MSc Programmes - Lyon Campus Exchange students – Full year 2023-2024



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MSc Green Tech and Sustainable Societies (MSc GTSS)	

The contents of this document are liable to changes, and adjustments could be made due to academic reasons.

AVAILABLE CHOICES

Next September, you will begin your full year exchange in BSB. You have to make the choice of only one MSc. <u>Due to timetable, you cannot mix courses of several MScs.</u>

IMPORTANT INFORMATION

- \rightarrow You are required to take <u>all the modules</u> of the MSc chosen.
- \rightarrow Admission is subject to academic performance and interview.
- → For MSc and specialisation taught in English, you must have a minimum of 750 TOEIC grade (or 6.0 IELTS).

Yours sincerely,

Sophie RAIMBAULT Directrice de programme - Program Director **Camille PELLETIER** Directrice des Études - Director of Studies



DIGITAL MANAGEMENT DEPARTMENT



MASTER OF SCIENCE:

- MSc Artificial Intelligence and Digital Tech Management (MSc AIDTM)
- MSc in Green Tech and Sustainable Societies (MSc GTSS)

MSc Artificial Intelligence and Digital Technology Management (MSc AIDTM)

Specialisation's Manager:	Fortuna CASORIA Helmi ISSA	Email : <u>fortuna.casoria@bsb-education.com</u> Email : <u>helmi.issa@bsb-education.com</u>
Department:	Digital Management	
Maximum number of places:	2	

Admission requirements:

• English language certificate (for non-native speakers): TOEIC (750), IELTS (6.0), Duolingo (95) Admission process:

• Please send your résumé and covering letter to the Heads of Programme

Structure: This MSc will take place on the LYON campus.

Presentation and objectives:

The advent of the information society has put greater emphasis on the importance of data as valuable sources of information for organizations to transform and grow in digitalizing environments. The increasing amount of data and the rapidly advancing digital technologies are creating unprecedented opportunities for companies to become more agile, adaptable, and proactive in meeting their customers' needs and preferences. However, future managers in such digitalizing environments are also expected to be well acquainted with emerging technologies and to acquire the fundamental skills for managing digital technologies in order to support the transformation or the competitive goals of their company.

This program is one of the very first programs worldwide to be specialized in artificial intelligence and digital technology for business managers. Artificial intelligence is already extensively used in many areas of businesses (autonomous robots in warehouses, logistics and supply chain, business analytics, credit scoring, marketing analytics, etc.) and the private life (autonomous vehicles, resource matching, recommendation systems, facial recognition, etc.), and it is growing at a solid pace to become a general-purpose technology that will affect all areas of our societies. Therefore, it is critical that future graduates master this technology and its associated implications for businesses and societies. This program builds on artificial intelligence as a backbone for all courses but also trains students in major areas of digital technology management. Future graduates will have an ideal balance of soft- and hard-skills to tackle all the major challenges related to the digitization of a company. Consequently, this program is an ideal fit for students who wish to pursue career in a highly digitalized environment, but it is also suitable to students who wish to hold a competitive edge in a traditional business sector undergoing digitization.

Career opportunities:

- Business founder
- Digital manager
- Digital marketer
- Chief digital officer
- Digital business development manager
- Digital innovation manager
- Digital product manager
- Consultant in digital transformation
- Analytics experts

Learning outcomes:

The skills students will acquire are listed below:

- To be able to apply the techniques of creative and innovative activities in new product/service development
- To be able to use simple analytics tool (Google analytics) to interpret data for business purposes
- To understand the impact of digitization processes on societies and the world

- To understand the fundamentals of artificial intelligence technologies and how they impact organizations
- To understand the major technologies (Machine learning, blockchain and IoT) in the digital era and how they shape business processes and transactions
- To understand the stages of digital transformation within an organization
- To be able to design a social media campaign on a major social media platform
- To have a basic knowledge of big data and how a manager can exploit data for business purposes
- To be able to analyze the business model of online platforms
- To be able to identify and explain the main ethical issues in technology management

Instructors:

Professors from BSB and other institutions and practitioners

Teaching methods:

The teaching method will adopt a very hands-on perspective of skill and knowledge acquisition. This implies that learning will often involve interactive discussions with instructors and experts, case studies of contemporary organisations and phenomena, outdoor activities (conferences, seminars, exploration of social events, and participation to professional events).

