plant-human-environment interaction. The use of plants as food and as medicines.

Propaedeuticities:
None
Is a propaedeuticity for:
None

Types of examinations and other tests:
Oral and written examination

Course: Physics and elements of Statistics	**Teaching Language:** English
SSD (Subject Areas): **PHYS-06/A**	**CREDITS: 6**
Course year: second	**Type of Educational Activity: A** - Basic

Teaching Methods:
In-person

Contents extracted from the SSD declaratory consistent with the training objectives of the course:
The scientific-disciplinary sectors are characterized by scientific research and educational activities concerning the experimental, theoretical, and computational investigation of physical phenomena, starting from fundamental or emerging principles and laws, and utilizing appropriate mathematical and computational tools. They also include the study, development, and applications, including technological ones, of theoretical, modeling, experimental, and computational physical methodologies in various fields of life sciences, environmental sciences, and cultural heritage, which can be applied in diverse contexts such as medical, biological, biophysical, biotechnological, pharmaceutical, agricultural, and food sectors, as well as in optics and optometry, environmental protection, environmental acoustics, socio-economic studies, and the analysis and conservation of cultural heritage. The sector's expertise includes the development of teaching and learning methodologies in physics for life sciences, environmental sciences, and cultural heritage. In addition to the disciplines specialized in this declaration, the teaching activities of those affiliated with the sector also extend to all institutional aspects related to the teaching of general and basic physics, as well as certain aspects of post-graduate education in physical disciplines concerning specialization schools, including those in the medical field.

Objectives:
The course aims to provide students with the basic knowledge in physics and statistics necessary to quantitatively understand natural phenomena and the physical principles underlying laboratory instruments, as well as the skills to accurately interpret experimental data.

Propaedeuticities: None **Is a propaedeuticity for:** None
Types of examinations and other tests: Oral and written examination

Course: Natural and man-made habitats (with laboratory)	**Teaching Language:** English
SSD (Subject Areas): **BIOS-05A**	**CREDITS: 10**
Course year: second	**Type of Educational Activity: B** - Characterising
Teaching Methods: In-person	
Contents extracted from the SSD declaratory consistent with the training objectives of the course: The founding themes of ecology include: dynamics and regulation of populations as a function of resources and biotic interactions (such as predation, competition, parasitism, mutualism, facilitation); structure and composition of communities, mechanisms that regulate biodiversity and determine its spatio-temporal variations; relationships between biodiversity, ecosystem processes and functioning, formation of natural capital and provision of ecosystem goods and services; state and change of natural and anthropogenic (e.g. urban, industrial, agricultural) communities and ecosystems and their organization in landscape systems in response to natural and anthropogenic disturbance, including global and climate change; energy flow in ecosystems, food networks, production and decomposition, biogeochemical cycles and the role played in them by the biological components of the ecosystem at different levels of organization (organisms, populations, communities).	
Objectives: The course focuses on mechanisms that link ecological processes across levels of organization, such as organism function, species interactions, spatial connectivity and energetic transfers across trophic levels in natural environments. Moreover, it focuses on the impacts of humans on nature from an ecological perspective, investigating current global issues such as global change, pollution, habitat modification and biodiversity loss.	
Propaedeuticities: None **Is a propaedeuticity for:** None	
Types of examinations and other tests: Oral examination	

Course: Microbiology and global health (with laboratory)	**Teaching Language:** English
SSD (Subject Areas): **BIOS-15/A**	**CREDITS: 10**
Course year: second	**Type of Educational Activity: B** - Characterising
Teaching Methods: In-person	
Contents extracted from the SSD declaratory consistent with the training objectives of the course: The sector focuses on microbiology and microbial biotechnology, with regard to the structure, physiology, metabolism and phylogeny of microorganisms, including viruses. Placing microorganisms at the center of interest, the sector also deals with: i) the distribution of microorganisms in nature, the role they play in the host or in the environment, their interactions and complex microbial communities	

(microbiota/microbiome, virome, biofilm), ii) the adaptive responses and evolutionary processes of microorganisms, iii) the bases of both the physiological and pathological interactions of microorganisms with animal and plant organisms; iv) the mechanisms of action of antimicrobials and resistance to them.

