

**Polytechnic School - Department of Naval, Electrical, Electronic and Telecommunications
Engineering (DITEN)
Master's degree in Engineering Technology for Strategy (and Security)
STRATEGOS**

Class LM-DS

Teaching Regulations – Cohort 2023/24

Established by the Council of the Course of Study on 28 April 2023

Approved by the Department's Council on 19 May 2023

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Art. 1 Premise and area of competence

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

The Degree Regulation of the Master's degree Course in Engineering Technology for Strategy (and Security) is resolved, pursuant to article 25, paragraphs 1 and 4 of the University Degree Regulation, general part, by the Council of Courses of Study (CCS) of Engineering Technology for Strategy (and Security) to the majority of the members and submitted for the approval of the Council of the DITEN Department (and of the Councils of the associated Department of DIEC and DISPI), after consultation with the Polytechnic School, with the prior favourable opinion of the Joint Committee of the School and the Department, if provided.

The resolutions of the CCS 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

The equivalence of the foreign qualification reported in the RAD is determined through the analysis of the academic qualification, the CV, the Transcript of records by the Strategos Selection Committee.

Admission to the Master's degree course in Engineering Technology for Strategy (and Security) is subject to the possession of specific curriculum requirements and adequate personal preparation.

All the following curricular requirements are required:

- possession of a degree, 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 qualifications;
- possession of at least 36 CFU (Italian university training credits), acquired in any university course (bachelor's degree, master's degree, five-year degree, first and second level university master's degree) in the disciplinary-scientific sectors (SSD) indicated for the basic training activities of Engineering class degrees: INF/01, ING-INF/05, MAT/02, MAT/03, MAT/05, MAT/06, MAT/07, MAT/08, MAT/09, SECS-S/02, CHIM/03, CHIM/07, FIS/01, FIS/03, FIS/07, of which no less than 30 CFU in the basic training activities of the MAT*, FIS*, CHIM* groupings as a whole;
- possession of at least 45 CFU acquired in any university course (bachelor's degree, master's degree, five-year master's degree, first and second level university master's degree) in the disciplinary-scientific sectors indicated for the training activities characterising engineering class degrees:
BIO/07
CHIM/12;
GEO/02, GEO/05, GEO/11;
ICAR/01, ICAR/02, ICAR/03, ICAR/04, ICAR/05, ICAR/06, ICAR/07, ICAR/08, ICAR/09, ICAR/10, ICAR/11, ICAR/17, ICAR/20;
ING-IND/01, ING-IND/02, ING-IND/03, ING-IND/04, ING-IND/05, ING-IND/06, ING-IND/07,
ING-IND/08, ING-IND/09, ING-IND/10, ING-IND/11, ING-IND/12, ING-IND/13, ING-IND/14,
ING-IND/15, ING-IND/16, ING-IND/17, ING-IND/18, ING-IND/19, ING-IND/20, ING-IND/21,
ING-IND/22, ING-IND/23, ING-IND/24, ING-IND/25, ING-IND/26, ING-IND/27, ING-IND/28,
ING-IND/31, ING-IND/32, ING-IND/33, ING-IND/34, ING-IND/35;
ING-INF/01, ING-INF/02, ING-INF/03, ING-INF/04, ING-INF/05, ING-INF/06, ING-INF/07.

For graduates abroad, the curricular requirements will be checked by considering appropriate equivalences between the courses followed with profit and those ascribable to the SSDs indicated above.

Individual preparation must be made explicit according to the criteria established by the CdS
Scientific and Engineering Bases

Engineering and professional experiences

Ability to adapt to different application contexts

Potential of the Candidate

Motivation

Properties of Expression and Knowledge of Languages

Presence of Spirit

Credits will be validated following the recognition of professional knowledge and skills certified individually in accordance with the regulations in force on the subject, as well as other knowledge and skills acquired in post-secondary level training activities to which the university has contributed.

Adequate knowledge of the English language not lower than level B2 is verified through the interview or with the certification held by the student and / or by passing the B2 test provided by the University Language Center (CLAT UniGe). The requirement of linguistic knowledge is also satisfied in possession of a degree in English, to be certified through an official document or letter from the University that awarded the three-year degree, which shows that the studies were conducted in English.

A Complete Curriculum Vitae is required for all students.

For students of NON-EU nationality, with foreign residence and qualification, the procedure for submitting their application for the purpose of verifying eligibility for an LM in English is encouraged to be developed through the DreamApply portal according to the deadlines that are established. for each academic year.

Following the analysis of the documents and the Curriculum Vitae provided, as well as the interview, we proceed with the:

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

Following these two types of evaluation, the student will be deemed admissible or ineligible.

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 and/or written test and will be aimed at ascertaining the general preparation of the student with particular reference to the knowledge of fundamental notions and of applicative and professional aspects related to engineering issues.

The test will be held in front of a Committee appointed by the CCS and composed of professors belonging to the CCS.

The composition of the Examination Committee, 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 Committee 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", "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.

Art. 3 Training activities

The list of courses and other possible training activities, in the cohort 2023-2024, 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 training activities (lessons, exercises, workshops) shall be English. Annex 1 to this regulation specifies the language in which each training activity is carried out.

Art. 4 Enrolment in individual training activities

In accordance with Article 5 of the University Regulations for students, in order enrol in individual training activities you must have a qualification which allows access to the university.

Art. 5 Curricula

The Master's degree Course in Engineering Technology for Strategy (and Security) 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 CCS 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: $6 \div 12$ hours of lesson or assisted teaching activity.

The definition of the assumed total time commitment, reserved for personal study or other training 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 CCS 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 training 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 of the Master's degree course. The study plan formulated by the student must contain an indication of the training 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, except in cases of transfer from other universities which will be evaluated individually.

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 provisions of the University Student Contribution Regulations.

In the absence of the completion of the study plan by the due date, a standard plan will be uploaded ex officio, except in cases where it is planned to complete an individual study plan (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 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 can be bound by a system of propaedeuticity, indicated for each teaching course in the special part of this Regulation (Annex 1). The method and deadline for the presentation of the study plan are established annually by the Polytechnic School and reported in master's degree course

website at the section "Students".

The study plan, which has a shorter duration than the normal one, is approved by the Council of Course of Study.

The student can add "non-curricular" courses up to a maximum of 12 credits to his / her educational path without paying further contributions,

These courses are not taken into consideration for the purposes of obtaining the degree, but may be evaluated for the achievement of a subsequent degree.

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 in the various Courses of Study offered make the attendance to the training 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, the normal teaching activity (lessons, exercises, laboratories) can be interrupted for the conduct of graduation exams, seminars, tests reserved for out-of-course students, tutoring activities and didactic activities of recovery.

The lesson schedule for the entire academic year is published on the Course of Study's website before the start of the lessons of the academic year. The schedule of classes guarantees the possibility of attendance based on the years of the course programme provided for by the current Study Manifesto of the Degree Course. For practical reasons, the compatibility of the timetable for all formally possible optional teaching choices is not guaranteed. Students must then formulate their study plan taking into account the time 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 University website, which can be accessed from the Degree Course website.

