



POLITECNICO
MILANO 1863

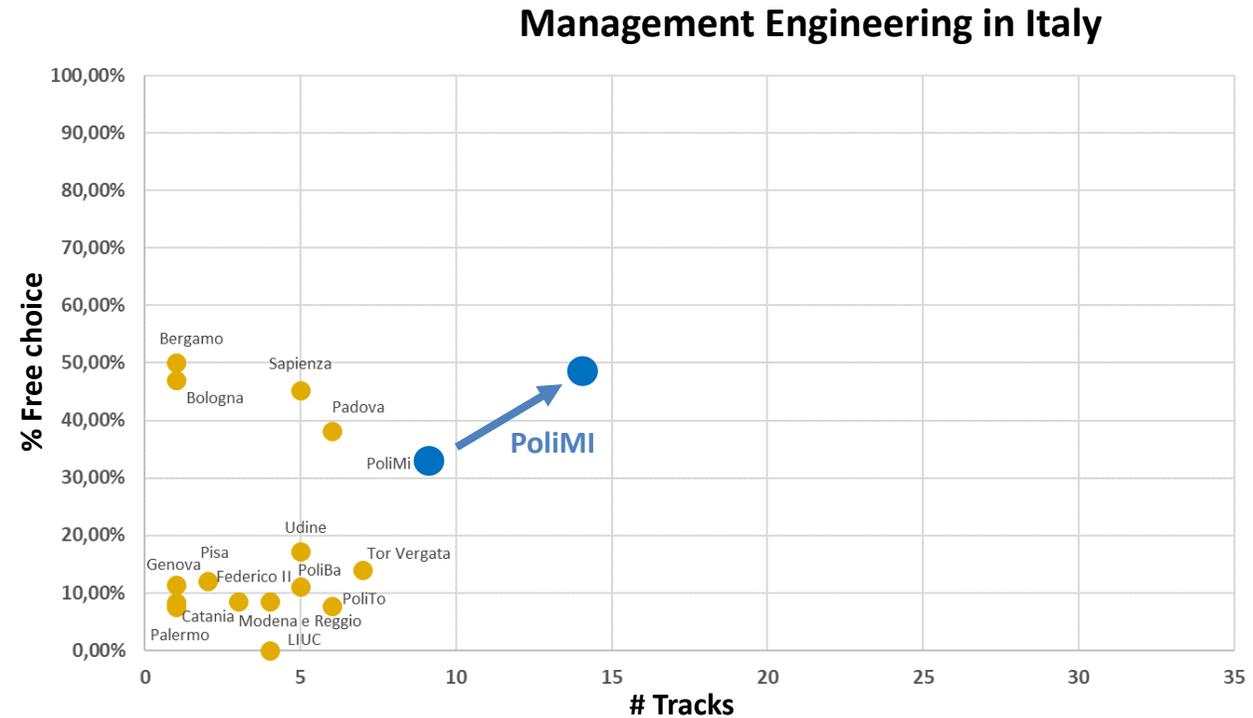
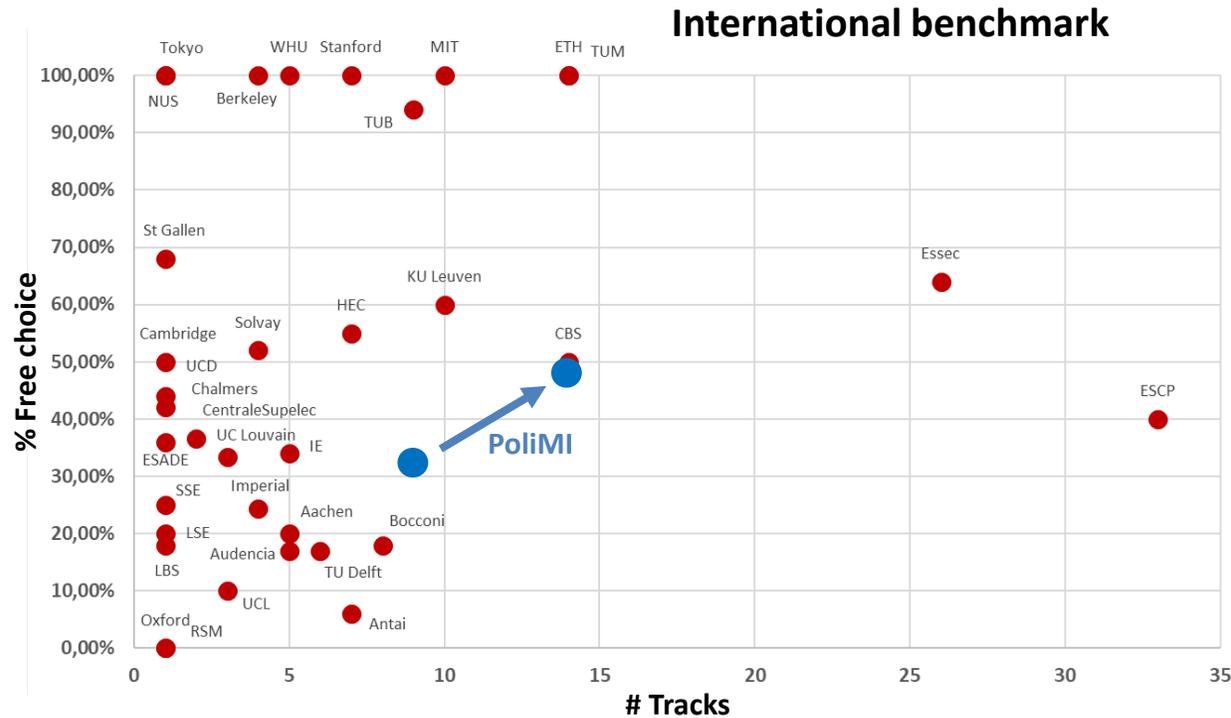
Management Engineering: Offer 2021-2022

