

## Master's degree in Yacht Design

Class LM-34

Teaching Regulations – Intake 2023/2025

Approved by resolution of the Degree Programme Board on 11<sup>th</sup> May 2023

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### **Art. 1 Premise and area of competence**

The present Teaching Regulations, in accordance with the Statute and Teaching Regulations of the University of Genoa (general part and special part), determine the organisational aspects of the teaching activity of the Master's Degree Course in Yacht Design, as well as any other subject based on other legislative and regulatory sources.

The Teaching regulation of the Master's degree Course in Yacht Design is resolved, pursuant to article 18, paragraphs 3 and 4 of the University Teaching Regulation, general part, by the Degree Programme Board (D.P.B.) of Yacht Design to the majority of the members and submitted for the approval of the Board of the DITEN Department (and of the Board of the possible associated Departments), after consultation with the Polytechnic School, with the prior favourable opinion of the Joint Committee of the School.

The resolutions of the D.P.B. can also be taken in telematic mode according to the above-mentioned regulations and, in particular, of Article 14 "meetings with telematic mode" of the current General Regulation of the University (in force since 19/12/2018).

### **Art. 2 Admission requirements and procedures for verifying individual preparation**

Admission to the Master's degree course in Yacht Design is subject to the possession of specific curriculum requirements and adequate personal preparation. Requirements must be met before the individual preparation can be checked.

#### **Curriculum requirements:**

The curricular requirements for enrolment to the Master's Degree Course in Yacht Design consist of knowledge equivalent to the general educational objectives of the Industrial Engineering Class Degrees (Class 10 of Ministerial Decree 509/1999 and Class L-9 of Ministerial Decree 270/2004), or the five-year industrial sector Degrees of the previous system.

With reference to the curricular requirements, all following requirements are required:

- possession of a Bachelor's Degree or Master's Degree, referred to Ministerial Decree 509/1999 or Ministerial Decree 270/2004, obtained at an Italian University, or a five-year Degree (prior to Ministerial Decree 509/1999), obtained at an Italian University, or equivalent foreign titles;
- possession of at least 40 CFU, or equivalent knowledge, acquired in any university course (Bachelor's Degree, Master's Degree, Master's Degree, first and second level University Master's Degree in Italy or abroad) in the disciplinary-scientific sectors (SSD) indicated for basic educational activities of the classes L-9 in the areas of three-year Industrial Engineering Classes;
- possession of at least 45 CFU, or equivalent knowledge, acquired in any university course (Bachelor's Degree, Master's Degree, Master's Degree, Master's Degree, first and second level in Italy or abroad) in the disciplinary-scientific sectors indicated for the educational activities characterising the classes of Naval Architecture and Marine Engineering;
- Adequate knowledge of the English language equivalent at least to the B2 level.

The following Degrees awarded by University of Genoa meet the curricular requirements of the Master's Degree:

- Naval Architecture for Recreational Craft
- Naval Architecture and Marine Engineering

In case of possession of different degrees from those above indicated and in case of foreign students, the D.P.B. will verify the fulfilment of the curricular requirements or the possession of an equivalent knowledge based on the exams taken during the previous degree course, the ranking of the University which provided the degree, as well as the presence of any extracurricular exams, internship activities, and work experience.

In the case of degrees other than those indicated in this Teaching Regulation and mentioned above, the D.P.B. will verify the presence of the curricular requirements or equivalent knowledge, based on the exams taken by the student in the Degree Course of origin, as well as the presence of any extracurricular exams, internship activities and work experience gained.

### **Personal preparation:**

In order to be admitted to the Master's Degree course, students in possession of the curriculum requirements must pass a test to verify their personal preparation, except in the cases provided for in the last paragraph. The test will be carried out in the form of a public interview or written test and it will be aimed at ascertaining the general preparation of the student with particular reference to the basic engineering subjects specific to naval architecture and industrial design applied to recreational craft.

The test will be held in front of a Commission appointed by the D.P.B. and composed by professors belonging to the D.P.B. The result of the test only includes the words "passed", "not passed".

