INTENDED LEARNING OUTCOMES OF THE MASTER OF SCIENCE IN TRANSFORMATIVE SUSTAINABILITY

CORE AREA OF STUDY

Knowledge and Understanding

Thanks to the distinctive and complementary specialization of Bocconi and PoliMi, graduates will have acquired fundamental advanced knowledge in:	Knowledge and Understanding will be achieved through the following courses:
1. Sustainable management and economics disciplines, namely:	
1.1 Main concepts of sustainability, corporate social responsibility and ESG factors. How companies engage in sustainability strategies and governance. Sustainable value creation processes and the stakeholder framework.	1.1 Corporate Sustainability Strategy and Governance
1.2 Climate Change challenge. Principles of Environmental and Resource Economics. What are market-based environmental policies. International Environmental Agreements, as the Paris Agreement.	1.2 Environmental Economics and Climate Change
1.3 Investor demand for sustainability. Principles of sustainable finance — financing and investment. Environmental, social, and governance outcomes. Investor engagement and activism. ESG portfolio construction. Measuring ESG performance. ESG data challenges. Changing asset classes—green bonds, SRI funds, impact investing.	1.3 Sustainable finance and ESG Investing
1.4 How to assess sustainability performance according to Social, Environmental, and Economic principles. How to develop Non Financial Disclosure reporting to enable organizations to consider their impacts on a wide range of sustainability issues. How to measure Social Impact to evaluate and understand the social change occurred as a consequence of company's activities.	1.4 Impact and sustainability measurement
1.5 Sustainable innovation as the process of designing and developing new products, processes, services, business models and systems, also thanks to the use of new technologies, that contribute to the improvement of people and communities well-being while respecting the worlds' natural resources and their regenerative capacity.	1.5 Innovation for Sustainability
1.6 Sustainable operations and supply chain management, as the method to design and manage suppliers, customers, internal operations and the whole supply chain in line with the principles of sustainable and responsible management, including the key performance indicators to monitor and continuously improve sustainability performance.	1.6 Sustainable Operations and Supply Chain Management
1.7 How to work out a Sustainable business and marketing plan, as a strategic roadmap that sustainable businesses have to use to organize, execute, and track their business model, strategy and innovations. Moreover, how to ideate and launch new ventures by discovering market opportunities and social needs and developing a business model inspired to sustainability and social impact principles to answer these needs and opportunities and create social value while generating a fair profitability.	1.7 Business and marketing plan workshop + Sustainable entrepreneurship workshop
2. Scientific-technological disciplines with focus on key enabling technologies for sustainability transition, namely:	
2.1 Opportunities offered by new technologies, materials and industrial processes to enable the design of circular	2.1 Materials towards circular economy

business models and ecosystems and the design, production and reuse or recycle of products with the minimum loss of materials and resources. 2.2 Key aspects of ecological processes, impacts to nature and people of current anthropogenic activities and solutions towards sustainability of the biosphere. Technological innovations and their applications to achieve carbon neutrality in different contexts, processes and industries. 2.3 Technological innovations and new processes and methodologies to produce energy from renewable resources and to improve energy efficiency in the management, distribution and use of energy in all industrial processes and systems. 2.4 How to design city planning solutions, buildings, infrastructures and social systems with consideration for social, economic, environmental impact. How to leverage new technologies, models and processes to foster urban resilience and regeneration processes. Urban sustainability indicators according to international standards.	2.2 Ecological processes, environmental impacts and transition towards sustainability 2.3 Technologies for the energy transition towards sustainability 2.4 Designing sustainable cities
3. Complementary disciplines that provide tools and methods for innovation for sustainability, namely: 3.1 Advanced quantitative models and techniques to analyze relevant data to correctly and effectively assess sustainability. 3.2 The impact of global production and consumption on different environmental media (including climate change, resources depletion, deforestation, biodiversity loss), the EU regulation of different pollutants and the substantial regulatory change triggered by the EU Corporate Sustainability Reporting Directive (CSRD) and the Taxonomy Regulation. The impact of "corporate purpose" on corporate governance and corporate liability. An overview on ESG and IP law. 3.3 How to develop a responsible Leadership approach, aimed at creating a vision and a purpose that integrates sustainability and responsibility principles and at leading people behaviors inside the company and in the network of key stakeholders towards it. Moreover, how to have a Critical approach, that is how to methodically gather, analyze, and evaluate information to improve decision making for complex and wicked problems and how to critically reflect on cultural, social, and ethical impacts of science and technology.	3.1 Data analytics for sustainability 3.2 ESG law 3.3 Sustainable leadership seminar + Critical thinking and complex decision making seminar