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 Degree 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 CCS 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 training activities in their study plan.

All profit examinations of training activities must be passed by the student within the deadline set by the student office of the Polytechnic School in view of the final exam, as indicated in the "reminder" published on the University website, which can be accessed from the Degree Course website.

The result of the examination, with the vote obtained, is verbalized in accordance with art. 20 of the University Degree Regulation.

The profit examination commissions are appointed by the Director of the Department or on his delegation by the Course Coordinator and are made up of at least 3 members. At each examination session there will be at least 2 members. The professor responsible for the teaching unit is member with the function of president. Members of the Committee may also be experts identified by the Degree Programme Board on the basis of criteria that ensure the possession of scientific, didactic or professional requirements; these requisites can be presumed to be possessed by retired university professor. At least one alternate chairman must be identified for each commission at the time of appointment. In each examination session, the committees are chaired by the president or an alternate.

Art. 10 Recognition of credits

The Council of the Courses of Study 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 Degree Regulation, art. 18. It also decides the recognition, as training 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 CCS 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 training credits obtained within these programmes and shall organise the training activities as appropriate in such a way as to make these activities easier and effective.

The CCS 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 training 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 Engineering Technology for Strategy (and Security). Equivalence shall be evaluated by the CCS.

The conversion of votes will take place according to criteria approved by the CCS, in accordance with the European ECTS system whenever possible:

- If the hosting foreign university provides the necessary input information, then the CCS will apply the ECTS guidelines by applying the Grading Tables;
- Otherwise, the CCS will address the conversion by using the Mark Conversion table.

Prior to his/her mobility, the student can ask the lecturer responsible for the agreement with the hosting university (e.g., Erasmus+ agreement) for indications about the information available from this university and/or about the Mark Conversion table.

For study periods dedicated to the preparation of the final exam, the number of credits recognized, relating to this case, is related to the duration of the period spent abroad.

Any period of study abroad, which resulted in the recognition of educational credits, will be evaluated for the purposes of the final exam.

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 the writing of a thesis, 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.

The supervisors must include at least one lecturer from the Polytechnic School and/or the Master's degree Course.

The thesis will be carried out in English; in case of use of another EU language, the authorization of the CCS is required. In these cases the thesis must be accompanied by the title and an extensive summary in English.

The thesis, carried out in university laboratories, companies, national or international research bodies, 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 Committee for the final examination is composed of at least five members including the Committee 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 Committee, followed by a discussion of any questions raised by the members of the Committee.

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 Committee 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 and reported in the Study Manifesto – Polytechnic School – Engineering Area, to the weighted average of the marks obtained in the exams relating to training activities that require a final vote, taking as weight the number of credits associated with the individual training 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 DITEN Department, organizes and manages a tutoring service for the support of students, in order to prevent dispersion and delay in studies and to promote a profitable active participation in university life in all its forms.

Art. 14 Verification of obsolescence of credits

University training credits (CFU) acquired within the framework of the degree course can be subject to obsolescence verification after 6 years. If the CCS recognizes the obsolescence of even a single part of the relative educational content, the CCS itself establishes the supplementary tests that must

be taken by the student, defining the topics, the methods of verification, the composition of the Examination Committee.

Once the required tests have been passed, the CCS validates the credits acquired with a resolution. If the related training activity provides for a vote, it may be varied from the one previously obtained, on a proposal from the Examination Committee which carried out the verification.

Art. 15 Study Manifesto

The DITEN Department, after consulting the Polytechnic School, approves and publishes annually the Study Manifesto of the Master's degree course on the University website, which can be accessed from 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 University website, which can be accessed from the Degree Course website.

**Annex 1 to the Degree Regulation of the Master's degree course in Engineering
Technology for Strategy (and Security)**
List of training activities and related learning outcomes

Year	Code	Teaching course	CFU	SSD	Type	Area	Language	Prerequisites	Learning outcomes	Hours of assisted teaching activity	Hours of personal study
1	95292	FOREIGN POLICY ANALYSIS	5	SPS/04	CORE LEARNING ACTIVITY	Political and Strategic Sciences	English		How can we explain foreign policy decisions? The course, which aims to provide students tools to interpret foreign policy, examines concepts and theories of Foreign Policy Analysis (FPA). The course illustrates foreign policy by focusing on the decision-making process, investigating the interaction among actors and their environment, and devoting special attention to the influence of domestic factors. The course combines the analysis of theories with a comparative study of foreign policy through selected case studies (e.g., the US decisions to send troops in Vietnam in the 1960s and to invade Iraq in 2003; the Italian and German decision-making process related to the military mission in Libya in 2011, etc.)	48	77
1	98218	ADVANCED METHODS OF MONITORING AND DESIGN OF SYSTEMS	4	ING-IND/09	RELATED OR SUPPLEMENTARY ACTIVITY	Related or Supplementary Learning Activity	English		"The course aims to illustrate how the design under uncertainty can help in modelling and design of the energy systems. The first part of the course will cover the necessary fundamentals of statistics. Then different uncertainty quantification methods will be presented, starting from sampling method like Monte Carlo and continuing with different approximated methods an overview of robust design will presented, focusing on the application of uncertainty quantification method in optimization problems. In the second part of the course,	40	60

									advanced techniques for Data Driven monitoring will be presented. Both methods will be applied to different case studies.		
1	98219	MATHEMATICAL MODELLING AND CONTINUOUS/DISCRETE SIMULATION	8	MAT/07	CORE LEARNING ACTIVITY	Mathematical Sciences	English		Modeling and Simulation Fundamentals. Theory and Practice of Continuous Simulation and related Methodologies. Theory and Practice of Discrete Simulation and related Methodologies. Hybrid Simulation.	80	120
1	98220	ELEMENTS OF BUSINESS ECONOMICS	4	SECS-P/07	RELATED OR SUPPLEMENTARY ACTIVITY	Related or Supplementary Learning Activity	English		"The unit aims at giving an outline of the logics and goals underlying the strategic management process and the single strategic choices of a company. The items to be covered are the following: - definition of the firm: nature and goals; - fundamentals of firm behaviour: efficiency, effectiveness and economic balance; corporate social responsibility and sustainability; - fundamentals of the management process: assets and liabilities; revenues, costs and income; profitability; - the value of the firm and the value creation process;- the drivers of the value creation: competences and competitive advantages; - economic value and equity market value	40	60
1	98222	MODELLING AND DESIGN OF COMPLEX SYSTEMS	8	ING-IND/17	CORE LEARNING ACTIVITY	Industrial Engineering Sciences and Chemistry	English		Foundation on Complex Systems. Transfer of knowledge about Simulation Paradigms and Modeling Methodologies effective for addressing Complex Systems.. Transfer of capabilities to analyze real problems and case studies corresponding to Complex Systems. Acquisition of skills in Conceptual Modeling applied to Complex Problems. Acquisition of Skills in design of Simulation Architectures and Model Development applied to Complex Systems.	80	120