The composition of the Examination Commission, the methods of the test, the place and date of the test, the subjects to be examined and the evaluation criteria of the candidates are indicated in the "Call for Admission to the Master's Degree Courses of the Polytechnic Scholl" and on the website of the Master's Degree Course.

The personal preparation is assumed to be adequate for the candidates who have obtained a Bachelor's degree, or a qualification considered to be equivalent, with a final mark of at least 9/10 of the maximum achievable grade of their degree.

The personal preparation of the candidates who have obtained a non-Italian bachelor's degree, or a qualification considered to be equivalent, is assumed to be adequate with a final mark of at least 7,5/10 of the maximum achievable grade of their degree.

### **How to apply:**

For non-EU students with residence abroad and foreign diploma, the procedure to submit their application proposal must go through the *UnigeApply* portal.

After candidates have uploaded the required documentation in the *UnigeApply* portal, the following verification will be carried out: document completeness, verification of curricular requirements, verification of knowledge of the English language.

Candidates who fulfil the requirement check can be admitted to the following assessment phase:

- Evaluation of qualifications (credential evaluation)
- Evaluation of the candidate

According to these two types of evaluation, the student will be deemed “admissible” or “ineligible”.

### **English Knowledge:**

A student certifies his/her English proficiency at the B2 level or higher by means of appropriate certificates in his/her possession or, in the absence thereof, by passing the B2 test organized by the Language Skills Development Sector of the University of Genoa (CLAT UniGe). The English proficiency requirement is also satisfied if the student holds a degree in English, to be certified through an official document or letter issued by the corresponding university and indicating that his/her studies were pursued in English. If the previous conditions are not fulfilled, English proficiency must be evaluated within the aforementioned personal preparation test by the corresponding Examination Committee. In this last case, the ability to use the English language fluently is also among the subjects of this test.

For non-EU citizens with residence abroad and foreign degree, the application for a Master program of the University of Genoa taught in English must be submitted through a dedicated web portal, selected and adequately promoted by the University.

After the upload of the documents, a check is made about their completeness. Candidates who pass the eligibility check move on to the next stage concerning the assessment of qualifications and the final evaluation, after which the student will be assessed as “accepted”, “conditionally accepted” (allocation of bridge careers) or “rejected”.

The maximum allowed number of enrolled non-EU students is established by the CCS every year, communicated to the University International Student Office (Settore Accoglienza Studenti Stranieri di Ateneo) and published on the University website.

### **Art. 3 Educational activities**

The list of courses and other possible educational activities, in the intake 2023-2025, is given in the appropriate annex (Annex 1) which constitutes an integral part of this regulation. A responsible professor is identified for each teaching course. A professor is responsible for teaching whoever is in charge of teaching according to the law, i.e. the one to whom the relative Department Council has attributed the responsibility itself when assigning teaching tasks to professors.

The language used to provide educational activities (lessons, exercises, workshops) shall be English. Annex 1 to this regulation specifies the language in which each educational activity is carried out.

#### **Art. 4 Enrolment to individual educational activities**

In accordance with Article 5 of the Regulations of the University of Genoa for students Regulations, a requirement to enrol in individual training activities consists of having a qualification that allows accessing the university.

#### **Art. 5 Curricula**

The Master's degree Course in Yacht Design is not structured in curricula.

#### **Art. 6 Total time commitment**

The definition of the hourly fraction dedicated to lessons or equivalent teaching activities is established, for each teaching course, by the D.P.B. and specified in the special part of the regulation. In any case the following intervals of variability of the correspondence classroom/CFU hours are assumed: 8 ÷ 12 hours of lesson or assisted teaching activity.

The definition of the assumed total time commitment, reserved for personal study or other educational activities of an individual type, is laid down, for each teaching course, in the annex (Annex 1) to this regulation.

The director of the DITEN Department and the coordinator of the Degree Programme Board shall be responsible for verifying compliance with the above requirements.

## **Art. 7 Study plans and prerequisites**

Students can enrol full-time or part-time; for these two types of students there are different rights and duties.

Each student chooses the type of registration simultaneously with the presentation of his/her study plan.