Objectives:
Objective of the course is to provide students a basic knowledge on microorganisms, on their metabolic activities and their interactions with other organisms and with the environment. Information will also be provided on the main laboratory methods used for: the isolation of microorganisms from the environment, the preparation of microbial culture media and the microbial growth control.

Propaedeuticities:
None
Is a propaedeuticity for:
None

Types of examinations and other tests:
Oral and written examination

Course: Physiology of health and well-being (with laboratory)	**Teaching Language:** English
SSD (Subject Areas): **BIOS-06/A**	**CREDITS: 10**
Course year: second	**Type of Educational Activity: B** - Characterising

Teaching Methods:
In-person

Contents extracted from the SSD declaratory consistent with the training objectives of the course:
The disciplinary scientific group is interested in scientific and educational-training activities in the field of the vital functions of animals and humans, also in a comparative way, studying physiological mechanisms at all levels of complexity, molecular, cellular and systemic. Analyzes and evaluates the integrated functioning of the different organs and systems.

Objectives:
The course will deal with the ability to maintain health, or recover to a healthy state after disease, delineating the active process involving distinct adaptation mechanisms coordinating interactions between all physiological systems of an organism.

Propaedeuticities:
None
Is a propaedeuticity for:
None

Types of examinations and other tests:
Oral examination

Course: Basic and environmental Biochemistry (with laboratory)	**Teaching Language:** English
SSD (Subject Areas): **BIOS-07/A**	**CREDITS: 10**
Course year: second	**Type of Educational Activity: A** - Basic

Teaching Methods:
In-person

Contents extracted from the SSD declaratory consistent with the training objectives of the course:
Chemical constituents of living matter.

Structure, properties and functions of carbohydrate and lipid biomolecules, peptides and protein macromolecules, nucleic acids and supra-molecular complexes, the molecular and regulatory mechanisms of biotransformations.
Bioenergetics, enzymes, metabolic pathways and their regulation, molecular and enzymatic mechanisms of gene conservation, expression and regulation.
Biochemistry of xenobiotics and biochemical interactions between organisms and between organisms and the environment.
Notes on bioinformatics and computational biology.
Biochemical methodologies for the identification and structural and functional characterization of biomolecules and biological processes.

Objectives:
The aim of the course is to provide basic knowledge on the structural and functional characteristics of biomolecules, on the properties of enzymes and on the main metabolic processes of carbohydrates, lipids and proteins which will be treated with the aim of illustrating the metabolic variations because of effects of biotic and abiotic stress. The training objectives also include the acquisition of knowledge regarding: 1. the analysis of amino acid sequences for the identification of proteins/enzymes of applicative interest; 2. The main techniques for the analysis of proteins/enzymes

Propaedeuticities:
None
Is a propaedeuticity for:
None

Types of examinations and other tests:
Oral examination

Course: One health molecular foundations (with laboratory)	**Teaching Language:** English
SSD (Subject Areas): **BIOS-08/A**	**CREDITS: 10**
Course year: second	**Type of Educational Activity: B** - Characterising

Teaching Methods:
In-person

Contents extracted from the SSD declaratory consistent with the training objectives of the course:
Study the molecular mechanisms of biological processes and the structure and regulation of biological macromolecules involved in DNA replication, repair and recombination. Investigate the structure and functions of chromatin, transcription, RNA maturation, translation and molecular signaling mechanisms. These topics will be addressed using methods to measure, visualize and characterize biological molecules, their modifications and interactions, and to manipulate them in vitro, ex vivo or in whole organism models, both animal and plant, including bioinformatics, computational biology and systems biology.