1	98228	STRATEGIES FOR TELECOMMUNICATIONS	4	ING-INF/03	ELECTIVE LEARNING ACTIVITY	Student's Elective Learning Activity	English		The lectures are aimed at providing theoretical and practical knowledge about advanced Information and Communication Technologies which will influence strategic choices in the next future allowing the development of new paradigms and services such as smart cities, manufacturing, factory and agriculture. The lectures will provide a basic know-how about networking technologies such as IP and TCP/UDP architectures and will develop this information to explain concepts such as Cloud Computing and Internet of Things; 5G and Satellite Technology, Automated and Connected Mobility; Big Data Analytics, Artificial Intelligence and Machine Learning, and Cybersecurity."	40	60
1	98229	STRATEGIES FOR ENERGY	4	ING-IND/31	ELECTIVE LEARNING ACTIVITY	Student's Elective Learning Activity	English		The main aim of the course is to discuss both the practical and theoretical aspects of strategies for managing energy. More precisely the milestones for the course could be declined as follows: Strategies for controlling energy flows; Optimization and management strategies; Practical aspects applied to smart energy microgrid.	40	60
1	98230	OPERATION RESEARCH FOR STRATEGIC DECISIONS: MODELS, METHODS	8	MAT/09	CORE LEARNING ACTIVITY	Mathematical Sciences	English		The course provides students the basics of operations research, which are most relevant to the strategic and operational planning of enterprises. The course aims to develop optimization models and provide mathematical programming methods, both exact and heuristic, for decision-makers. Students are also provided with the necessary knowledge to understand the structure of an optimization algorithm and to implement it with Python. Emphasis is given to logistics and transportation problems. Students will evaluate the acquiring of their skills by	80	120

								examining, developing and analyzing case studies in a computer classroom using the spreadsheet optimization tool of Excel and ad-hoc software environments. By the end of the course, students will have the skills necessary to identify the methodological approach needed to address a decision-making problem and the ability to apply that method to determine the good solutions.		
1	104937	ECONOMICS OF DEVELOPMENT AND COOPERATION	4	SECS-P/01	ELECTIVE LEARNING ACTIVITY	Student's Elective Learning Activity	English	The course aims at introducing students to the recent research, both theoretical and empirical, in economics and other social sciences, concerning the political causes of the success, or failure, of the states. In particular, we will focus the attention on the interaction between political and economic institutions and development, emphasizing: how the states' economic performance depends on their institutions, and the endogenous emergence of the latter as the outcome of an underlying distributive conflict within the society.	36	64
1	108138	MARKET STRUCTURE AND COMPETITION POLICY	4	SECS-P/01	ELECTIVE LEARNING ACTIVITY	Student's Elective Learning Activity	English	The course provides an in-depth illustration of the relationship linking economic theory with business strategy on one hand, and with competition policy on the other. In the first part the analysis will present the main theoretical models that are used to classify markets as a function of several market features. The economic rationales underlying the use of price discrimination strategies will be presented in the second part of the course, which will be followed by the analysis of the forms of strategic behaviour that are the objects of competition policy and market regulatory interventions.	40	60

1	109174	COMPUTATIONAL INTELLIGENCE	4	ING-INF/01	RELATED OR SUPPLEMENTARY ACTIVITY	Related or Supplementary Learning Activity	English		"The course aims at introducing the learner to fundamental state of the art knowledge and tools on machine learning algorithms/models. The goal is for students to become able to tackle real-world problems, using supervised and unsupervised learning techniques.	40	60
2	98214	COMPUTER GAMES AND SIMULATION	5	ING-INF/01	CORE LEARNING ACTIVITY	Information Engineering Sciences	English		The course covers the elements of programming for videogames. Students will learn the basics of both 2D and 3D programming along with the techniques used by the newest CAD tools for videogame design. After an introduction about the various types of simulation, a basic game engine for attaching the components of 2D games programming is presented. The basic of the 3D graphics and 3D videogame through the usage of a CAD graphics tool and an AAA game engine is also provided. One fifth of the credit is obtained through a final project.	50	75
2	98215	AUTONOMOUS AGENTS IN GAMES - ARCHITECTURES AND MODELS FOR NUMERICAL METHODS	10	ING-INF/01	CORE LEARNING ACTIVITY	Information Engineering Sciences				0	0
2	98216	AUTONOMOUS AGENTS IN GAMES	5	ING-INF/01	CORE LEARNING ACTIVITY	Information Engineering Sciences	English		"The focus of this course is on the use of Artificial Intelligence techniques for generating efficient intelligent behaviors in games, with a special attention on improving game play experience. LEARNING OUTCOMES - Identify tasks that can be tackled using AI techniques. - Select the appropriate AI technique for the problem under investigation. - Design and implement efficient and robust AI algorithms for game tasks - Evaluate performance and test the implemented algorithms	40	85

2	106903	STRATEGIC PROGRAMS	5	ING- INF/01	CORE LEARNING ACTIVITY	Information Engineering Sciences	English		The goal is to introduce students to large international projects covering various state of the art topics (e.g., digital solutions, industrial plants, distribution and logistics). Strategic Programs has a multi-disciplinary approach, addressing project management, strategic management, planning, engineering, negotiation, international legal disputes, claim management, risk assessment, process/resource scheduling, project proposal writing and reporting, etc. The Course teaches qualitative and quantitative methodologies and techniques devoted to achieve project efficiency, effectiveness, competitiveness, reliability, risk management. At the end of the Course the Student will be able to be proactive within an organization dealing with international programs and to use main methodologies for project management.	40	85
2	98231	FUNDAMENTALS OF ORGANIZATION AND STRATEGIC BUSINESS MANAGEMENT	8	SECS- P/08	CORE LEARNING ACTIVITY	Economics, Organisation and Management Sciences	English		The course is split in two modules. The Organization module aims to provide the fundamental conceptual and practical tools for the organizational analysis and design, both from an internal and an external (e.g. consultancy) perspective. The module will focus on the logic of organizational design such as structural dimensions and organizational configurations, and on the following topics regarding human behaviour inside an organization: personality, perception and decision-making, motivations and incentives, Leadership & Group behavior, and organizational change. The Strategic business management module aims at helping students to understand and interpret the companies' behaviours and strategies with reference to their	80	120

								surrounding environment. The specific focus is on competitive/collaborative relationships among companies and their stakeholders. Some modelling paradigms are presented, along with case studies. - main goals of a business - companies as complex social systems - creating shared value and Porter's Value Chain - mission, vision and strategy - the company and the environment (general and competitive environment; Porter's five forces analysis) - internal environment of companies (resources, competences) - business and corporate strategies - competitive strategies (cost leadership, differentiation, focus) and the competitive advantage - innovation and exploration vs exploitation strategies - business functions - business processes - modelling and simulating an enterprise (overview of different paradigms) - agent based models for strategic management simulation and modelling - examples and case studies.		
2	98232	TRAINING OR TRAINEESHIP	40		OTHER ACTIVITY	Learning and Orientation Traineeships	English		0	1000
2	98233	THESIS	8		FINAL EXAMINATION	For the Final Examination	English		0	200

**Scuola Politecnica – Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle
Telecomunicazioni (DITEN)**

**Corso di Laurea Magistrale in Engineering Technology for Strategy (and Security)
STRATEGOS**

Classe LM-DS

REGOLAMENTO DIDATTICO – Coorte 2023/24

*Deliberato dal Consiglio del Corso di Studi del 28/04/2023
Approvato dal Consiglio di Dipartimento del 19/05/2023*