Each full-time student carries out his/her educational activity considering the study plan established by the master's degree course, which is organized into two distinct years and published in the Degree Programme Table of the master's Degree Course. The study plan formulated by the student must contain an indication of the educational activities, along with the related credits that he/she intends to achieve and that are provided by the official study plan for the corresponding teaching period, up to a maximum of 65 CFU per year.

Each part-time student is required to submit an individual study plan specifying the number of CFU he/she intends to include, according to the regulations on the university fees of the University of Genoa.

If the study plan is not submitted by the due date, a standard plan will be uploaded ex officio, except if the submission of an individual study plan is mandatory (e.g., change of course of study, previous part-time individual study plan).

The enrolment of full-time and part-time students is regulated by the Regulations of the University of Genoa for students considering the operational provisions approved by the Central government bodies and indicated in the Student's Guide (which is published annually on the University website). The student's educational path can be bound by a system of prerequisites, indicated for each class in the special part of these Regulations (Annex 1).

Through an explicit and motivated resolution, the CCS can authorise students who have demonstrated particularly high academic performance in the previous academic year to include in their study plan more than 65 CFU but, in any case, not more than 75 CFU. "Particularly high performance" means that the student has passed all the exams of his/her study plan by the month of September.

A study plan with a shorter duration than the nominal one needs approval from the CCS.

The modality and deadline for the submission of the study plan are established annually by the Polytechnic School and reported in the Degree Programme Table available on the website of the University of Genoa and can be reached from the website of the master's degree course.

## **Art. 8 Attendance to and modalities of the teaching activities**

The courses may take the form of: (a) lectures, including distance learning by telematic means; (b) practical exercises; (c) laboratory exercises (d) thematic seminars.

The articulated profile and the demanding nature of the lessons taught as part of the Degree Course make the attendance to the educational activities strongly recommended for an adequate understanding of the topics and therefore for a good success in the exams.

The classe schedule is divided into semesters. As a rule, the semester is divided into at least 12 weeks of lesson plus at least 4 weeks overall for verification tests and profit exams.

The examination period ends with the beginning of the lessons of the following semester.

In the middle of the semester, the normal teaching activities (lectures, exercises, laboratories) can be interrupted for graduation exams, tests reserved for off-course students, seminars, tutoring activities and remedial teaching activities.

The lesson timetable for the entire academic year is published on the University website and accessible from that of the Degree Course before the start of the academic year. The class schedule guarantees the possibility of attendance for years of the course provided for by the current Manifesto of Studies of the Degree Course.

For practical reasons, the compatibility among the timetable of all the formally possible choices of elective courses is not guaranteed. Students must formulate their study plan also considering the timetable of the lessons.

### **Art. 9 Examinations and other profit exams**

Profit exams can be carried out in written, oral, or written and oral, according to the methods indicated in the sheets of each teaching course published on the website of the degree course.

Upon request, specific learning verification arrangements may be provided in accordance with the needs of disabled students or students with specific learning disorders (D.S.A.), in compliance with article 20 - paragraph 4 - of the Teaching Regulations of the University of Genoa.

In case of classes structured in modules with several lecturers, all such lecturers collectively participate in the overall evaluation of the student's performance which cannot, in any case, be split into separate evaluations on the individual modules.

The examination schedule is established by the deadline defined by the Ministry for the following academic year, is published on the website of the University of Genoa and can be reached from the website of the master's degree course.

Examinations are held during periods of interruption of classes. Examinations may be planned during the period of the classes only for students who, in the current academic year, have not included educational activities in their study plan.

Before taking the final examination, each student must pass the exams of all his/her classes by the deadline defined by the Student Office of the Polytechnic School and indicated in the "memo" that is published on the website of the University of Genoa and can be reached from the website of the master's degree course.

The result of each examination, with the mark obtained, is recorded in accordance with article 20 of the Teaching Regulations of the University of Genoa.

The Examination Committees of all the classes are appointed by the director of DITEN or, on his behalf, by the head of the master's degree course. For each class, the Examination Committee is composed of at least two members. For each exam session, at least two members participate. The lecturer responsible of a class is a member of the related Examination Committee in the capacity of president of this committee. "Cultori della Materia" nominated by the CCS based on scientific, didactic, or professional criteria are allowed to be members of the Examination Committee. These criteria are held valid in the case of retired faculty lecturers. When the Examination Committee is nominated, a deputy president is also nominated. Each exam session is chaired by either the president or a deputy.