This presentation aims to:

- Outline the new structure of the MSc in Management engineering, with specific reference to the second year offer that will be available starting from September 2021.
- Clarify constraints and exceptions.
- Highlight how the study plan of students enrolled in 2020 (or before) will be «mapped against» the new structure.

- The second year is articulated in **14 majors**.
- Each major is constituted by **25 characterizing subjects** and **20 elective subjects**, that students can select depending on the professional profile they aim to develop.
- In order to ensure the interdisciplinary vocation of the MSc programme, at least **10 ECTS** should be obtained through subjects that belong to disciplinary sectors (SSD) other than characterizing ones (ING-IND 35; ING-IND 17). Study plans that do not respect this constraint will not be approved.

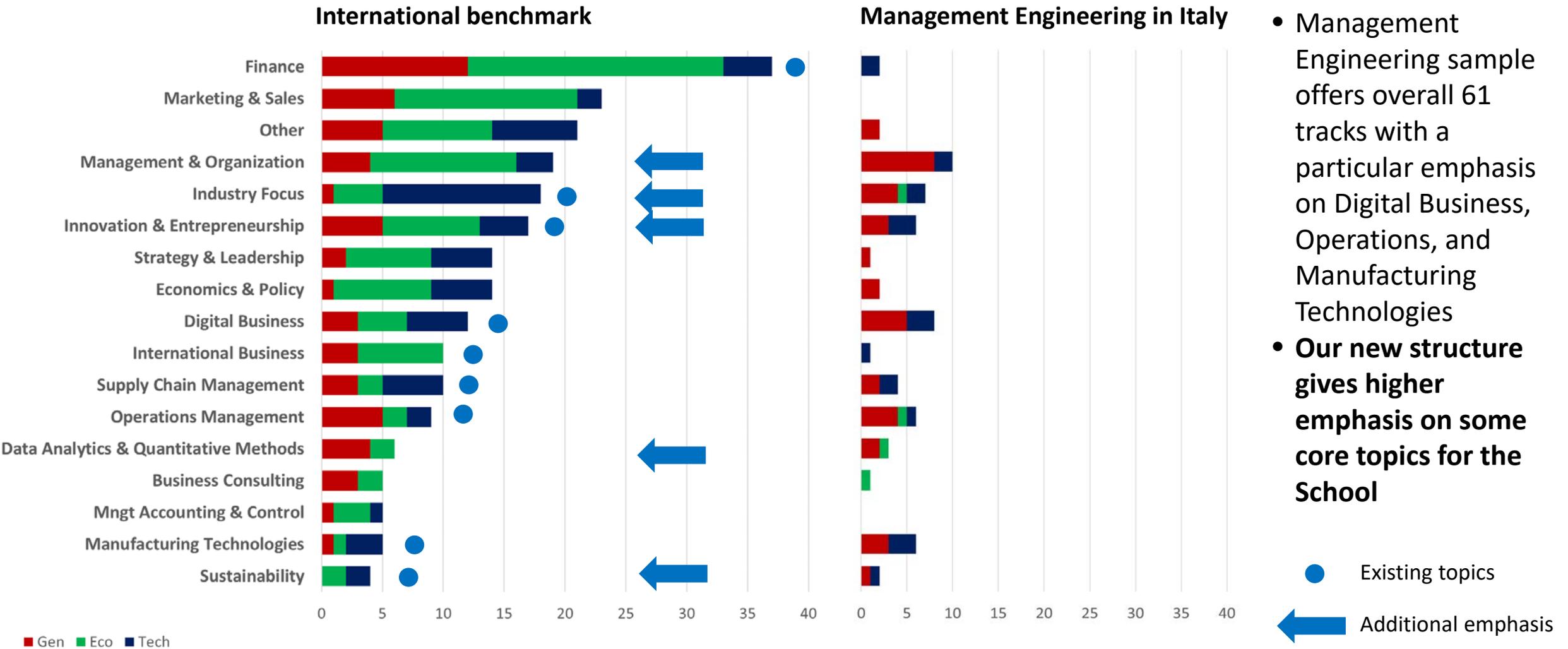
Customization level might be measured by the number of tracks/majors and the percentage of free choice exams offered to students (in terms of ECTS equivalent)