Descrizione del funzionamento del Corso di Laurea Magistrale

- Art. 1 Premessa e ambito di competenza**
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- Art. 3 Attività formative**
- Art. 4 Iscrizione a singole attività formative**
- Art. 5 Curricula**
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- Art. 7 Piani di studio e propedeuticità**
- Art. 8 Frequenza e modalità di svolgimento delle attività didattiche**
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- Art. 10 Riconoscimento di crediti**
- Art. 11 Mobilità, studi compiuti all'estero, scambi internazionali**
- Art. 12 Modalità della prova finale**
- Art. 13 Orientamento e tutorato**
- Art. 14 Verifica dell'obsolescenza dei crediti**
- Art. 15 Manifesto degli Studi**

Art. 1 Premessa e ambito di competenza

Il presente Regolamento, in conformità allo Statuto ed al Regolamento didattico di Ateneo (parte generale e parte speciale), disciplina gli aspetti organizzativi dell'attività didattica del Corso di Laurea Magistrale in Engineering Technology for Strategy and Security, nonché ogni diversa materia ad esso devoluta da altre fonti legislative e regolamentari.

Il Regolamento didattico del Corso di Laurea Magistrale in Engineering Technology for Strategy and Security è deliberato, ai sensi dell'articolo 25, commi 1 e 4 del Regolamento didattico di Ateneo, parte generale, dal Consiglio del Corso di Studi (CCS) di Engineering Technology for Strategy and Security a maggioranza dei componenti e sottoposto all'approvazione del Consiglio del Dipartimento DITEN (e dei Consigli dei Dipartimenti associati DIEC e DISPI), sentita la Scuola Politecnica previo parere favorevole della Commissione Paritetica di Scuola e di Dipartimento, ove esistente.

Le delibere del CCS possono essere assunte anche in modalità telematica ai sensi dei sovraordinati regolamenti e, in particolare, dell'articolo 14 "Riunioni con modalità telematiche" del vigente Regolamento Generale di Ateneo (in vigore dal 19/12/2018).

Art. 2 Requisiti di ammissione e modalità di verifica della preparazione individuale

L'equivalenza del titolo di studio straniero riportata nel RAD è determinata attraverso l'analisi del titolo accademico, del Cv, del Transcript of records da parte del Comitato di Selezione di Strategos

L'ammissione al corso di laurea magistrale in Engineering Technology for Strategy and Security è subordinata al possesso di specifici requisiti curricolari e di adeguatezza della preparazione personale.

Sono richiesti tutti i seguenti requisiti curricolari:

- possesso di laurea, laurea specialistica o laurea magistrale, di cui al D.M. 509/1999 o D.M. 270/2004, conseguita presso una Università Italiana oppure una laurea quinquennale (ante D.M. 509/1999), conseguita presso una Università Italiana o titoli equivalenti;
- possesso di almeno 36 CFU, acquisiti in un qualunque corso universitario (laurea, laurea specialistica, laurea magistrale, laurea quinquennale, master universitario di I e II livello) nei settori scientifico disciplinari indicati per le attività formative di base delle lauree delle classi di Ingegneria: INF/01, ING-INF/05, ING-IND/17, MAT/02, MAT/03, MAT/05, MAT/06, MAT/07, MAT/08, MAT/09, SECS-S/02, CHIM/03, CHIM/07, FIS/01, FIS/03, FIS/07, dei quali non meno di 30 CFU nelle attività formative di base dei raggruppamenti MAT*, FIS*, CHIM*, nel loro complesso;
- possesso di almeno 45 CFU acquisiti in un qualunque corso universitario (laurea, laurea specialistica, laurea magistrale, laurea quinquennale, master universitario di I e II livello) nei settori scientifico disciplinari indicati per le attività formative caratterizzanti delle lauree delle classi di ingegneria:
BIO/07
CHIM/12
;
GEO/02, GEO/05, GEO/11;
ICAR/01, ICAR/02, ICAR/03, ICAR/04, ICAR/05, ICAR/06, ICAR/07, ICAR/08, ICAR/09, ICAR/10, ICAR/11, ICAR/17, ICAR/20;
ING-IND/01, ING-IND/02, ING-IND/03, ING-IND/04, ING-IND/05, ING-IND/06, ING-IND/07, ING-IND/08, ING-IND/09, ING-IND/10, ING-IND/11, ING-IND/12, ING-IND/13, ING-IND/14, ING-IND/15, ING-IND/16, ING-IND/17, ING-IND/18, ING-IND/19, ING-IND/20, ING-IND/21, ING-IND/22, ING-IND/23, ING-IND/24, ING-IND/25, ING-IND/26, ING-IND/27, ING-IND/28, ING-IND/31, ING-IND/32, ING-IND/33, ING-IND/34, ING-IND/35;
ING-INF/01, ING-INF/02, ING-INF/03, ING-INF/04, ING-INF/05, ING-INF/06, ING-INF/07.

Per i laureati all'estero, la verifica dei requisiti curricolari sarà effettuata considerando opportune equivalenze tra gli insegnamenti seguiti con profitto e quelli ascrivibili ai SSD sopra indicati.

La preparazione individuale deve essere esplicitata a seconda dei i criteri stabiliti dal CdS

Basi Scientifiche e Ingegneristiche

Esperienze Ingegneristiche e professionali

Capacità di adattarsi a diversi contesti applicativi

Potenziale del Candidato

Motivazione

Proprietà di Espressione e conoscenza Lingue

Presenza di Spirito

È prevista la convalida di crediti a seguito del riconoscimento di conoscenze e abilità professionali certificate individualmente ai sensi della normativa vigente in materia, nonché di altre conoscenze e abilità maturate in attività formative di livello post-secondario alla cui progettazione e realizzazione l'università abbia concorso.

La conoscenza della lingua inglese non inferiore al livello B2, viene verificata tramite il colloquio oppure con la certificazione in possesso dello studente e/o tramite superamento del test B2 erogato dal Centro Linguistico di Ateneo (CLAT UniGe). Il requisito della conoscenza linguistica è soddisfatto anche in possesso di una laurea in lingua inglese, da certificare tramite documento ufficiale o lettera dell'Università che ha erogato il titolo triennale, da cui si evinca che gli studi si sono svolti in lingua inglese.

Si richiede la ricezione di un Curriculum Vitae Completo per tutti gli studenti

Per gli studenti di nazionalità extra-UE, con residenza e titolo di studio esteri la procedura di presentazione della propria candidatura ai fini della verifica dell'ammissibilità ad una LM in inglese è incoraggiato ad essere sviluppato tramite il portale DreamApply secondo le scadenze che vengono stabilite per ogni anno accademico.

