



DIPARTIMENTO DI INGEGNERIA DELL'ENERGIA ELETTRICA  
E DELL'INFORMAZIONE "GUGLIELMO MARCONI"

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**DEGREE PROGRAMME TEACHING REGULATIONS**

**Second cycle degree/two-year master in  
BIOMEDICAL ENGINEERING  
(classe LM-21)**

**ACADEMIC YEAR 2022/23**

Cesena Campus



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## RULES

### Art. 1 Admission Requirements

- Admission Requirements

Admission to the 2nd cycle degree programme in Biomedical Engineering is subject to the possession of a three-year university degree or other suitable qualification obtained abroad.

Moreover, candidates must meet the curricular requirements and pass a test to assess their personal competences and skills.

### CURRICULAR REQUIREMENTS

Being in possession of a degree in one of the Degree classes pursuant to Ministerial Decree 270/04, of the D.M. 509/99, of Law 508/99 and having acquired university training credits in the following scientific-disciplinary sectors:

- at least 36 ECTS credits overall in scientific-disciplinary sectors belonging to the basic educational activities envisaged for the L-8 class of Information Engineering Degrees and for the L-9 class of the Degrees in Industrial Engineering in the Ministerial Decree 16-3-2007 Determination of university degree classes, published in the Official Journal 6 July 2007, n. 155, S.O. ;

(for convenience, the list of SSDs is shown:

INF/01 Informatics,

ING-INF/05 Information processing systems

MAT/02 Algebra

MAT/03 Geometry

MAT/05 Mathematical analysis

MAT/06 Probability and mathematical statistics

MAT/07 Mathematical physics

MAT/08 Numerical analysis

MAT/09 Operational research

SECS-S/02 Statistics for experimental and technological research

CHIM/03 General and inorganic chemistry

CHIM/07 Chemical fundamentals of technologies

FIS/01 Experimental physics

FIS/03 Physics of matter)

- at least 24 ECTS credits overall in the following scientific-disciplinary sectors:

ING-INF/01 Electronics

ING-INF/02 Electromagnetic Fields

ING-INF/03 Telecommunications

ING-INF/04 Automatic

ING-INF/05 Information processing systems

ING-INF/06 Electronic and Computer Bioengineering

- at least 6 credits in the following scientific-disciplinary sectors:

ICAR/08 Building science

ING-IND/06 Fluid dynamics

ING-IND/10 Industrial technical physics

ING-IND/11 Environmental technical physics

ING-IND/12 Mechanical and thermal measurements

ING-IND/13 Mechanics applied to machines



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ING-IND/14 Mechanical design and construction of machines  
ING-IND/22 Science and technology of materials  
ING-IND/31 Electrical engineering  
ING-IND/34 Industrial bioengineering

For the verification of the aforementioned curricular requirements, in the case of a qualification obtained in Italy according to previous educational regulations, or achieved abroad and recognized as suitable, the evaluation will be carried out by a specific Commission appointed by the Degree Course Council.

If a candidate does not have the required ECTS, the Commission will assess whether CFUs have been acquired in other disciplinary scientific fields that can compensate for the lack of the requisites foreseen. Compensation up to a maximum of 12 CFUs are eligible during the assessment of the requirements.

#### ASSESSMENT OF THE PERSONAL COMPETENCES AND SKILLS

Admission to the degree programme is subject to the passing of a test to assess the candidates' personal competencies and skills, which will follow the methods laid down in section "Admission Methods".

Candidates must also possess appropriate English language skills to (at least) level B2.

Admission to the programme is subject to the possession of Italian language skills to at least CEFR level B2.

Foreign students who do not meet this requirement must include learning activities in their study plan aimed at achieving the required level.

- Admission methods

#### ASSESSMENT OF THE PERSONAL COMPETENCES AND SKILLS

The verification of personal preparation is considered complete, for those in possession of an Italian degree, in the presence of at least one of the following criteria:

- i) Degree or University Diploma according to the previous regulations, with at least 24 CFU in the scientific-disciplinary sectors ING-INF/06 and ING-IND/34 and a Degree/Diploma mark equal to at least 85/110 or equivalent at the expiry date of the intake for the academic year of enrolment;
- ii) Degree or University Diploma according to the previous regulations, with a minimum Degree/Diploma grade equal to at least 95/110 or equivalent at the expiry date of the intake for the academic year of enrolment.