### **Art. 10 Acknowledgement of credits**

The Degree Programme Board decides on the approval of applications for change or transfer from another degree course of the university or other universities in accordance with the rules provided for in the University Teaching Regulation, art. 18. It also decides the recognition, as educational credits, for a maximum number of 12 CFU, of professional knowledge and skills certified in accordance with the current legislation.

The evaluation of applications for change will take into account the didactic specificities and the actuality of the educational content of the individual exams taken, reserving to establish from time to time any forms of verification and supplementary exams.

### **Art. 11 Mobility, studies abroad, international exchanges**

The DPB strongly encourages internationalisation activities, in particular student participation in mobility and international exchange programmes. For this purpose, it shall ensure, in accordance with the rules in

force, the recognition of the educational credits obtained within these programmes and shall organise the educational activities as appropriate in such a way as to make these activities easier and effective.

The DPB recognizes enrolled students, who have regularly completed a period of study abroad, the exams taken off-site and the achievement of the related credits with which the student intends to replace the exams of his own study plan.

For the purposes of the recognition of these examinations, the student at the time of the compilation of the plan of educational activities, he intends to follow at the University abroad, must produce suitable documentation proving the equivalence of content between the teaching course abroad and the teaching course that intends to replace taught in the Master's degree Course in Yacht Design. Equivalence shall be evaluated by the D.P.B.

The conversion of votes will take place according to criteria approved by the DPB, in accordance with the European ECTS system.

Concerning periods spent abroad and dedicated to the preparation of the thesis, the number of credits recognized is related to the duration of the period itself.

## **Art. 12 Procedures for the final examination**

The final examination consists of the presentation and discussion of a written dissertation before a special commission, aimed at ascertaining the candidate's technical-scientific and professional preparation.

For the purposes of obtaining a master's degree, the final examination consists of the writing of a dissertation, elaborated by the student in an original way under the guidance of one or more supervisors, on a subject relevant to the educational objectives of the master's degree course.

Among the supervisors there must be at least one lecturer of the Polytechnic School or of the master.

The thesis dissertation must be written in English. The use of another EU language requires the authorization of the CCS.

The thesis dissertation must point out the student's ability to deal with research and/or application issues. The thesis dissertation must consist of a project and/or the development of an application that proposes innovative solutions with respect to the state of the art and demonstrates the student's analytical and design skills.

The dissertation can be of experimental, numerical, or theoretical nature and can be carried out in external companies or bodies, public or private.

The dissertation must also reveal:

- capability to deal with complex problems with a multidisciplinary approach;
- correct use of sources and bibliography;
- systematic and argumentative skills;
- clarity in the exposition;
- design and experimental skills;
- critical skills.

The Final Examination Committee is composed of at least five members including the President and is appointed by the Director of DITEN.

The procedure for the final examination consists of an oral presentation of the dissertation by the student to the Final Examination Committee, followed by a discussion of any questions raised by the members of the Committee.

If the final exam is passed, the Committee assigns a mark varying from 0 to 6 to be summed to the average of the marks obtained in the examinations of the educational activities that require a final mark and weighted on the number of CFU associated with the individual educational activities.

Among the aspects that contribute to the definition of the score assigned to the final exam, the Commission must particularly take into account:

- quality of the paper;
- presentation of the paper;

- any period spent abroad for the preparation of the report or a substantial part of it;
- duration of the candidate's studies.

### **Art. 13 Guidance services and tutoring**

The Polytechnic School, in agreement with the Department and the D.C. organizes and manages an orientation service for the reception and support of students, in order to promote the various second level training courses and encourage a fruitful active participation in university life in all its forms.

### **Art. 14 Verification of the obsolescence of credits**

University educational credits (CFU) acquired within the framework of the degree course are not be subject to obsolescence verification.

### **Art. 15 Degree Programme Table**

The DITEN Department, after consulting the Polytechnic School, approves and publishes annually the Degree Programme on the website of the on the website of the University and of the master's degree course. In the Current Year Degree Programme Table, the main provisions of the teaching system and the teaching regulations of the master's degree course, as well as relevant additional information, are indicated.