Al seguito dell'analisi dei documenti e del Curriculum Vitae fornito, nonché del Colloquio si procede con la

- Valutazione dei titoli (credential evaluation)
- Valutazione del candidato (interview)

A valle di queste due tipologie di valutazione lo studente verrà ritenuto ammissibile o non ammissibile

Ai fini dell'ammissione al corso di laurea magistrale gli studenti, in possesso dei requisiti curricolari, dovranno sostenere con esito positivo una prova per la verifica della preparazione personale, salvo i casi disposti dall'ultimo comma. La prova di verifica sarà svolta sotto forma di colloquio pubblico o di test scritto e sarà finalizzata ad accertare la preparazione generale dello studente con particolare riferimento alla conoscenza di nozioni fondamentali e di aspetti applicativi e professionali relativi alle tematiche proprie dell'ingegneria.

La prova è sostenuta davanti ad una Commissione nominata dal CCS e composta da docenti afferenti al CCS, alla quale possono essere invitati come esperti anche osservatori esperti qualificati. Nell'avviso per Ammissione ai corsi di laurea magistrale della Scuola Politecnica e sul sito web del corso di laurea magistrale sono indicati: la composizione della Commissione di valutazione gli argomenti ed i criteri di valutazione dei candidati che vengono applicati, nonché le modalità per espletare il colloquio che viene concordato con ciascun studente.

Ai fini della valutazione dello studente la Commissione tiene ovviamente anche del curriculum ottenuto nel percorso di laurea triennale e di altre esperienze significative. L'esito della prova prevede la sola dicitura "superato", "non superato".

L'adeguatezza della preparazione personale è automaticamente verificata per coloro che hanno conseguito la laurea triennale, Italiana od estera, o titolo giudicato equivalente secondo quanto indicato riguardo l'accertamento dei requisiti curricolari, con una votazione finale di almeno 9/10 del voto massimo previsto dalla propria laurea o che hanno conseguito una votazione finale corrispondente almeno alla classifica "A" del sistema ECTS.

Art. 3 Attività formative

L'elenco degli insegnamenti e delle altre attività formative attivabili nella coorte 2023/2024, è riportato nell'apposito allegato (ALL.1) che costituisce parte integrante del presente Regolamento. Per ogni insegnamento è individuato un docente responsabile.

È docente responsabile di un insegnamento chi ne sia titolare a norma di legge, ovvero colui al quale il Consiglio del Dipartimento di afferenza abbia attribuito la responsabilità stessa in sede di affidamento dei compiti didattici ai docenti.

La lingua usata per erogare le attività formative (lezioni, esercitazioni, laboratori) è l'inglese. Nell'allegato (ALL.1) al presente Regolamento è specificata la lingua in cui viene erogata ogni attività formativa.

Art. 4 Iscrizione a singole attività formative

In conformità con l'articolo 5 del Regolamento di Ateneo per gli studenti, per iscriversi a singole attività formative occorre possedere un titolo di studio che permetta l'accesso all'Università.

Art. 5 Curricula

Il Corso di Laurea Magistrale in Engineering Technology for Strategy and Security non è articolato in curricula.

Art. 6 Impegno orario complessivo

La definizione della frazione oraria dedicata a lezioni o attività didattiche equivalenti è stabilita, per ogni insegnamento, dal CCS e specificata nella parte speciale del Regolamento. In ogni caso si assumono i seguenti intervalli di variabilità della corrispondenza ore aula/CFU: $6 \div 12$ ore di lezione o di attività didattica assistita.

La definizione dell'impegno orario complessivo presunto, riservato allo studio personale o ad altre attività formative di tipo individuale, è stabilito, per ogni insegnamento, nell'allegato (ALL.1) del presente regolamento

Il Direttore del Dipartimento DITEN e il Coordinatore del CCS sono incaricati di verificare il rispetto delle predette prescrizioni

Art. 7 Piani di studio e propedeuticità

Gli studenti possono iscriversi a tempo pieno o a tempo parziale; per le due tipologie di studente sono previsti differenti diritti e doveri.

Lo studente sceglie la tipologia di iscrizione contestualmente alla presentazione del piano di Studio. Lo studente a tempo pieno svolge la propria attività formativa tenendo conto del piano di studio predisposto dal Corso di Laurea Magistrale, distinto per anni di corso e pubblicato nel Manifesto degli Studi del Corso di Laurea Magistrale. Il piano di studio formulato dallo studente deve contenere l'indicazione delle attività formative, con i relativi crediti che intende conseguire, previsti dal piano di studio ufficiale per tale periodo didattico, fino ad un massimo di 65 dei crediti previsti in ogni anno, salvo in casi trasferimento da altri Atenei che verranno valutati singolarmente.

Lo studente a tempo parziale è tenuto a presentare un piano di studio individuale specificando il numero di crediti che intende inserire secondo quanto disposto dal regolamento per la contribuzione studentesca di Ateneo.

In assenza della compilazione del piano di studio entro la scadenza prevista, sarà caricato d'ufficio un piano standard, salvo i casi in cui sia prevista la compilazione di un piano di studio individuale (e.g. passaggio di corso di studio, precedente piano di studio individuale a tempo parziale).

L'iscrizione degli studenti a tempo pieno e a tempo parziale è disciplinata dal Regolamento di Ateneo per gli studenti tenuto conto delle disposizioni operative deliberate dagli Organi centrali di governo ed indicate nella Guida dello studente (pubblicata annualmente sul sito web dell'Università).

Il percorso formativo dello studente può essere vincolato attraverso un sistema di propedeuticità, indicate per ciascun insegnamento nella parte speciale del presente Regolamento (ALL.1).

La modalità e il termine per la presentazione del piano di studio sono stabiliti annualmente dalla Scuola

Politecnica e riportate sul Sito web del CdS alla pagina "Studenti".

Lo studente può aggiungere nel proprio percorso formativo insegnamenti "non curricolari" fino ad un massimo di 12 cfu senza versare ulteriori contributi,

Tali insegnamenti non sono presi in considerazione ai fini del conseguimento della laurea, ma potranno essere valutati per il conseguimento di un titolo di studi successivo

Il piano di studio articolato su una durata più breve rispetto a quella normale, è approvato dal Consiglio del Corso di Studio.

Art. 8 Frequenza e modalità di svolgimento delle attività didattiche

Gli insegnamenti possono assumere la forma di: (a) lezioni, anche a distanza mediante mezzi telematici; (b) esercitazioni pratiche; (c) esercitazioni in laboratorio, (d) laboratori virtuali, (e) workshop, webinars, seminari tematici

Il profilo articolato e la natura impegnativa delle lezioni tenute nell'ambito del corso di studio rendono la frequenza alle attività formative fortemente consigliata per una adeguata comprensione degli argomenti e quindi per una buona riuscita negli esami.

Il calendario delle lezioni è articolato in semestri. Di norma, il semestre è suddiviso in almeno 12 settimane di lezione più almeno 4 settimane complessive per prove di verifica ed esami di profitto. Il periodo destinato agli esami di profitto termina con l'inizio delle lezioni del semestre successivo. A metà semestre, la normale attività didattica (lezioni, esercitazioni, laboratori) può essere interrotta per lo svolgimento di esami di laurea, prove riservate a studenti fuori corso, seminari, attività di tutorato e attività didattica di recupero.