Ability to apply knowledge and understanding	
Graduates will be able to:	Ability to Apply Knowledge and Understanding will be achieved through the following courses:
1. Regarding Sustainability management and economics: 1.1 Have a comprehensive view of the major issues related to corporate strategies and governance models and understand the implications of sustainability for management. 1.2 Understand the main economic implications of climate change, key Environmental Economics Principles and the basic dynamics beyond International Environmental Treaties. 1.3 Understand the foundations of sustainable finance, apply its key concepts and critically assess the incentives and actions of firms, investors, and other stakeholders regarding ESG issues, as well as their outcomes. 1.4 Measure and interpret the relevant sustainability KPIs in company processes and apply social impact assessments tool; design and implement Non-Financial Disclosure reporting. 1.5 Understand the different dimensions and types of sustainability oriented innovations and their drivers; apply the methodologies and tools to design and develop sustainable products, processes, services, business models and systems. 1.6 Apply the appropriate tools and methodologies to design and manage Operations and Supply Chain according to sustainability principles and to measure and monitor sustainability performance. 1.7 Draft and/or examine a business and marketing plan. Design and develop and/or provide advice on new sustainable business models of companies or start-ups within different industries and value chains.	1.1 Corporate Sustainability Strategy and Governance 1.2 Environmental Economics and Climate Change 1.3 Sustainable finance and ESG Investing 1.4 Impact and sustainability measurement 1.5 Innovation for Sustainability 1.6 Sustainable Operations and Supply Chain Management 1.7 Business and marketing plan workshop + Sustainable entrepreneurship workshop
2 Regarding key enabling technologies for sustainability transition: 2.1 Understand the main technological advances in processes and materials that enable and support circular business, production and consumption models and that enable the reduction of waste to a minimum and its reuse to create further value. 2.2 Identify and understand (1) major ecological and environmental metrics, and (2) technological innovations, to assess and avoid impacts on ecosystems. They will be able to support policy-design of public institutions and private bodies at various scales (local, regional, national and global) towards sustainability. 2.3 Be aware of the technological advances that enable the sustainable energy transition, the diffusion of renewable sources for energy production and the improvement of energy efficiency in processes and system. 2.4 Understand the role of cities in global sustainability transitions, the main social, environmental and economic	2.1 Materials towards circular economy 2.2 Ecological processes, environmental impacts and transition towards sustainability 2.3 Technologies for the energy transition towards sustainability 2.4 Designing sustainable cities

challenges that cities are facing and the main drivers of sustainable urban development. Design sustainable cities and urban planning solutions also leveraging new technologies and models.	
3 Regarding Tools and Methods for innovation for sustainability:	
3.1 Use appropriate quantitative tools and methods to analyze theories and data to build analytical frameworks to make practical managerial decisions.	3.1 Data analytics for sustainability
3.2 Gain a deeper legal understanding of ESG principles and the concept of sustainable development. Understand the complex nature of social and environmental challenges, as well as the multiple ways in which government and business engages with them. Critically assess the broader articulation of the role of companies and their capability to address harms to society or the environment.	3.2 ESG law
3.3 Develop responsible leadership skills for a changing context aligned with a sustainable economy. Think and make decisions in an innovative manner, that is reason and argue in a sound way under conditions of complexity, risk and uncertainty in sustainability.	3.3 Sustainable leadership seminar + Critical thinking and complex decision making seminar

CUSTOMIZED AREA OF STUDIES

Knowledge and Understanding

Thanks to the distinctive and complementary specialization of Bocconi and PoliMi, graduates will have acquired knowledge related to:	Knowledge and Understanding will be achieved through the following courses:
4.1 Specific topics of their choice, identified on the basis of individual interests and in line with the educational program to investigate current relevant social issues (eg. Diversity, mobility, …) that have to be dealt with sustainable policies and to widen / deepen the knowledge in key enabling technologies for sustainability transition or theoretical methods and practical tools for sustainability management and entrepreneurship.	4.1.1 Diversity and Global Policy OR Technologies and systems for sustainable mobility 4.1.2 Free elective
4.2 Regarding languages, besides English (which is an entry requirement), graduates will acquire knowledge of another EU language (Italian: at least level A2; other EU language among those listed in the University Guide: at least level B1 business; Italian is compulsory for non-Italian native speakers)	4.2 Foreign language

Ability to apply knowledge and understanding	
Graduates will be able to:	Ability to Apply Knowledge and Understanding will be achieved through the following courses:
4.1 Have a wider and/or deeper insight of sustainability related issues.	4.1.1 Diversity and Global Policy OR Technologies and systems for sustainable mobility 4.1.2 Free elective
4.2 Regarding languages, besides English (language of the program) graduates will demonstrate abilities (written and oral comprehension and expression) in another EU language (at least elementary level; the exit level depends on the language – Italian or other EU language – and on the student's entry level).	4.2 Foreign language

Making Judgements	Graduates will be aware of the ethical dimension of the digital transformation and of the societal impact of computing and AI; moreover, they will be able to think in an innovative manner when framing, modelling and developing computer science solutions for real world problems.
Communication	Graduates will be able to interact and lead responsibly within diverse teams and organizations and to convey technical concepts in an accessible way to stakeholders. Moreover, they will be able to provide high quality (clear and detailed) documentation of their software projects.
Lifelong Learning Skills	Graduates will have acquired deep methodological knowledge that will likely underpin future technologies; this will allow them to effectively and autonomously learn new technologies, adapt to rapidly changing environments and, above all, to be innovation leaders.