The Degree Programme Table of the master's degree course contains the list of the classes activated for the corresponding academic year. The sheets of the individual classes are published on the website of the University and of the master's degree course.



**Annex 1 to the Teaching regulation of the Master's degree Course in Yacht Design**  
**List of educational activities and related educational objectives**

Year	Code	Teaching course	CFU	SSD	Type	Area	Language	Educational Objectives	Hours for assisted teaching activity	Hours for personal study
1	66151	INTERIOR DESIGN	6	ICAR /16	ELECTIVE UNITS	A Scelta dello Studente	English	The unit provides students with the yacht space design and furniture fundamentals harmonising them with the yacht general design considering materials, industrialisation and costs.	52	98
1	66176	MATHEMATICAL PHYSICS	6	MAT /07	RELATED OR SUPPLEMENTARY	Related or Supplementary	English	The unit deals with the most important partial differential equations through their most important mathematical physical in the pleasure of craft sector.	52	98
1	66244	MOTOR YACHT DESIGN	6	ING-IND/01	CORE LEARNING ACTIVITY	Naval Architecture and Marine Engineering	English	This units aims to complete the student skills in the naval architecture field through the study of advanced topics specifically concerning the preliminary phase of the design.	52	98
1	66323	STRUCTURAL MECHANICS	6	ICAR /08	RELATED OR SUPPLEMENTARY	Attività Formative Affini o Integrative	English	The unit is focused on the analysis of the elastic system equilibrium and strain; particularly, the course aims to study the redundant structure equilibrium, strength and stability conditions.	52	98
1	66388	YACHT CONSTRUCTION TECHNOLOGIES	6	ING-IND/02	CORE LEARNING ACTIVITY	Naval Architecture and Marine Engineering	English	The unit provides students with the technology and application concepts concerning composite material currently used in pleasure craft and yacht engineering sectors. Besides to shipyard manufacturing technologies, theoretical concepts to carry out scantling calculation through widely applied methods are given.	52	98
1	66389	YACHT DESIGN STUDIO WORKSHOP A	12	ICAR /13	RELATED OR SUPPLEMENTARY	Attività Formative Affini o Integrative	English	This course is divided in two units: 66390 Applied industrial design 1 and 66391 Theory of marine design 1.	0	0
1	66390	APPLIED INDUSTRIAL DESIGN 1	6	ICAR /13	RELATED OR SUPPLEMENTARY	Attività Formative Affini o Integrative	English	The unit is focused on concepts concerning the onboard space and arrangement, with particular concern to the organisation on several bridges.	52	98
1	66391	THEORY OF MARINE DESIGN 1	6	ICAR /13	RELATED OR SUPPLEMENTARY	Attività Formative Affini o Integrative	English	The unit deals with the design evolution, as well as the study of shapes and proportions in pleasure crafts.	52	98