- There is a variety of offers at the international level, ranging from very narrow programs (e.g. Oxford, UCL, RSM) to fully customizable ones (e.g. Stanford, MIT, ETH, TUM)
- On average, Italian MSc in Management Engineering do not pursue high levels of customization for students

211 tracks in the international benchmark are clustered in 17 content categories

Finance, Marketing & Sales, Management & Organization are dominated by Economics Universities



- Management Engineering sample offers overall 61 tracks with a particular emphasis on Digital Business, Operations, and Manufacturing Technologies
- **Our new structure gives higher emphasis on some core topics for the School**

MSc in Management Engineering PoliMI: Structure overview

Core Curriculum			Major	Elective	Master thesis 15 ECTS
Accounting, Finance & Control	Strategy & Marketing	Leadership & Innovation	3 OUT OF 4 Quality Data Analysis Operations Management Logistics Management Industrial Technologies	<i>Industry 4.0</i>	
			Business & Industrial Economics + 2 OUT OF 4 Quality Data Analysis Operations Management Logistics Management Industrial Technologies	<i>Industrial Management</i>	
			Business & Industrial Economics + 2 OUT OF 3 Operations Management Logistics Management Industrial Technologies	<i>Supply Chain Management</i>	
			<i>Circular Economy</i>		
			<i>Energy Management</i>		
			<i>Sustainability & Social Impact</i>		
			<i>Business Strategy & Transformation</i>		
			<i>Analytics for Business</i>		
			<i>Digital Business Innovation</i>		
			<i>Entrepreneurship</i>		
			<i>Innovation Management</i>		
			<i>Complex Projects Business</i>		
			<i>International Business</i>		
			<i>Finance</i>		
60 ECTS			25 ECTS	20 ECTS	

MAJOR: Industry 4.0

Focus: brief description for students	INDUSTRY 4.0	ECTS
<p>We are facing a new industrial “revolution” with a long-lasting and pervasive impact on the future of industry. The strong connection between manufacturing, management and digital technologies is paving the way to new professional figures, which are highly requested in the job market and should be properly trained to combine all the aforementioned skills. The learning outcomes of the Major Industry 4.0 can be summarized as follows:</p> <ul style="list-style-type: none"> • Understand the main elements of the 4th industrial revolution in terms of technologies, markets, management and business models; • Model and analyse the impact of the Industry4.0 revolution on the current scenario and foresee future evolutions; • Develop new solutions leveraging the new I4.0 paradigms to new business and market models. 	<p>Lab:</p> <ul style="list-style-type: none"> • Smart Manufacturing Lab (ING-IND16/17) 	10
<p>Possible suggestions of courses in the general free basket:</p> <ul style="list-style-type: none"> • Digital factory (ING/IND 16) • Demanufacturing (ING/IND 16) • Design of Experiments and Data Analysis (ING-IND/16) • Integrated Manufacturing Systems B (ING/IND 16) • Advanced Modeling for operations (ING-IND/17) • Smart Maintenance Management (ING-IND/17) • Product Lifecycle Management (ING-IND/17) • Technologies for information systems (ING-INF/05) • Digital security management (ING-INF/05) • New Forms of Organization (ING-IND/35) • Supply Chain Innovation (ING-IND/17) • Patents and Intellectual Property management (ING-IND/35) 	<ul style="list-style-type: none"> • Manufacturing Systems Engineering A (ING-IND16) • Additive manufacturing (ING-IND16) 	5
Total		25