For those not yet in possession of an Italian degree, the verification of personal preparation is considered complete in the presence of at least one of the following criteria:

- i) Having passed exams with an amount of credits at least 162 CFU and a weighted average of at least 23/30, and at least 24 CFU in the SSD ING-INF/06 and ING-IND/34;
- ii) Having passed exams with an amount of credits at least 162 CFU and a weighted average of at least 26/30.

The criteria described in this paragraph also apply to those who are in possession of a university level qualification obtained abroad, deemed suitable by the Degree Program Board, for which the conversion of the degree grade according to the Italian system, the identification of the scientific-disciplinary sectors and the number of credits obtained in each sector are possible. If conversion and/or identification are not possible, the Commission appointed by the Degree Program Council proceeds to the evaluation of the career based on the documentation presented by the candidate.



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If the above conditions are not met (in whole or in part), the verification of the adequacy of the personal preparation is to be considered as not accepted.

In the case of the presence of real elements of exceptionality, evidenced by specific documentation, the Commission appointed by the Degree Program Board will be able to define an alternative assessment path, always based on the analysis of the degree grade and of the previous career, after which it will formulate an unquestionable judgment regarding admission to the course of study.

#### ASSESSMENT OF THE ENGLISH LANGUAGE KNOWLEDGE

Regarding language skills, the adequacy of personal preparation for admission to the international course requires knowledge of English at least at level B-2 (with reference to the CEFR). Assessment of language knowledge and skills is considered to be fulfilled for students in possession of linguistic certification (such as TOEFL, IELTS, Cambridge Esol, ..) corresponding to level B-2 or higher.

#### **Art. 2 Mobility rules between Degree Programme curricula. Individual study plans.**

Students may choose from the courses available in the course structure diagram, following the methods indicated in the structure itself and in the terms published on the University website.

Individual study plans may be presented and transfer between the provided curricula is permitted, in the terms laid down annually by the University website.

The Degree Programme Board assesses the study plans presented on the basis of their coherence with the Degree Programme Teaching regulations and the

- coherence with the learning outcomes of the degree programme
- It also checks that the number of exams, course units and relative credits are no lower than the corresponding number laid down in the official Course Structure Diagram.

According to the same criteria, the Degree Programme Board also assesses the applications to transfer between curricula.

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#### **Art. 3 Implementation of learning activities and types of teaching activities**

The enclosed teaching plan indicates all the learning activities and their division into hours of classroom teaching, practical exercises or internship, as well as the type of teaching methods.

Any further information will be published annually on the University website.

#### **Art. 4 Attendance and preparatory activities**

Compulsory attendance of the teaching activities is indicated in the attached teaching plan, together with any preparatory activities involved in the individual learning activities.

The methods of compulsory attendance and any verification thereof are laid down annually by the degree programme during the presentation of the teaching plan and are notified to the students via the University website prior to the start of the programme.

#### **Art. 5 Flexible Curriculum**

The student can opt for the flexible course that allows the course of study to be completed in a time higher or lower than the normal duration (3 years for the Degrees and 2 years for the Master's Degrees) according to the modalities defined in the University Didactic Regulations.

The educational activities included in the study path, in case of necessary deactivation, can be replaced, to guarantee the quality and sustainability of the educational offer.



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**Art. 6 Assessment of learning activities**

The attached teaching plan indicates all cases in which the learning activities end with an exam, marked with a score out of 30 or by simple "pass" in the case of having acquired the relative competencies.

The assessment methods (oral, written or practical exam or any combination thereof; individual or group exams) are laid down annually by the Degree Programme during the presentation of the teaching plan and notified to the students via the University website prior to start of the programme.