1	66396	YACHT NAVIGATION SUPPORT SYSTEMS	6	ING-INF/02	ELECTIVE UNITS	Elective units	English	The course will deal with electronic systems that are used and integrated into the yacht's Navigation System.	52	98
1	66398	YACHT STABILITY AND DYNAMICS	12	ING-IND/01	CORE LEARNING ACTIVITY	Naval Architecture and Marine Engineering	English	The course is divided in two units: 66399 Yacht dynamics and 66400 Yacht stability.	0	0
1	66399	YACHT DYNAMICS	6	ING-IND/01	CORE LEARNING ACTIVITY	Naval Architecture and Marine Engineering	English	The course deals with the motion law definition as well as the hydrodynamics characteristics regulating ship and yacht behaviour from the manoeuvrability, seakeeping and dynamic stability sides.	52	98
1	66400	YACHT STABILITY	6	ING-IND/01	CORE LEARNING ACTIVITY	Naval Architecture and Marine Engineering	English	Standards concerning the stability and buoyancy, the leak problem, the rolling movement and stabilisation means, speed effects on the stability.	60	90
1	84684	OPERATIONS MANAGEMENT	6	SECS - P/08	ELECTIVE UNITS	Elective units	English	Essential Elements for the Enterprise Competitivity together with analysis of the General Technics and Processes for an effective.	52	98
1	91074	SAILING YACHT AERO-HYDRO-DYNAMICS	6	ING-IND/08	ELECTIVE UNITS	Elective units	English	This unit supplies students with the basic fundamentals of the sail aerodynamics and interaction with the hull, as well as technological and application concepts concerning the design methods and materials	52	98
2	66078	HEATING VENTILATING AND AIR CONDITIONING	6	ING-IND/10	RELATED OR SUPPLEMENTARY	Attività Formative Affini o Integrative	English	The unit provides students with concepts of HVAC operating principles and relevant systems, with particular concern to the systems installed on the pleasure crafts.	52	98
2	66152	INTERNSHIP	6		INTERNSHIP	Tirocini Formativi e di Orientamento	English	The internship allows students to experience a sustained period of professional activity in a shipyard to acquiring necessary skills for a yacht designer.	150	0
2	66174	NUMERICAL MARINE HYDRODYNAMICS	6	ING-IND/01	CORE LEARNING ACTIVITY	Naval Architecture and Marine Engineering	English	The course is intended to provide students with the basis of the most advanced numerical techniques adopted for the solution of the hydrodynamic problems related to naval architecture. The theoretical background of each proposed methodology, with its field of application and its limits, is presented together with hands-on examples.	52	98
2	66371	THESIS	12		THESIS	Per la Prova Finale	English	The Master thesis consists of a report on a specific topic investigated under the tutoring of one or more professors. It should provide evidence of the student's ability to carry out	0	300

								independent investigations and to present the results in a clear and systematic form.		
2	66397	YACHT RIGGING	6	ING-IND/02	CORE LEARNING ACTIVITY	Naval Architecture and Marine Engineering	English	The course will provide basic knowledge about scantling criteria of sailing systems. Typical configurations are analyzed using applicable rules and by means of some advanced numerical methods. Some concepts of sail design, from a structural perspective, are presented along with a few hints about fluid structure interaction problems.	52	98
2	81014	YACHT DESIGN STUDIO WORKSHOP B	12	ICAR/13	RELATED OR SUPPLEMENTARY	Attività Formative Affini o Integrative	English	The course is divided in two units: 65422 Disegno industriale 3.1 and 65423 Industrial Design 3.2.	0	0
2	65422	DISEGNO INDUSTRIALE 3-1	6	ICAR/13	RELATED OR SUPPLEMENTARY	Attività Formative Affini o Integrative	Italiano (Inglese a richiesta)	This unit aims at furtherly develop the skill to optimize the design as a consequence of the use, of the available technologies, of the design cost and of the product industrialization.	52	98
2	65423	INDUSTRIAL DESIGN 3-2	6	ICAR/13	RELATED OR SUPPLEMENTARY	Attività Formative Affini o Integrative	English	This unit provides advanced capabilities regarding the use of drawing as a mean of design expression. The course also provides a deepest insight on design problems and specific knowledge on boat components functionality.	52	98
2	84601	SHIP STRUCTURES AND PLANTS	12	ING-IND/02	CORE LEARNING ACTIVITY	Naval Architecture and Marine Engineering	English	The course is divided in two units: 66288 Ship propulsion plants and 66289 Ship structures.	0	0
2	66288	SHIP PROPULSION PLANTS	6	ING-IND/02	CORE LEARNING ACTIVITY	Naval Architecture and Marine Engineering	English	The course will cover the following topics: Engine-propeller matching for design and off design conditions, Marine waterjets performance maps, Selection criteria of the waterjet propulsion unit, Automation outline for propulsion systems with CP propellers and waterjets, Charter yachts rules for bilge system, Sizing of the main firefighting	52	98
2	66289	SHIP STRUCTURES	6	ING-IND/02	CORE LEARNING ACTIVITY	Naval Architecture and Marine Engineering	English	The unit will supply students with finite element basic theoretical concepts then a multipurpose and a shipstructure dedicated FEM codes will be used to solve generic structural problems. The unit includes exercises regarding practical applications.	52	98