MAJOR: Industrial Management

Focus: brief description for students	INDUSTRIAL MANAGEMENT	ECTS
<p>In our more and more complex and dynamic world, there is an increasing interest for a new generation of Managers whose specialisation is a systemic and integrated view of the whole “industrial” part of a service or manufacturing company, including the relationships with customers and suppliers. Production, Purchasing, New product/service development, Quality, Planning, Logistics, etc. are coordinated in order to create and maintain a strong competitive advantage, mastering technology innovation and organisational innovation in a coherent and integrated way.</p> <p>In this Major students will learn to :</p> <ul style="list-style-type: none"> • Understand the dynamic and functioning of complex systems, i.e. organisations and their ecosystems. • Understand the impact of adopting new/digital technologies and identify the opportunity to make radical changes • Model and analyse the interaction of different functions and stakeholders. • Design and implement improvement projects leveraging on new technologies, leading people, and adopting innovative managerial approaches. As an internal consultant, or working in a consulting company • Decide critical investment, as for example: use AI to support the customer in selecting the best product or service for her needs; open a new unit in a different country; • Develop solutions to increase the capability of a company to innovate and to improve 	<p>Lab:</p> <ul style="list-style-type: none"> • Industrial Management Lab and Toolbox (ING-IND17) • Smart Maintenance Management (ING-IND17) • Operations risk management and resilience (ING-IND17) 	<p>15</p> <p>5</p>
<p>Possible suggestions of courses in the general free basket:</p> <ul style="list-style-type: none"> • Digital business (ING-IND17) • International distribution (ING-IND17) • Product lifecycle management (ING-IND17) • Purchasing and supply management (ING-IND35) • Technology Risk Governance (ING-IND17) • Advanced modelling for Operations (ING-IND/17) • Corporate Finance (ING-IND35) • International Economics (SECS-P/02) • Machine learning (INF-01) • Additive manufacturing (ING-IND16) • Game theory (MAT/05) • Model identification and data analysis (ING-IND/04) 	<ul style="list-style-type: none"> • Industrial Asset Management (ING-IND17) • Agile Project Management (ING-IND17) • Quality Management (ING-IND17) 	<p>5</p>

MAJOR: Supply Chain Management

Focus: brief description for students	SUPPLY CHAIN MANAGEMENT	ECTS
<p>Companies today operate within complex global supply chains, which pose several challenges and require a systemic understanding of the different elements. The Major Supply Chain Management aims to provide students with the set of advanced competences and skills required to manage global supply chains, from the definition of the strategy to its execution, through the processes of Plan, Source, Make, and Deliver. Students will have the opportunity to learn how to manage sustainability, risk&resilience, innovation and finance from a supply chain perspective.</p>	<p>Lab:</p> <ul style="list-style-type: none"> Advanced Supply Chain Planning Lab (ING-IND/17) Supplier Relationship Management Lab (ING-IND/35) 	10
<p>Possible suggestions of courses in the general free basket:</p> <ul style="list-style-type: none"> Advanced modeling for Operations (ING-IND/17) Economics and Management of Multinational Enterprises (ING-IND/35) Corporate Finance (ING-IND/35) Marketing Analytics (ING-IND/35) Additive Manufacturing (ING-IND/16) Operations Risk Management (ING-IND/17) Collaborative Innovation for Sustainability and Impact (ING-IND/35) Agri-food supply chain perspectives (ING-IND/17–35) Digital Business (ING-IND/17–35) Applied Statistics (SECS-S/01) Digital Technology (ING-INF/05) 	<p>Optional courses in the Major:</p> <ul style="list-style-type: none"> Purchasing and Supply Management (ING-IND/35) Global Supply Chain Planning (ING-IND/17) International Distribution (ING-IND/17) Supply Chain Innovation (ING-IND/17) Global Supply Chains and Networks (ING-IND/35) Green Logistics (ING-IND/17) 	5
	Totale	25

MAJOR: Circular Economy

Focus: brief description for students	CIRCULAR ECONOMY	ECTS
<p>Ecological limits and the impact of climate change has increased the urgency for transforming and restructuring the current socio-technical regime. Today, an evolutionary view on the mechanisms of industrial transformations is of uttermost importance in the context of climate change mitigation strategies. In this context, circular economy (CE) is an approach that has become an important strategic framework to induce a transition towards sustainable production and consumption. The main Learning Objectives of this Major are:</p> <ul style="list-style-type: none"> • Understand climate change pressures and socio-technical trends. • Model and analyse industrial transformations towards CE combining product and resource supply chains dynamics. • Develop new industrial models for CE leveraging on product design, manufacturing and logistics green innovations. • Take decisions for the continuous improvement of sustainability performance of industrial systems leveraging on circular economy strategies. 	<p>Lab:</p> <ul style="list-style-type: none"> • Circular Economy Lab (ING-IND/ 17 e 35) 	10
<p>Possible suggestions of courses in the general free basket:</p> <ul style="list-style-type: none"> • Global Environmental Challenges (ING-IND/35) • Management of Energy (ING-IND/35) • Fundamentals of energy technologies, (ING-IND/10) • Demanufacturing (ING-IND/16) • Design Thinking for Business (ING-IND/35) • Financing complex projects (ING-IND/35) • Advanced Modelling for Operations (ING-IND/17) • Product Life Cycle Management (ING-IND/17) • Operations Risk Management & Resilience (ING-IND/17) • Quality Management (ING-IND/17) • Additive Manufacturing (ING-IND/16) 	<ul style="list-style-type: none"> • Circular Industrial Systems (ING-IND/17) • Circular Economy Business Models (ING-IND/35) • Sustainable Manufacturing (ING-IND/17) • Green Logistics (ING-IND/17) 	15
Total		25