CURRICULUM		
	Contact	
Course module	hours	Learning goals
	<u>FIRST SEI</u>	MESTER - MSc core courses
Creativity and innovation management ECTS: 4	30	Creativity leads to innovation. Multidisciplinary groups (with different profiles) are more creative that single-disciplinary groups (with similar profiles) because the combination of diverse backgrounds is a source of innovative thinking. Mixing different profiles increases the spectrum of views on a problem, and thus not improves the chances of solving the problem but may also create novel solutions. This also echoes the growing view that difficult challenges can only be solved with innovative solutions. Innovation is one of the most challenging and critical activities for firms as it helps them achieve greater differentiation and competitive advantages. Yet, innovation processes are highly uncertain and contingent on many environmental factors. In this course, students will learn about the management of both creativity and innovation activities within an organization. <u>Course content:</u> - Design thinking - Sprint design - Management of creativity teams - Organizational agility - Knowledge management - Strategic management of innovation - Disruptive innovation theory <u>Learning outcome</u> : To be able to apply the techniques of creative and innovative activities in new product/service development
Business and customer analytics ECTS: 4	30	The field of marketing is quickly moving to predictive marketing whereby an organization uses analytics to cluster customers and predict their needs and preferences. Such

		prediction capability allows organizations to better fit customers' expectations to drive sales, form positive judgment about their products and services, and reach targeted market segments. In this course, students will learn how to exploit customer data using advanced analytics. <u>Course content:</u> - Google analytics - Customer journey onsite and offsite - Analytics for inbound and outbound marketing - Principles of digital marketing and advertising - Digital consumer behavior <u>Learning outcome</u> : To be able to use simple analytics tool (Google analytics) to interpret data for business purposes
The digital world: Sociological perspectives on the digital era ECTS: 4	30	The digitalization of the world impacts our societies in many ways. It has created new social behaviors and is opening many doors for improving human well-being including home security, life monitoring, autonomous driving, robotics and humanoids, etc. Students in the digital world will have to understand the social implications of digitalization to become skilled leaders, including the many ethical issues surrounding the new technologies.Course content:
Artificial intelligence and organizations ECTS: 4	30	This course is an essential component of the programme given the immense potential of Artificial Intelligence (AI) in disrupting the business environment and the society as a whole. It intends to provide students with fundamental knowledge of AI in a business environment. The students will learn the basics of how AI operates technically in order to envision and seize the opportunities that this technology can bring to companies in their operations and business processes Therefore, the course will couple the basics of AI functioning with industry analyses to capture the transformational capabilities of the technology. <u>Course content:</u> - What is AI? - Basics of AI functioning including algorithms - Basics of machine learning and deep learning - The role of data in AI - Impact of AI on key industries - Ethical issues with AI in the business environment

		<u>Learning outcome</u> : To understand the fundamentals of artificial intelligence technologies and how they impact organizations
Fundamentals of digital technologies: Machine learning, deep learning, blockchain and IoT ECTS: 4	42	This course introduces students to the most influential and growing technologies in the digital field, including but not limited to the major techniques of machine learning (deep learning and neural network-based models), blockchain, Internet of Things, virtual and augmented reality. It is a definitional course with case-based study of applications across many business sectors that leverage on these technologies. Students are expected to gain fundamental knowledge of all these technologies and the business sectors where the leverage is most significant. <u>Course content:</u> - General overview of machine learning - Major techniques in machine learning including deep learning and neural networks - Blockchain technologies - Internet of things - Virtual reality - Augmented reality <u>Learning outcome</u> : To understand the major technologies (Machine learning, bloackchain and IoT) in the digital era and how they shape business processes and transactions
Advanced digital transformation ECTS: 4	42	how they shape business processes and transactions According to Salesforce, digital transformation is "the process of using digital technologies to create new — or modify existing — business processes, culture, and customer experiences to meet changing business and market requirements". This course is concerned with the processes of transforming a firm into an agile and contemporary digital organization. Students will learn about the stages involved in digital transformation across multiple functions of an organization but also across multiple types of organizations. <u>Course content:</u> - Principles of digital transformation - Digital technologies and business applications - Robotics & Automation - Digital transformation for customers - Digital transformation for employees - Digital business models and value creation <u>Learning outcome</u> : To understand the stages of digital transformation within an organization
	COND SEM	ESTER – MSc advanced courses
		Social media has become the largest media of all time and will
Social media engineering ECTS: 3	30	be the main communication mode of the next generation. Understanding the dynamics of these media will be necessary for managers to communicate and connect with their audiences through targeted campaigns and skilled