L'orario delle lezioni per l'intero anno accademico è pubblicato sul sito web della Scuola Politecnica prima dell'inizio delle lezioni dell'anno accademico. L'orario delle lezioni garantisce la possibilità di frequenza per anni di corso previsti dal vigente Manifesto degli Studi. Per ragioni pratiche non è garantita la compatibilità dell'orario per tutte le scelte formalmente possibili degli insegnamenti opzionali. Gli studenti devono quindi formulare il proprio piano di studio tenendo conto dell'orario delle lezioni.

Art. 9 Esami e altre verifiche del profitto

Gli esami di profitto possono essere svolti in forma scritta, orale, o scritta e orale, secondo le modalità indicate nelle schede di ciascun insegnamento pubblicate sul sito web di Ateneo e

accessibili da quello del CdS. A richiesta, possono essere previste specifiche modalità di verifica dell'apprendimento che tengano conto delle esigenze di studenti disabili e di studenti con disturbi specifici dell'apprendimento (D.S.A.), in conformità all'art. 20 comma 4 del Regolamento didattico di Ateneo.

Nel caso di insegnamenti strutturati in moduli con più docenti, questi partecipano collegialmente alla valutazione complessiva del profitto dello studente che non può, comunque, essere frazionata in valutazioni separate sui singoli moduli.

Il calendario degli esami di profitto è stabilito entro la scadenza ministeriale per l'anno accademico successivo e viene pubblicato sul sito web di Ateneo e accessibile da quello del CdS. Il calendario delle eventuali prove di verifica in itinere è stabilito dal CCS e comunicato agli studenti all'inizio di ogni ciclo didattico.

Gli esami si svolgono nei periodi di interruzione delle lezioni. Possono essere previsti appelli durante il periodo delle lezioni soltanto per gli studenti che, nell'anno accademico in corso, non abbiano inserito attività formative nel proprio piano di studio.

Tutte le verifiche del profitto relative alle attività formative debbono essere superate dallo studente entro la scadenza prevista dalla segreteria studenti della Scuola Politecnica in vista della prova finale, come indicato nel "promemoria" pubblicato sul sito web di Ateneo e accessibile da quello del CdS.

L'esito dell'esame, con la votazione conseguita, è verbalizzato secondo quanto previsto all'art. 20 del regolamento didattico di Ateneo.

Le commissioni di esame di profitto sono nominate dal Direttore del Dipartimento o su sua delega dal Coordinatore del corso di studio e sono composte da almeno 3 componenti. Ad ogni sessione di esame saranno presenti almeno 2 membri. Il docente responsabile dell'insegnamento è membro con funzione di presidente. Possono essere componenti della commissione cultori della materia individuati dal consiglio del corso di studio sulla base di criteri che assicurino il possesso di requisiti scientifici, didattici o professionali; tali requisiti si possono presumere posseduti da parte di docenti universitari a riposo. Per ogni commissione all'atto di nomina va individuato almeno un presidente supplente. In ogni sessione di esame le commissioni sono presiedute dal presidente o da un supplente.

Art. 10 Riconoscimento di crediti

Il Consiglio del Corso di Studi delibera sull'approvazione delle domande di passaggio o trasferimento da un altro Corso di Studi dell'Ateneo o di altre Università secondo le norme previste dal Regolamento didattico di Ateneo, art. 18. Delibera altresì il riconoscimento, quale credito formativo, per un numero massimo di 12 CFU, di conoscenze e abilità professionali certificate ai sensi della normativa vigente.

Nella valutazione delle domande di passaggio si terrà conto delle specificità didattiche e dell'attualità dei contenuti formativi dei singoli esami sostenuti, riservandosi di stabilire di volta in volta eventuali forme di verifica ed esami integrativi.

Art. 11 Mobilità, studi compiuti all'estero, scambi internazionali

Il CCS incoraggia fortemente le attività di internazionalizzazione, in particolare la partecipazione degli studenti ai programmi di mobilità e di scambi internazionali. A tal fine garantisce, secondo le modalità previste dalle norme vigenti, il riconoscimento dei crediti formativi conseguiti all'interno di tali programmi, e organizza le attività didattiche opportunamente in modo da rendere agevoli ed

efficaci tali attività.

Il CCS riconosce agli studenti iscritti, che abbiano regolarmente svolto e completato un periodo di studi all'estero, gli esami sostenuti fuori sede e il conseguimento dei relativi crediti che lo studente intenda sostituire ad esami del proprio piano di studio.

Ai fini del riconoscimento di tali esami, lo studente all'atto della compilazione del piano delle attività formative che intende seguire nell'Ateneo estero, dovrà produrre idonea documentazione comprovante l'equivalenza dei contenuti tra l'insegnamento impartito all'estero e l'insegnamento che intende sostituire, impartito nel Corso di Laurea Magistrale in Engineering Technology for Strategy and Security. L'equivalenza è valutata dal CCS.

La conversione dei voti avviene secondo criteri approvati dal CCS, quando possibile congruenti con il sistema europeo European Credit Transfer and Accumulation System (ECTS):

- se l'università straniera mette a disposizione i dati necessari, il consiglio adotterà la guida europea ECTS utilizzando le Grading Tables;
- altrimenti, il consiglio convertirà i voti seguendo la tabella di Conversione dei Voti.

Le indicazioni relative alla disponibilità dei dati necessari messi a disposizione dall'università ospitante e/o alla tabella di conversione dei voti possono essere richiesti dallo studente, prima della partenza per la propria mobilità, al docente referente della borsa Erasmus.

Per periodi di studio dedicati alla preparazione della prova finale, il numero di crediti riconosciuto, relativi a

tale fattispecie, è messo in relazione alla durata del periodo svolto all'estero.

L'eventuale periodo di studio all'estero, che abbia comportato riconoscimento di crediti formativi, verrà valutato ai fini della prova finale.

Art. 12 Modalità della prova finale

La prova finale consiste nella discussione di un elaborato scritto, tendente ad accertare la preparazione tecnico-scientifica e professionale del candidato.

Ai fini del conseguimento della Laurea Magistrale, l'elaborato finale consiste nella redazione di una tesi, elaborata dallo studente in modo originale sotto la guida di uno o più relatori, su un argomento definito attinente ad una disciplina di cui abbia superato l'esame.

Tra i relatori deve essere presente almeno un docente della Scuola Politecnica o del Corso di studi.

La tesi sarà svolta in lingua inglese; in caso di utilizzo di altra lingua della UE è necessaria l'autorizzazione del CCS. In questi casi la tesi deve essere corredata dal titolo e da un ampio sommario in inglese.

La tesi, svolta presso laboratori universitari, Aziende, Enti di ricerca nazionali o internazionali, dovrà rivelare le capacità dello studente nell'affrontare tematiche di ricerca e/o di tipo applicativo. La tesi dovrà essere costituita da un progetto e/o dallo sviluppo di un'applicazione che proponga soluzioni innovative rispetto allo stato dell'arte e dimostri le capacità di analisi e di progetto dello studente.