MAJOR: Energy Management

Focus: brief description for students	ENERGY MANAGEMENT	ECTS
<p>It is clear that we are facing a global energy transition, a profound transformation of the global energy sector from fossil-based to zero-carbon. At its heart is the need to reduce energy-related CO2 emissions to limit climate change. Renewable energy and energy efficiency measures in all sectors of the Economy are the keys for this transition, but they require as enablers information technology, smart technology, policy frameworks and market instruments. The goal of this Major is to equip students with the required knowledge and tools to:</p> <ul style="list-style-type: none"> • Understand current trends and future scenarios in energy production and consumption, and their implications for the long-term competitiveness of companies. • Understand competition dynamics in energy and energy-related industries. • Design and implement strategic and operational improvement projects with focus on energy and environmental dimensions of an organization. • Understand the role of new technologies (digital energy, storage, ...) and of new business ecosystems (smart buildings, communities, cities) in the innovation of business models in energy and energy-related industries. • Understand and being able to evaluate incentive mechanisms and regulatory frameworks for energy efficiency, renewables, energy communities 	<p>Lab:</p> <ul style="list-style-type: none"> • Energy Management Lab (ING-IND/ 17 e 35) • Management of Energy (ING-IND/35) 	<p>10</p> <p>5</p>
<p>Possible suggestions of courses in the general free basket:</p> <ul style="list-style-type: none"> • Global Environmental Challenges (ING-IND/35) • Management for Sustainability and Social Impact (ING-IND/35) • Power production from renewable energy (ING-IND/09) • Project Management (ING-IND/17) • Advanced modelling for Operations (ING-IND/17) 	<ul style="list-style-type: none"> • Fundamentals of Energy Technologies (ING-IND/10) • Circular Economy Business Models (ING-IND/35) • Technology Risk Governance (ING-IND/17) • Strategic Innovation (ING-IND/35) • Diritto dell'Energia (IUS/10) 	<p>10</p>
	Total	25

MAJOR: Sustainability and Social Impact

Focus: brief description for students	SUSTAINABILITY AND SOCIAL IMPACT	ECTS
<p>Societal challenges, global crisis, shifting consumers preferences, political advocacy and technological breakthroughs are radically transforming markets and business models, casting the sustainability imperative at the center of the stage and giving rise to the so-called purpose-driven economy. Corporations, financial institutions and social ventures will have to redesign their missions and business models in order to pursue, jointly and intentionally, purpose and profit objectives, delivering positive impact on the environment and society. Against this background, a profound rethinking of management practices, governance models, strategies and operations is inevitable and urgent. This is what perspective students should expect to learn when choosing this major. In particular, the specific learning goals are:</p> <ul style="list-style-type: none"> • Understanding societal challenges: inequalities, climate change, energy & resource management, food & nutrition, access to education & skills gap, health and care, aging society, unemployment. • Mastering strategies and managerial models for purpose, sustainability and impact. • Managing innovation for social impact, the environment and the common good. • Finance and investing for a sustainable future. • Collaboration and hybrid partnership for sustainability and impact 	<p>Lab:</p> <ul style="list-style-type: none"> • Sustainable and Social Innovation Lab (ING-IND/35) • Management for Sustainability and Impact (ING-IND/35) • Collaborative Innovation for Sustainability and Impact (ING-IND/35) 	<p>10</p> <p>10</p>
<p>Possible suggestions of courses in the general free basket:</p> <ul style="list-style-type: none"> • Circular Economy Business Models (ING-IND/35) • Development Economics (ING-IND/35) • Agri-food supply chain perspectives (ING-IND/17) • Management of Energy (ING-IND/35) • Green Logistics (ING-IND/17) • Ethics of Technology (M-FIL/02) • Corporate Finance (ING-IND/35) • New Forms of Organization (ING-IND/35) • Smart Cities and Urban Innovation (ICAR/20) 	<ul style="list-style-type: none"> • Sustainable Manufacturing (ING-IND/17) • Innovation in Health and Social Care (ING-IND/35) • Policy Design and Evaluation (SPS/04) • Global Environmental Challenges (ING-IND/35) 	<p>5</p>
Total		25