management of online communities. This course is hig practical and will be mostly delivered through case stud from local, national and international campaigns. <u>Course content:</u> - Principles of social media - The impact of social media on social behaviors - Community management - Marketing campaigns on social media - Social dynamics of online communities Learning outcome: To be able to design a social media campaign on a major social media platform The digitization of societies and the growing number of on
 Principles of social media The impact of social media on social behaviors Community management Marketing campaigns on social media Social dynamics of online communities Learning outcome: To be able to design a social media campaign on a major social media platform
campaign on a major social media platform
The digitization of societies and the growing number of on
Big data and data mining techniques30Big data and data mining techniques30Big data and data mining techniques30Course content: • Data structure in business organizations • Data management, storage and retrieval • Introduction to SQL • Five major data mining techniques
The digital project - coding and field workThe a digital project - coding and field workThe a digital project - coding and field workThe a digital project - coding and field work4242
prototype. The beginning of this course will consist of an introduction coding using the STEAM approach to problem-solving. application part will be about programming an autonom vehicle using block programming.

		as a major exchange place for individuals who trade goods and services. This course introduces the basics of economics of online platforms in order to prepare students to manage this type of marketplaces. It reviews the main business models of existing online platforms, the social dynamics at play, and the basic economics of platform operations. <u>Course content:</u> - Network effects - Business models of online platforms - B2C platforms vs B2B platforms
		 Social dynamics on online platforms Platform economics Online platforms for internal organizational work Learning outcome: To be able to analyze the business model of online platforms
Ethics of technology ECTS: 3	30	Although the advent of technologies in all areas of humans' life creates immense opportunities for development and societal advancements it also poses great challenges to how these technologies may be used by malevolent entities to cause harms. Taking the specific example of facial recognition in artificial intelligence, this technology may improve public safety by identifying criminals but can also be used to identify and discriminate a sub-group of people based on their skin- color or any other discriminatory feature. Another unsolved case is that of autonomous vehicles which poses many issues of responsibility but still does not seem to impede its development among all car makers. This course is concerned with the legal and moral challenges of managing technologies in societies so that they serve rather than harm individuals. <u>Course content:</u> - Introduction to business ethics - Responsibility and accountability in technology - Ethics of new technologies - Case studies of moral and legal issues in technology <u>Learning outcome</u> : To be able to identify and explain the main ethical issues in technology management
Digital content challenge ECTS: 2	30	 This course is an end-of-program challenge which consolidates all soft and hard-skills that students have acquired during the program. It will take place as the last course in the program. The students will be supervised by a technical coach and will develop a fully operational product/service/campaign for an institution or a stakeholder. They will have to search for a partner and use all software and hardware available to complete the project. The project will resort to the following skills (course contents): Adobe photoshop Adobe illustrator Website design Video post-production Video-filming

		 All other software that web agencies use in content production
Field trip	20h (One week away)	A field trip will be organized with the cohort to attend a major digital event in Europe. Although the event may vary every year, it is expected to take place outside of France or the city of Lyon. The aim is to be get an immersive experience in a digital environment.

MSc Green Tech and Sustainable Societies (MSc GTSS)

Specialisation's Manager:	Marta DE MIGUEL DE BLAS	Email: marta.de-miguel-de-blas@bsb-education.com
Department:	Digital Manageme	nt
Maximum number of places:	2	

Admission requirements:

• English language certificate (for non-native speakers): TOEIC (750), IELTS (6.0), Duolingo (95) Admission process:

• Please contact Head of Programme for interview when submitting application

Structure: This MSc will take place on the LYON campus.