Objectives:
To provide knowledge of the molecular basis of life through the fundamental principles of the structure and function of DNA, RNA and proteins, the maintenance of genetic information and its expression in microorganisms, animals and plants. To provide general concepts of how molecular factors influence interactions between organisms and their environment, and the principles of molecular biological techniques applied to human, animal and environmental health.

Propaedeuticities:
None
Is a propaedeuticity for:
None

Types of examinations and other tests:
Oral examination

Course: Genetics and genomics for one-health (with laboratory)	**Teaching Language:** English
SSD (Subject Areas): **BIOS-14/A**	**CREDITS: 10**
Course year: third	**Type of Educational Activity: B** - Characterising
Teaching Methods: In-person	
Contents extracted from the SSD declaratory consistent with the training objectives of the course: The field studies the mechanisms of transmission, modification, and expression of hereditary traits at the level of prokaryotic and eukaryotic cells, individuals, and populations. It defines and analyzes the structure of genetic material and its levels of organization in microbial, plant, and animal systems, including humans. It also addresses the genetic dissection and manipulation of hereditary material employed for the understanding of biological phenomena. The study of epigenetic modifications includes the analysis of their molecular bases, inheritance, and phenotypic consequences. This group also encompasses computational biology in its applications, utilizing bioinformatics tools.	
Objectives: The course aims to provide a solid foundation in genetics, preparing students for research and professional roles within the One Health framework. Students will learn how hereditary traits are transmitted, modified, and expressed in prokaryotic and eukaryotic cells. The molecular bases of epigenetic modifications, their inheritance, and their effects on organisms, as well as gene-environment interactions, will be analyzed. Additionally, the course will cover practical applications of genetics and molecular technologies in various fields, including an introduction to computational biology for gene and genome analysis. The course also aims to develop students' communication skills and critical analysis of biological issues, as well as the associated ethical and social concerns, to contribute to scientific dissemination in genetics within the One Health context.	
Propaedeuticities: None **Is a propaedeuticity for:** None	
Types of examinations and other tests: Oral examination	

Course: Human pathology (with laboratory)	**Teaching Language:** English
SSD (Subject Areas): **MEDS-02/A**	**CREDITS: 6**
Course year: third	**Type of Educational Activity: B** - Characterising
Teaching Methods: In-person	
Contents extracted from the SSD declaratory consistent with the training objectives of the course: General pathology and general pathophysiology; basic and applied research including the study of cellular pathology with specific skills in the field of oncology, immunology and immunopathology and genetic pathology.	
Objectives: The aim of the course is to provide students with the elements to analyze the causes (etiology) and mechanisms (pathogenesis) of diseases. At the end of the course the student must demonstrate to be able to recognize and identify the causes and mechanisms that contribute to the onset of a disease state.	
Propaedeuticities: None	

Is a propaedeuticity for: None
Types of examinations and other tests: Oral examination

Course: General and applied hygiene	**Teaching Language:** English
SSD (Subject Areas): **MEDS-24/B**	**CREDITS: 6**
Course year: third	**Type of Educational Activity: B** - Characterising
Teaching Methods: In-person	
Contents extracted from the SSD declaratory consistent with the training objectives of the course: Scientific and educational-training activities in the field of general and applied hygiene, preventive medicine, public health, territorial and hospital health organization and the assessment of health needs and health policies and strategies.	
Objectives: The course provides knowledge regarding the purpose of general and applied hygiene and environmental toxicology, the collection of hygiene data, the methods for measuring the state of health in the population and notes on public health, the types of epidemiological studies in order to evaluate the risk to human health and the environment from a one-health perspective.	
Propaedeuticities: None **Is a propaedeuticity for:** None	
Types of examinations and other tests: Written examination	