MAJOR: Business Strategy and Transformation

Focus: brief description for students	BUSINESS STRATEGY AND TRANSFORMATION	ECTS
<p>Our world is changing at an ever faster speed. In a world awash with technologies and ideas, envisioning and leading transformations able to keep humans (both customers and employees) at the center represent the ultimate strategic goals. The major focuses on corporate and business transformations portraying two characteristics:</p> <p>1. Strategic innovation: A significant redefinition of the sources of value creation of a firm (business model, products, services, experiences, brands, value constellation).</p> <p>2. Organizational transformation: reorienting the organization of internal resources towards this new source of value. The major addresses these complex transformations, which will be at the core of future firm dynamics in a changing environment, through a unique perspective: a design mindset that enacts sense making through problem solving. This will be the unique mindset that will qualify leaders who are visionary, aware of the complexity of competitive scenarios, savvy in technologies, inspiring and empathic with people.</p> <ul style="list-style-type: none"> • Making sense of changes in markets, industries, society, technology, and competition • Developing a shared vision • Envisioning strategic innovation and leading their transformation (working internally or collaborating with consulting firms) • Governing multifaceted types of strategic innovation: Business Model, Product-Service System, Brand, Organization, Processes • Engaging the complex web of corporate stakeholders • Designing the enabling factors of business transformation • Empowering and motivating • Implementing business transformation 	<p>Lab:</p> <ul style="list-style-type: none"> • Business Design and Transformation Lab (ING-IND/35 e ICAR/13) 	10
	<ul style="list-style-type: none"> • Strategic Innovation (ING-IND/35) 	5
<p>Possible suggestions of courses in the general free basket:</p> <ul style="list-style-type: none"> • Advanced Performance Measurement (ING-IND/35) • Applied Statistics (SECS-S/01) • Collaborative Innovation for Sustainability (ING-IND/35) • Economics of Innovation and New Technologies (ING-IND/35) • Entrepreneurship Economics (ING-IND/35) • Process Innovation and Improvement (ING-IND/17) • Service Design and Innovation (ICAR/13) • Supply Chain Innovation (ING-IND/17) • Vision and Change (ICAR/13) 	<ul style="list-style-type: none"> • Agile Innovation (ING-IND/35) • Corporate Finance (ING-IND/35) • Design Thinking for Business (ING-IND/35) • Digital Business (ING-IND/17) • New Forms of Organization (ING-IND/35) 	10
	Total	25

MAJOR: Analytics for Business

Focus: brief description for students	ANALYTICS FOR BUSINESS	ECTS
<p>The major approaches general management with an enhanced data-powered and market-oriented perspective: the objective is to empower knowledge and capabilities about the role of data in decision-making, and of the tools and method to interact with external stakeholders, and to turn the exchanges with them into value.</p> <p>In this perspective, the stream provides students with capabilities to</p> <ul style="list-style-type: none"> (i) analyze data rigorously, insightfully and originally (ii) identify the proper tools and models to accomplish the best impact (iii) (detect, organize and properly communicate indicators and dashboards for decision support, and (iv) turn the information obtained into a solid, accountable, value-driven business strategy. 	<p>Lab:</p> <ul style="list-style-type: none"> • Analytics for Business Lab (ING-IND35 e SECS-S01) 	10
<p>Possible suggestions of courses in the general free basket:</p> <ul style="list-style-type: none"> • Omnichannel marketing management (ING-IND/35) • Data analysis for public management (ING-IND/35) • Introductory Econometrics (SECS-P05) • Financial Econometrics (SECS-P05) • Policy Design and Evaluation (SPS-04) • Strategic Innovation (ING-IND/35) • Process Innovation and Improvement (ING-IND 17) • Advanced modelling for Operations (ING-IND/17) • Data Intelligence Applications (ING-INF/05) • Technologies for Information Systems (ING-INF/05) • Machine Learning (INF/01) 	<ul style="list-style-type: none"> • Applied Statistics (SECS-S01) • Marketing Analytics (ING-IND35) • Advanced Performance Measurement (ING-IND35) 	15
Total		25

MAJOR: Digital Business Innovation

Focus: brief description for students	DIGITAL BUSINESS INNOVATION	ECTS
<p>Provide students with a comprehensive and critical understanding of the business impact of Digital Technologies, from the strategic, entrepreneurial and organizational perspectives. Provide tools to effectively interpret all the current trends and future scenarios regarding Digital Technologies.</p> <p>Play an active and driving role in digital innovations projects within any organization. Identify the business opportunities brought on by Digital Technologies and leverage them to create innovative startups.</p>	<p>Lab:</p> <ul style="list-style-type: none"> Digital Business Lab (ING-IND 35) 2° sem 	10
	<ul style="list-style-type: none"> Digital Business (ING-IND 17) 2° sem 	5
<p>Possible suggestions of courses in the general free basket:</p> <ul style="list-style-type: none"> Design Thinking for Business (ING-IND/35) Strategic Innovation (ING-IND/35) Process Innovation and improvement (ING-IND/17) Supply Chain Innovation (ING-IND/17) Marketing Analytics (ING-IND/35) Additive Manufacturing (ING-IND/16) Technology Risk Governance (ING-IND/17) Innovation in Health and Social Care (ING-IND/35) Data Intelligence Applications (ING-INF/05) 	<ul style="list-style-type: none"> Digital Manufacturing (ING-IND/17) New Forms of Organization (ING-IND/35) Omnichannel Marketing (ING-IND/35) Economics of Innovation and new technologies (ING-IND/35) Agile Innovation (ING-IND/35) Machine Learning (INF/01) Digital Technology (ING-INF/05) 	10
Total		25