Presentation and objectives:

The world faces growing challenges and transformations that will radically change our bond to the planet: global warming, shifts in global power, depletion of resources, declining biodiversity, growing inequality, digital and technological disruptions, and social unrest. Achieving balanced economical, social and environmental development - as expressed in the UN Agenda 2030 for Sustainable Development - is recognized as one of the major challenges of humanity. However, the current paradigm under which organizations, both private and public, operate nowadays may not facilitate the achievement of such goals, mostly because of the prevailing (short-term) financial incentives over (long-term) resource management.

While existing technologies have yet to help solve the earth's environmental challenges, emerging technologies such as Artificial Intelligence and the proliferation of big data hold enormous promises to help the humanity achieve more sustainable and inclusive societies. This program aims to prepare students to become responsible leaders of tomorrow's world.

In this program, students will join an innovative learning ecosystem that will enable them to think critically, use both their hard skills and soft skills to enact the purpose and the logic of success of sustainable and inclusive enterprises, to discover novel ideas and examples on how to manage the transition toward sustainable societies for all stakeholders. They will learn to evaluate and design practices, technologies, and systems that bring sustainable solutions to communities and organizations.

Future managers of sustainable green tech enterprises are expected to have strong background in the understanding of sustainability, the historical and political as well as socioeconomic context. Advanced skills in green tech management and green tech knowledge is also required. Finally, sustainable innovation has become a key topic in the green tech sector. According to a report from PwC, the green sector is expected to grow exponentially over the next decade and offer great employment opportunities to graduates who specialize in this field.

The teaching program of the present MSc is organized to cover these three dimensions:

- 1. Sustainability in context
- 2. Green Tech management
- 3. Sustainable Innovation

The programme is structured around core courses based on a combination of learning-by-doing activities, projects and challenges, whether it be inside or outside the classroom. For example, students will be able to conduct many field-work projects, attend professional conferences, collaborate with other institutions, participate in a multidisciplinary hackathon, and participate in the organisation of green tech events.

Career opportunities:

- Corporate Social and Environmental Responsibility Project Manager
- Green Tech Business founder
- Sustainability Program coordinator
- Environmental management advisor

- Green Product Developer
- Environmental communication officer
- Sustainable Entrepreneur

Learning outcomes:

- To understand the macroeconomic and microeconomic consequences of both climate changes, poverty, inequalities, gender or race discriminations, lack of communication between the State, Civil Societies, and businesses
- To understand why it is important for tech businesses to tackle sustainability issues in order to combine business and social values
- To understand the global frameworks for positive change across social and environmental dimensions
- To be able to explain the principles of operations of the main renewable energy technologies and their technical challenges
- To be able to recommend the main stages of green product design from product definition to manufacturing and commercial launch
- To understand the role of tech business in the transition to sustainable development to create a prosperous future for all;
- To be able to evaluate the effectiveness of current green tech business strategies
- To be able to understand the impact of technology, to help steer decisions for a greener world and to reduce the negative externalities of businesses, and to be able to manage and implement green technologies

Instructors:

Professors from BSB and other institutions and practitioners

Teaching methods:

The teaching method will adopt a very hands-on perspective of skill and knowledge acquisition. This implies that learning will often involve interactive discussions with instructors and experts, case studies of contemporary organisations and phenomena, outdoor activities (conferences, seminars, exploration of social events, and participation to professional events).

CURRICULUM – 435h

FIRST SEMESTER - MSc core courses – 210h		
Course module	Contact hours	Learning goals
Principles of Environmental Science ECTS: 2	15h	 This is focused on a holistic understanding of the earth systems allowing to learn from the past, understand the present and influence the future. Students will learn how physical, chemical, and biological processes maintain and interact with life. It draws upon disciplines such as biology, earth science, ecology, geography, and economics. Course content: Climate change The atmosphere and human activities Energy and the environment Ecology and natural ecosystems
Sustainable Development Policies ECTS: 4	30h	In 2015, the UN member countries set the 2030 Agenda for Sustainable Development and decided on 17 new and universal Sustainable Development Goals (SDGs). From goals to action, many questions remain on the amount of change delivered by global commitments. Students will encounter these kinds of questions throughout the course. <u>Course content:</u>

