

**Master's degree in Yacht Design
Class LM-34**

TEACHING REGULATIONS

General Part

Approved by resolution of the Council of the Course of Study on 9th May 2022

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Art. 1 Premise and area of competence

This Regulation, in accordance with the Statute and the University Teaching Regulation (general part and special part), discipline the organisational aspects of the teaching activity of the Master's degree Course in Yacht Design, as well as any other subject devolved to it by other legislative and regulatory sources.

The Teaching regulation of the Master's degree Course in Yacht Design is resolved, pursuant to article 25, paragraphs 1 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 in the Master's Degree Course in Yacht Design must be acquired prior to enrolment and 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, in order to access to the Master's Degree in Yacht Design, it is required:

- to be in possession of a Degree, Master's Degree or Master's Degree, referred to DM 509/1999 or DM 270/2004, or a five-year Degree (prior to DM 509/1999), or equivalent foreign titles;
- to be in 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 training activities in the areas of three-year Industrial Engineering Classes;
- to have 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 characteristic educational activities related to the Class 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 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 successfully undergo 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 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 Notice of

Admission to the Polytechnic School's Master's Degree Courses and on the website of the Master's Degree Course.

For the purposes of student assessment, the Commission will also take into account the curriculum obtained in the three-year degree course. The result of the test shall only include the words "passed" or "not passed". The adequacy of personal preparation is automatically verified for those who have obtained a Bachelor's degree, Italian or foreign, or a qualification judged equivalent according to what has been indicated about the assessment of curricular requirements, with a final grade of at least 9/10 of the maximum grade provided for by their degree or who have obtained a final grade corresponding at least to the "A" classification of the ECTS system.

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. 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.

How to apply

For non-EU students with residence abroad and foreign diploma, candidates have to submit their application proposal and upload the required documentation. 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”.

Art. 3 Educational activities

The list of courses and other possible educational activities, in the cohort 2022-2023, 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 in individual educational activities

In accordance with Article 6 of the University Regulations for students, in order enrol in individual educational activities you must have a qualification which allows access to 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: $8 \div 12$ 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 enroll full-time or part-time; for the two types of student there are different rights and duties. The student chooses the type of registration simultaneously with the presentation of the study plan. The full-time student carries out his educational activity considering the study plan prepared by the Master's degree course, which is distinguished by years of the course programme and published in the Study Manifesto. The study plan formulated by the student must contain an indication of the educational activities, with the relative credits that he intends to achieve, provided by the official study plan for this teaching period, up to a maximum of 65 credits provided in each year.

The part-time student is required to submit an individual study plan specifying the number of credits he intends to enter in accordance with the regulations for university student contributions.

The enrolment of full-time and part-time students is regulated by the University Regulations for students considering the operational provisions resolved by the Central government bodies and indicated in the Student Guide (published annually on the University's website). The educational path of the student has been organised according to criteria of propaedeuticity, indicated in the Educational Teaching Offer (All.1) The Course of Study may, by express and reasoned resolution, authorise students who have demonstrated particularly high academic performance in the previous academic year to include in their study plan more than 65 credits, but in any case, not more than 75.

"Particularly high performance" means that the student has passed all the exams of his/her study plan by the month of September.

The study plan, which has a shorter duration than the normal one, is approved by the Degree Program Board.

The method and deadline for the presentation of the study plan are established annually by the Polytechnic School and reported in Degree Course (D.C.) website.

Students can add "off-plan" courses up to a maximum of 12 credits to their training course without paying further contributions.

Art. 8 Attendance and methods of carrying out 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 schedule of classes 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 period for profit exams ends with the beginning of the lessons of the following semester.

In the middle of the semester, normal teaching activities (lectures, exercises, laboratories) may 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 of the timetable for all the formally possible choices of elective courses is not guaranteed. Students must therefore formulate their own study plan taking into account 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.

On request, specific learning verification arrangements may be provided which take into account the needs of disabled students and students with specific learning disorders

(D. S. A.), in accordance with art. 20 paragraph 4 of the University Teaching Regulation.

In the case of teaching courses structured in modules with several professors, they participate collegially in the overall evaluation of the student's profit which cannot, however, be split into separate evaluations on the individual modules.

The calendar of profit exams is established by the ministerial deadline for the following academic year and is published on the website of the Degree Course. The calendar of any intermediate verification tests is established by the Degree Programme Board and communicated to the students at the beginning of each teaching cycle.

Examinations are held in 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.

All profit examinations of educational activities must be passed by the student within the deadline set by the student secretariat of the Polytechnic School in view of the final exam, as indicated in the "memo" published on the University website and accessible from that of the Degree Course.

The result of the examination, with the vote obtained, is verbalized in accordance with art. 29 of the University Teaching Regulation.

Art. 10 Recognition 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.

Any period of study abroad, lasting a minimum of one semester, which has involved the recognition of educational credits, will be evaluated for the purposes of the final examination.

Art. 12 Procedures for the final examination

The final examination consists in the discussion of a written thesis, 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 a written report about a specific activity, elaborated by the student in an original way under the guidance of one or more supervisors, on a subject defined as relevant to a discipline for which he or she has passed the exam.

At least one teacher of the course of study must be present among the supervisor. Any exceptions proposed by the candidate, who must in any case take into consideration a teacher belonging to the Polytechnic School, must be approved by the DPB.

The thesis must be carried out in English.

The thesis must reveal the student's ability to deal with research and/or application issues. The thesis 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 thesis must also reveal:

- adequate preparation in the disciplines characterising the Master's Degree;
- adequate engineering preparation;
- correct use of sources and bibliography;
- systematic and argumentative skills;
- clarity in the exposition;
- design and experimental skills;
- critical skills.

The Commission for the final examination is composed of at least five members including the President and is appointed by the Director of the DITEN Department.

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

The commitment required of the student for the preparation of the final examination must be commensurate with the number of credits assigned to the exam itself.

The evaluation of the final examination by the commission takes place, in the event of passing the final exam, by assigning an increase, varying from 0 to a maximum of 6 established by the Polytechnic School in agreement with the Departments, to the weighted average of the marks obtained in the exams relating to educational activities that require a final vote, taking as weight the number of credits associated with the individual educational activity.

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 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 Manifesto

The DITEN Department, after consulting the Polytechnic School, approves and publishes annually the Study Manifesto of the Master's degree course on the Degree Course website. In the Manifesto are indicated the main provisions of the didactic system and the didactic regulation of the Master's degree course, to which additional information may be added.

The Study Manifesto of the Master's degree course contains the list of the teaching courses activated for the academic year in question. The sheets of the individual courses are published on the D.C. website.

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