La tesi dovrà altresì rivelare:

- ✓ adeguata preparazione nelle discipline caratterizzanti la Laurea Magistrale;
- ✓ adeguata preparazione ingegneristica;
- ✓ corretto uso delle fonti e della bibliografia;
- ✓ capacità sistematiche e argomentative;
- ✓ chiarezza nell'esposizione;
- ✓ capacità progettuale e sperimentale;
- ✓ capacità critica.

La Commissione per la prova finale è composta da almeno cinque componenti compreso il

Presidente ed è nominata dal Direttore del Dipartimento DITEN.

Le modalità di svolgimento della prova finale consistono nella presentazione orale della tesi da parte dello studente alla Commissione per la prova finale, seguita da una discussione sulle questioni eventualmente poste dai membri della Commissione.

L'impegno richiesto allo studente per la preparazione della prova finale deve essere commisurato al numero di crediti assegnati alla prova stessa.

La valutazione della prova finale da parte della commissione avviene, in caso di superamento della stessa, attribuendo un incremento, variabile da 0 ad un massimo di 6, secondo quanto stabilito dalla Scuola Politecnica di concerto con i Dipartimenti e riportato nel Manifesto degli Studi – Scuola Politecnica – Area di Ingegneria, alla media ponderata dei voti riportati nelle prove di verifica relative ad attività formative che prevedono una votazione finale, assumendo come peso il numero di crediti associati alla singola attività formativa.

Alla determinazione del calcolo del voto finale contribuirà l'attività di internship (40 cfu) svolta in azienda, laboratori nazionali o esteri, che verrà valutata dalla Commissione.

Tra gli aspetti che concorrono alla definizione del punteggio attribuito alla prova finale, la Commissione dovrà particolarmente tenere in conto:

- qualità dell'elaborato;
- esposizione dell'elaborato;
- valutazione delle esperienze di internship condotte
- valutazione del periodo svolto all'estero
- durata del percorso di studio del candidato
- altre qualifiche ottenute in attività tecnico scientifiche di rilievo

Art. 13 Orientamento e tutorato

La Scuola Politecnica, di concerto con il Dipartimento e il CdS, organizza e gestisce un servizio di orientamento e di sostegno degli studenti, al fine di promuovere i diversi percorsi formativi di secondo livello e incentivare una proficua partecipazione attiva alla vita universitaria in tutte le sue forme.

Art. 14 Verifica dell'obsolescenza dei crediti

I crediti formativi universitari acquisiti nell'ambito del corso di laurea possono essere sottoposti a verifica di obsolescenza dopo 6 anni. Qualora il CCS riconosca l'obsolescenza anche di una sola parte dei relativi contenuti formativi, lo stesso CCS stabilisce le prove integrative che dovranno essere sostenute dallo studente, definendo gli argomenti delle stesse, le modalità di verifica, la composizione della commissione di esame.

Una volta superate le verifiche previste, il CCS convalida i crediti acquisiti con apposita delibera. Qualora la relativa attività formativa preveda una votazione, la stessa potrà essere variata rispetto a quella precedentemente ottenuta, su proposta della Commissione d'esame che ha proceduto alla verifica.

Art. 15 Manifesto degli Studi

Il Dipartimento DITEN, sentita la Scuola Politecnica, approva e pubblica annualmente il Manifesto degli studi del Corso di Laurea sul sito web di Ateneo e accessibili da quello del CdS. Nel Manifesto sono indicate le principali disposizioni dell'Ordinamento didattico e del Regolamento didattico del Corso di Laurea Magistrale, a cui eventualmente si aggiungono indicazioni integrative.

Il Manifesto degli Studi del Corso di Laurea Magistrale contiene l'elenco degli insegnamenti attivati per l'anno accademico in questione. Le schede dei singoli insegnamenti sono pubblicati sul sito web di Ateneo e accessibili da quello del CdS.

**Allegato 1 Parte Speciale del Regolamento didattico del Corso di Laurea Magistrale in
Engineering Technology for Strategy (and Security)**

Elenco delle attività formative attivabili e relativi obiettivi formativi

Anno di corso	Codice Ins.	Nome insegnamento	CFU	SSD	Tipologia	Ambito	Lingua	Propedeuticità	Obiettivi formativi	Ore riservate attività didattica assistita	Ore riservate allo studio personale
1	95292	FOREIGN POLICY ANALYSIS	5	SPS/04	CARATTERIZZANTI	Scienze Politologiche e Strategiche	Inglese		How can we explain foreign policy decisions? The course, which aims to provide students tools to interpret foreign policy, examines concepts and theories of Foreign Policy Analysis (FPA). The course illustrates foreign policy by focusing on the decision-making process, investigating the interaction among actors and their environment, and devoting special attention to the influence of domestic factors. The course combines the analysis of theories with a comparative study of foreign policy through selected case studies (e.g., the US decisions to send troops in Vietnam in the 1960s and to invade Iraq in 2003; the Italian and German decision-making process related to the military mission in Libya in 2011, etc.)	48	77
1	98218	ADVANCED METHODS OF MONITORING AND DESIGN OF SYSTEMS	4	ING-IND/09	AFFINI O INTEGRATIVE	Attività Formative Affini o Integrative	Inglese		"The course aims to illustrate how the design under uncertainty can help in modelling and design of the energy systems. The first part of the course will cover the necessary fundamentals of statistics. Then different uncertainty quantification methods will be presented, starting from sampling method like Monte Carlo and continuing with different approximated methods an overview of robust design will presented, focusing on the application of uncertainty quantification method in optimization problems. In the second part of the course, advanced techniques for Data Driven monitoring will be presented. Both methods will be applied to different case studies.	40	60

1	98219	MATHEMATICAL MODELLING AND CONTINUOUS/DISCRETE SIMULATION	8	MAT/07	CARATTERIZ ZANTI	Scienze Matematiche	Inglese		Modeling and Simulation Fundamentals. Theory and Practice of Continuous Simulation and related Methodologies. Theory and Practice of Discrete Simulation and related Methodologies. Hybrid Simulation.	80	120
1	98220	ELEMENTS OF BUSINESS ECONOMICS	4	SECS-P/07	AFFINI O INTEGRATIVE	Attività Formative Affini o Integrative	Inglese		The unit aims at giving an outline of the logics and goals underlying the strategic management process and the single strategic choices of a company. The items to be covered are the following: - definition of the firm: nature and goals; -fundamentals of firm behaviour: efficiency, effectiveness and economic balance; corporate social responsibility and sustainability; - fundamentals of the management process: assets and liabilities; revenues, costs and income; profitability; -the value of the firm and the value creation process;- the drivers of the value creation: competences and competitive advantages; - economic value and equity market value	40	60
1	98222	MODELLING AND DESIGN OF COMPLEX SYSTEMS	8	ING-IND/17	CARATTERIZ ZANTI	Scienze dell'Ingegneria Industriale e Chimica	Inglese		Foundation on Complex Systems. Transfer of knowledge about Simulation Paradigms and Modeling Methodologies effective for addressing Complex Systems.. Transfer of capabilities to analyze real problems and case studies corresponding to Complex Systems. Acquisition of skills in Conceptual Modeling applied to Complex Problems. Acquisition of Skills in design of Simulation Architectures and Model Development applied to Complex Systems.	80	120
1	98228	STRATEGIES FOR TELECOMMUNICATIONS	4	ING-INF/03	A SCELTA	A Scelta dello Studente	Inglese		The lectures are aimed at providing theoretical and practical knowledge about advanced Information and Communication Technologies which will influence strategic choices in the next future allowing the development of new paradigms and services such as smart cities, manufacturing, factory and agriculture. The lectures will provide a basic know-how about networking technologies such as IP and	40	60