Course: Physiology of crops and food improvement (with laboratory)	**Teaching Language:** English
SSD (Subject Areas): **BIOS-02A**	**CREDITS: 10**
Course year: third	**Type of Educational Activity: C** - Related or Supplementary
Teaching Methods: In-person	
Contents extracted from the SSD declaratory consistent with the training objectives of the course: The disciplinary scientific group is interested in scientific and educational-training activities in the field of the vital functions of animals and humans, also in a comparative way, studying physiological mechanisms at all levels of complexity, molecular, cellular and systemic. Analyzes and evaluates the integrated functioning of the different organs and systems.	
Objectives: The course will deal with the ability to maintain health, or recover to a healthy state after disease, delineating the active process involving distinct adaptation mechanisms coordinating interactions between all physiological systems of an organism.	
Propaedeuticities: None **Is a propaedeuticity for:** None	
Types of examinations and other tests:	

Oral examination

Course: Diseases dynamics and models in a changing world (with laboratory)	**Teaching Language:** English
SSD (Subject Areas): **MVET-02/A**	**CREDITS: 8**
Course year: third	**Type of Educational Activity: C** - Related or Supplementary
Teaching Methods: In-person	
Contents extracted from the SSD declaratory consistent with the training objectives of the course: The disciplinary scientific group is interested in scientific and educational-training activities in the field of general pathology and comparative pathophysiology, with reference to functional, morphological, molecular, (epi)genetic and biochemical alterations at the (sub)cellular, tissue, organ, system and body fluid levels. Alterations are associated to pathologies, spontaneous and induced, in vertebrate and invertebrate animals and in animal models.	
Objectives: The course aims to provide students with basic knowledge on the etiology and pathogenetic mechanisms of so-called elementary pathological processes common to all diseases (cellular damage, inflammation, regressive and neoplastic phenomena) in an evolutionary, multidisciplinary and integrated perspective: through the study of models and case studies, students will learn mechanisms underlying the phenomena of mass mortality of animals, emerging and re-emerging animal diseases, including zoonotic ones, as well as linked to poverty, food hygiene and social and economic conditions. Furthermore, the course will describe the dynamics, drivers and host-pathogen-environment interactions underlying the spread of diseases in a rapidly changing world from a One-Health perspective.	
Propaedeuticities: None **Is a propaedeuticity for:** None	
Types of examinations and other tests: Oral examination and discussion of project	

Course: Topics in one-health and case studies (with laboratory)	**Teaching Language:** English
SSD (Subject Areas): **BIOS-05/A**	**CREDITS: 6**
Course year: third	**Type of Educational Activity: C** - Related or Supplementary
Teaching Methods: In-person	
Contents extracted from the SSD declaratory consistent with the training objectives of the course: The group also takes care of application aspects using classic and innovative methodologies: conservation and sustainable management of ecosystems and biological resources, analysis of environmental impacts and subsequent bioremediation, control of alien and/or invasive species, strategies for maintaining biodiversity, ecotoxicology , ecological quality indicators, environmental impact assessment, ecological methods and strategies for environmental sustainability and environmental and ecosystem accounting, ecological implications of environmental restoration including nature-based solutions to ensure health and well-being as well as ecosystems, also of man.	
Objectives:	

The course introduces the One-Health approach to understand and manage complex challenges between environmental health and human health.
Propaedeuticities: None **Is a propaedeuticity for:** None
Types of examinations and other tests: Discussion of project work

Training activity: under Art. 10, c. 5, letter d	**Activity language:** English/Italian
Activity: For Italian students: other knowledge useful for job placement; IT and telematics skills; training and orientation periods) that contribute to the achievement of the CdS objectives. for foreign students: 4 CFU acquisition of Italian language knowledge.	**CREDITS:** 8
Anno di corso: Third year	**Further training activities: F** – further training activities
Teaching Methods: In person/by-distance	
Objectives: The further training activities are aimed at acquiring further knowledge useful for entering the world of work and aimed at facilitating professional choices.	
Propaedeuticities: None **Is a propaedeuticity for:** None	
Tipologia delle prove di verifica del profitto: aptitude	