**Art. 7 Elective learning activities**

Students may select one or more learning activities autonomously from among those identified by the Degree Programme Board and listed in the enclosed Course Structure Diagram and other activities among those identified annually by the Degree Programme Board and published on the University website.

If students intend to sit exams concerning an activity that is not included among those identified by the Degree Programme Board, they should apply to the Degree Programme Board in the terms laid down annually and published on the University website.

The Board will assess the coherence of the choice with the student's study programme.

**Art. 8 Criteria for the recognition of credits acquired in degree programmes in the same class**

The acquired university credits are recognised up to the number of credits indicated for the same subject area laid down in the attached course structure diagram.

If having recognised the credits according to the provisions of this regulation, there are unused residual credits, the Degree Programme Board may recognise them by assessing the specific case in coherence with the teaching and cultural affinities.

Referring to degree programmes delivered in a language other than Italian, recognition refers to course units delivered or learning activities undertaken in that language.

**Art. 9 Criteria for the recognition of credits acquired within degree programmes in different classes, from telematic universities or foreign universities**

The acquired credits are recognised by the Degree Programme Board according to the following criteria:

-analysis of the course contents

-assessment of the coherence of the scientific-disciplinary fields and the contents of the learning activities in which the student has acquired the credits with the specific learning outcomes of the study programme and the individual learning activities to be recognised, in any case pursuing the aim of promoting student mobility.

The credits are recognised up to the maximum number of university credits provided for the attached course structure diagram.

If having recognised the credits according to the provisions of this regulation, there are unused residual credits, the Degree Programme Board may recognise them by assessing the specific case in coherence with the teaching and cultural affinities.

Referring to degree programmes delivered in a language other than Italian, recognition refers to course units delivered or learning activities undertaken in that language.

**Art. 10 Criteria for the recognition of extra-university competencies and skills**

Competencies acquired outside of the university may be recognised in the following cases:

- professional knowledge and skills certified under the terms of the applicable laws;



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- competences and skills acquired in post-graduate learning activities run or planned by the University.

The request for recognition shall be assessed by the Degree Programme Board considering the indications of the academic bodies and the maximum number of recognisable credits laid down in the Degree Programme Teaching Regulations.

This recognition is subject to the activities being coherent with the specific learning outcomes of the degree programme and the learning activities which are recognised, also in consideration of the contents and duration in hours of the implemented activity.

**Art. 11 Internships for the preparation of the final examination or linked to a project aiming to develop learning and academic skills**

At the request of the student, the Degree Programme may, following the procedures laid down in the University Regulations concerning internships and international mobility programmes, and in compliance with EU laws, authorise an internship for the purposes of the final examination or preparing the dissertation or in any case linked to a project aiming to develop learning and academic skills.

These learning experiences shall not exceed 12 months, and shall be completed by the date of graduation; learning credits may be awarded:

- within the quota for the final examination;
- for elective activities counting towards the internship;
- for additional activities, the credits for which exceed the number required for graduation.

**Art. 12 Final exam methods**

- Characteristics of the final exam

The final examination to graduate in the 2nd cycle degree programme consists in the production and public discussion of an original dissertation based on a topic that is consistent with the programme objectives, under the guidance of a supervising professor.

The dissertation must demonstrate the students' command of the subject, critical skills, ability to work autonomously and strong communication skills.

The final examination may be linked to a project or internship activity.

- Final examination methods

The student chooses the topic of his/her thesis, as a rule, in a scientific sector among those provided by the Degree Program Regulations, and agrees to conduct it with a supervisor, who is normally a professor of the Course.

Any further detail on how to assign the topic of the paper, on the performance of the related activities, as well as on the definition of the supervisor can be specified by the Degree Program Board.

The commission for the final master's degree is nominated by the Degree Program Board, in the manner and in the composition provided for by the University Teaching Regulations.

**Art. 13 Correspondence between the credits assigned to each learning activity and the planned learning outcomes**

On 27/11/2019 the Joint Teacher-Student Committee expressed its favourable opinion under the terms of article 12 para. 3 of Ministerial Decree no. 270/04.