									TCP/UDP architectures and will develop this information to explain concepts such as Cloud Computing and Internet of Things; 5G and Satellite Technology, Automated and Connected Mobility; Big Data Analytics, Artificial Intelligence and Machine Learning, and Cybersecurity."		
1	98229	STRATEGIES FOR ENERGY	4	ING-IND/31	A SCELTA	A Scelta dello Studente	Inglese		The main aim of the course is to discuss both the practical and theoretical aspects of strategies for managing energy. More precisely the milestones for the course could be declined as follows: Strategies for controlling energy flows; Optimization and management strategies; Practical aspects applied to smart energy microgrid.	40	60
1	98230	OPERATION RESEARCH FOR STRATEGIC DECISIONS: MODELS, METHODS	8	MAT/09	CARATTERIZZANTI	Scienze Matematiche	Inglese		The course provides students the basics of operations research, which are most relevant to the strategic and operational planning of enterprises. The course aims to develop optimization models and provide mathematical programming methods, both exact and heuristic, for decision-makers. Students are also provided with the necessary knowledge to understand the structure of an optimization algorithm and to implement it with Python. Emphasis is given to logistics and transportation problems. Students will evaluate the acquiring of their skills by examining, developing and analyzing case studies in a computer classroom using the spreadsheet optimization tool of Excel and ad-hoc software environments. By the end of the course, students will have the skills necessary to identify the methodological approach needed to address a decision-making problem and the ability to apply that method to determine the good solutions.	80	120
1	104937	ECONOMICS OF DEVELOPMENT AND COOPERATION	4	SECS-P/01	A SCELTA	A Scelta dello Studente	Inglese		The course aims at introducing students to the recent research, both theoretical and empirical, in economics and other social sciences, concerning the political causes of the success, or	36	64

								failure, of the states. In particular, we will focus the attention on the interaction between political and economic institutions and development, emphasizing: how the states' economic performance depends on their institutions, and the endogenous emergence of the latter as the outcome of an underlying distributive conflict within the society.		
1	108138	MARKET STRUCTURE AND COMPETITION POLICY	4	SECS-P/01	A SCELTA	A Scelta dello Studente	Inglese	The course provides an in-depth illustration of the relationship linking economic theory with business strategy on one hand, and with competition policy on the other. In the first part the analysis will present the main theoretical models that are used to classify markets as a function of several market features. The economic rationales underlying the use of price discrimination strategies will be presented in the second part of the course, which will be followed by the analysis of the forms of strategic behaviour that are the objects of competition policy and market regulatory interventions.	40	60
1	109174	COMPUTATIONAL INTELLIGENCE	4	ING-INF/01	AFFINI O INTEGRATIVE	Attività Formative Affini o Integrative	Inglese	"The course aims at introducing the learner to fundamental state of the art knowledge and tools on machine learning algorithms/models. The goal is for students to become able to tackle real-world problems, using supervised and unsupervised learning techniques.	40	60
2	98214	COMPUTER GAMES AND SIMULATION	5	ING-INF/01	CARATTERIZANTI	Scienze dell'Ingegneria dell'informazione	Inglese	The course covers the elements of programming for videogames. Students will learn the basics of both 2D and 3D programming along with the techniques used by the newest CAD tools for videogame design. After an introduction about the various types of simulation, a basic game engine for attaching the components of 2D games programming is presented. The basic of the 3D graphics and 3D videogame through the usage of a CAD graphics tool and an AAA game engine is also provided. One fifth of the credit is obtained through a final project.	50	75

2	98215	AUTONOMOUS AGENTS IN GAMES - ARCHITECTURES AND MODELS FOR NUMERICAL METHODS	10	ING-INF/01	CARATTERIZ ZANTI	Scienze dell'Ingegneria dell'informazione				0	0
2	98216	AUTONOMOUS AGENTS IN GAMES	5	ING-INF/01	CARATTERIZ ZANTI	Scienze dell'Ingegneria dell'informazione	Inglese		"The focus of this course is on the use of Artificial Intelligence techniques for generating efficient intelligent behaviors in games, with a special attention on improving game play experience. LEARNING OUTCOMES - Identify tasks that can be tackled using AI techniques. - Select the appropriate AI technique for the problem under investigation. - Design and implement efficient and robust AI algorithms for game tasks - Evaluate performance and test the implemented algorithms	40	85
2	106903	STRATEGIC PROGRAMS	5	ING-INF/01	CARATTERIZ ZANTI	Scienze dell'Ingegneria dell'informazione	Inglese		The goal is to introduce students to large international projects covering various state of the art topics (e.g., digital solutions, industrial plants, distribution and logistics). Strategic Programs has a multi-disciplinary approach, addressing project management, strategic management, planning, engineering, negotiation, international legal disputes, claim management, risk assessment, process/resource scheduling, project proposal writing and reporting, etc. The Course teaches qualitative and quantitative methodologies and techniques devoted to achieve project efficiency, effectiveness, competitiveness, reliability, risk management. At the end of the Course the Student will be able to be proactive within an organization dealing with international programs and to use main methodologies for project management.	40	85
2	98231	FUNDAMENTALS OF ORGANIZATION AND STRATEGIC BUSINESS MANAGEMENT	8	SECS-P/08	CARATTERIZ ZANTI	Scienze Economiche, dell'Organizzazione e della Gestione	Inglese		The course is split in two modules. The Organization module aims to provide the fundamental conceptual and practical tools for the organizational analysis and design, both from an internal and an external (e.g.	80	120

					Aziendale			consultancy) perspective. The module will focus on the logic of organizational design such as structural dimensions and organizational configurations, and on the following topics regarding human behaviour inside an organization: personality, perception and decision-making, motivations and incentives, Leadership & Group behavior, and organizational change. The Strategic business management module aims at helping students to understand and interpret the companies' behaviours and strategies with reference to their surrounding environment. The specific focus is on competitive/collaborative relationships among companies and their stakeholders. Some modelling paradigms are presented, along with case studies. - main goals of a business - companies as complex social systems - creating shared value and Porter's Value Chain - mission, vision and strategy - the company and the environment (general and competitive environment; Porter's five forces analysis) - internal environment of companies (resources, competences) - business and corporate strategies - competitive strategies (cost leadership, differentiation, focus) and the competitive advantage - innovation and exploration vs exploitation strategies - business functions - business processes - modelling and simulating an enterprise (overview of different paradigms) - agent based models for strategic management simulation and modelling - examples and case studies.		
2	98232	TRAINING OR TRAINEESHIP	40		ALTRE ATTIVITA'	Tirocini Formativi e di Orientamento	Inglese		0	1000
2	98233	THESIS	8		PROVA FINALE	Per la Prova Finale	Inglese		0	200