MAJOR: Entrepreneurship

Focus: brief description for students	ENTREPRENEURSHIP	ECTS
<p>Provide a comprehensive understanding of the challenges and success factors in launching a new business (i.e., a new venture, a new business unit within an existing corporations)</p> <p>Provide tools to develop the business model of an entrepreneurial idea</p> <p>Provide the skills required to launch and manage a new business</p> <p>Develop collaborative and communication skills</p>	<p>Lab:</p> <ul style="list-style-type: none"> • Entrepreneurship Lab (ING-IND/35) 	10
<p>Possible suggestions of courses in the general free basket:</p> <ul style="list-style-type: none"> • Corporate finance (ING-IND/35) • Economics of innovation and new technologies (ING-IND/35) • Process innovation and improvement (ING-IND/17) • Product life cycle management (ING-IND/17) • Machine learning (market & technological forecasting) (INF/01) • Introductory econometrics (SECS/P05) • Digital technology (ING-INF/05) • Data Intelligence Applications (ING-INF/05) • Agile innovation (ING-IND/35) 	<ul style="list-style-type: none"> • Digital business (ING-IND/17) • Entrepreneurship economics (ING-IND/35) • Entrepreneurial finance (ING-IND/35) • Patents and Intellectual Property management (ING-IND/35) • Family business (ING-IND/35) • Design thinking for business (ING-IND/35) 	15
Totale		25

MAJOR: Innovation Management

Focus: brief description for students	INNOVATION MANAGEMENT	ECTS
<ul style="list-style-type: none"> - Use economic analysis to predict how the new technologies and new socio-cultural trends will impact the future competitive arena. - Design, develop, test and implement large innovation projects aimed at seizing new business opportunities and facing emerging trends. - Design and execute projects of process/product/service/business innovation. - Use skills of agile project management, Intellectual Property management, corporate finance, product lifecycle management needed to manage innovation. - Use skills of data analytics to explore market data and technological trends. - Develop the skills required to act as Chief Innovation Officer and/or Innovation Management Consultant, i.e. to understand the needs and fulfil the expectations of an internal or external clients in innovation projects. 	<p>Lab:</p> <ul style="list-style-type: none"> • Innovation in action Lab (ING-IND/35+17) 	10
<p>Possible suggestions of courses in the general free basket:</p> <ul style="list-style-type: none"> • Machine learning (market & technological forecasting) (INF/01) • Introductory econometrics (SECS-P/05) • Estimation and learning in Industrial Engineering (ING-IND/05) • Data-driven base modelling of dynamical systems and optimal control (ING-INF/04) • Social shaping of technology (SPS/07) • Technology Risk Governance (ING-IND/17) • Process innovation and improvement (ING-IND/17) • Entrepreneurship economics (ING-IND/35) • Digital factory (ING-IND/16) • Circular industrial systems (ING-IND/17) 	<ul style="list-style-type: none"> • Agile Project Management (ING-IND/17) • Patents and Intellectual Property management (ING-IND/35) • Product life cycle management (ING IND/17) • Corporate finance (ING-IND/35) • Digital business (ING-IND 17) • Design thinking for business (ING-IND/35) 	5
	Total	25

MAJOR: Complex Projects Business

Focus: brief description for students	COMPLEX PROJECTS BUSINESS	ECTS
<p>We are in a “projectification” of society, with an increasing share of gross domestic product (GDP) and time spent financing and enacting projects in all kinds of industries. Moreover, worldwide investment in infrastructure is expected to be US\$79 trillion by 2040; their design, construction, upgrades and decommissioning will take place through large complex projects. The Project Economy is one in which organizations deliver value to stakeholders through successful completion of projects and alignment to value streams. Benefitting from a deep involvement of EPC companies, this major will provide you with a holistic background about the selection, planning and delivery of complex projects and will give you the mind set, the competencies and the skills to develop your career in the project business. The main Learning Objectives are:</p> <ul style="list-style-type: none"> • Identify the key stakeholders involved the planning and delivery of complex projects, understand their business, processes and criteria for success • Understand the lifecycle of complex projects focusing on infrastructure and industrial plants. • Understand the dynamics of international markets and the founding mechanisms of complex projects. • Being able to evaluate the cost and benefits of complex projects from a multistakeholders perspective. • Make technology and operations-related decisions throughout the project and asset lifecycles. • Understand the relevance and the solutions for the sustainability of complex projects. 	<p>Lab:</p> <ul style="list-style-type: none"> • Complex Projects Lab (ING-IND/17) 	10
	<ul style="list-style-type: none"> • Project Management (ING-IND/17) 	5
<p>Possible suggestions of courses in the general free basket:</p> <ul style="list-style-type: none"> • Fundamentals of oil and gas engineering, (ING-IND/30) • Fundamentals of energy technologies (ING-IND/10) • Decision models (MAT/09) • Power production from renewable energy (ING-IND/09) • Mobility Infrastructure and Services (ING-IND-13) • Infrastructure investment and project finance (ING-IND/35) • Management of Energy (ING-IND/35) • Patent and IP management (ING-IND/35) • Operations Risk Management and Resilience (ING-IND/17) • Quality Management (ING-IND/17) • Circular Industrial Systems (ING-IND/17) 	<ul style="list-style-type: none"> • Financing Complex Projects (ING-IND/35) • Knowledge Management in Infrastructure projects (ICAR/11) • International Markets and European Institutions (SECS-P/02) • Industrial Asset Management (ING-IND/17) • Technology Risk Governance (ING-IND17) 	10
Total		25

MAJOR: International Business

Focus: brief description for students	INTERNATIONAL BUSINESS	ECTS
<p>Today nearly all firms, large or small, in traditional or high-tech sectors, face challenges related to globalization and international competition. The courses characterizing the major in International Business aim to develop the skills needed to adequately manage firms operating in the global market and understand the different internationalization processes of an enterprise.</p> <p>In line with the learning goal of the MSc in Management Engineering, the graduate student should :</p> <ul style="list-style-type: none"> • Be able to understand the international socio-economic and business environment; • Have a deep analytical mindset and analytical skills; • Develop the capabilities to work effectively in an international environment. 	<p>Lab:</p> <ul style="list-style-type: none"> • Invest in Foreign Markets Lab (ING-IND/35) 	10
<p>Possible suggestions of courses in the general free basket :</p> <ul style="list-style-type: none"> • Global Supply Chains and Networks (ING-IND/35) • Global supply chain planning (ING-IND /17) • International Distribution (ING-IND /17) • Corporate Finance (ING-IND/35) <p>Methodological courses:</p> <ul style="list-style-type: none"> • Introductory Econometrics (SECS-P/03) • Numerical Approximation of Mathematical Models and Applications (MAT/08) • Process innovation and improvement (ING-IND /17) 	<ul style="list-style-type: none"> • International Economics (SECS-P/02) – C.I. 5+5 • Economics and management of multinational enterprises (ING-IND/35) • International Markets and European Institutions (SECS-P/02) • Development Economics (ING-IND/35, SECS-P/01) 	15
	Total	25

MAJOR: Finance

Focus: brief description for students	FINANCE	ECTS
<p>The major focuses on Finance, who has a major role on the life of both economic and financial system and industrial and financial corporations. It's a crucial resource for any strategy and strategic planning and implementation (i.e. growth, M&As, manufacturing, operations, ICT, R&D and innovation, ...). A key role is played by the digital transformation and innovation and the major will also focus on fintech and on how financial markets and intermediaries are changing.</p> <p>Students will gain a valuable knowledge into the following topics:</p> <ul style="list-style-type: none"> -Corporate financing practices and strategies in the short and long run -Financial markets: players and structure. Financial institutions, intermediaries and Fintech -Financial markets, the real economy and the role of central banks -Financial securities and their evaluation tools -Focus on specific topics: startup financing, alternative finance, fintech, investment banking, methodological tools in finance, financial risk management, sustainable finance. 	<p>Lab:</p> <ul style="list-style-type: none"> • Finance Lab (corso integrato 5 + 5 ING-IND/35) 	10
<p>Possible suggestions of courses in the general free basket:</p> <ul style="list-style-type: none"> • Entrepreneurial Finance (ING-IND/35) • Investment banking (ING-IND/35) • Financial risk management (ING-IND/35) • Financial econometrics (SECS/P05) • Advanced Mathematical Models in Finance (SECS-S/06) • Machine learning (market & technological forecasting) • Data-driven Modelling of Dynamical Systems and Optimal Control (ING-INF/04) • Quality management (ING-IND/17) 	<ul style="list-style-type: none"> • Corporate finance (ING-IND/35) • Macroeconomics of finance (SECS/P01) • Financial markets & institutions (ING-IND/35) 	15
Total		25

In September, the study plan of students enrolled in the 2020-21 academic year will be automatically allocated to one of the 14 majors (the one which is closer to the original stream).

This allocation is «temporary» and it is necessary just for managing the transition from the «old offer» to the «new offer», that is broader and more flexible than the previous one.

In September, students will have the possibility of selecting the major they wish to follow for completing their MSc.

Students that have not included any second year subject in their study plan in the a.y. 20-21 will be able to select any major, whatever subjects they have in their first year plan, **without presenting an autonomous study plan.**

Students that have included one or more second year subjects in their study plan in the a.y. 20-21 can:

- Confirm the major they have been allocated, **without presenting an autonomous study plan.**
- Select a different major that includes the second year subjects they have «anticipated» **without presenting an autonomous study plan.**
- Select a different major that does not include the second year subjects they have «anticipated» **presenting an autonomous study plan that will be subject to evaluation.**