		- Sustainable development goals and targets
		European Green DealEnvironmental standards
		 Environmental and development-related challenges Global policies in response to those challenges Contemporary politics of global environmental and development changes
Sociology of Global development and sustainability ECTS: 4	30h	The course provides a sociological perspective on economic, social and political processes, focusing especially on global social change and sustainable development. The aim is to enable students to acquire the knowledge required to understand and critically examine the discussions pursued about the global social change that marks modernity. <u>Course content:</u> - Environmental sociology - Classical and Modern Social Analysis - Contemporary Sociological Perspectives on Global Development - Global Sustainability and Environmental Sociology
Corporate Social and Environmental Responsibility ECTS: 2	30h	This course examines the role of corporate responsibility as a strategy to improve products, profits, and brand equity. We will examine numerous corporate initiatives that attempt to address these challenges as well as how they are being evaluated in the public eye. Globalization combined with increased transparency of corporate operations has revealed significant variations in how organizations are attempting to balance the pursuit of profits and good corporate citizenship. <u>Course content:</u> - Performance metrics - Stakeholders perceptions - Local impact - Sustainable governance - Inclusion policies
Creativity and innovation management ECTS: 4	30h	Creativity leads to innovation. Multidisciplinary groups (with different profiles) are more creative that single-disciplinary groups (with similar profiles) because the combination of diverse backgrounds is a source of innovative thinking. Mixing different profiles increases the spectrum of views on a problem, and thus not improves the chances of solving the problem but may also create novel solutions. This also echoes the growing view that difficult challenges can only be solved with innovative solutions. Innovation is one of the most challenging and critical activities for firms as it helps them achieve greater differentiation and competitive advantages. Yet, innovation processes are highly uncertain and contingent on many environmental factors. In this course, students will learn about the management of both creativity and innovation activities within an organization. <u>Course content:</u> - Design thinking - Sprint design - Management of creativity teams

		Open direction of a 199
		 Organizational agility Knowledge management Strategic management of innovation Disruptive innovation theory In this course students will learn about specific topics as
Sustainable Consumption ECTS: 4	30h	 In this course students will learn about specific topics as consumer behaviour, market research, using the sustainability lens in business. The course presents a variety of social-scientific approaches to consumption, as well as a range of case studies from both affluent societies and emerging economies. Possible avenues for changing consumption patterns in a more sustainable direction are discussed throughout the course. <u>Course content:</u> Sustainable consumption Responsible consumer dynamics
Green and sustainable finance ECTS: 4	30h	This course is the study of finance and sustainability as an integrated subject beginning with an introduction of financial and investment principles and moving towards financial analysis, financing, and valuation. The course covers diverse aspects of responsible investments and offers tools for effective financial valuation and effective risk assessment. Besides economic, social and environmental considerations and analysis, Green and responsible Finance incorporates additional elements into that scope that include among others investment metrics, investment terms, risk, ethics, corporate responsibility, etc. Different approaches for investments and finance result from this analysis and new industries and products result from these added metrics. <u>Course content:</u> - Socially responsible investments - Decarbonization of investment portfolios - ESG factors - Blended Finance - The Global Impact Investment Network - Impact management
SECOND SEMESTER – MSc advanced courses – 225h		
Renewable energy and clean technologies ECTS: 2	30h	This course provides the fundamental knowledge for state-of- the-art understanding of the various types of renewable energy (water, wind, biomass), and how these are integrated in the economics of the industrial sectors that account for most of the world emission. A central focus is the management of toxic and polluting inputs and outputs for industrial companies so these can mitigate the environmental footprint of their business activities. Finally, discussions will be held on the economic, environment, politics and social policy aspects of the use of renewable energies in the energy transition of modern societies. Course content: - Current Global Energy Use - Energy Conversion Technologies - Integrating Renewable Energy into the Grid - The Smart Grid - Solar Energy

Managing NGOS - Bioenergy Managing NGOS - Bioenergy Managing NGOS - Create Product design CT5: 2 - Socio-cultural learness Managing NGOS - Borditics and social and consicion processes and the impact of globalisation. The course statinabile management in the management of innovation processes for green products, from product design prototyping, manufacturing, and materials into the design of product development for sustainability including ideation, product design, prototyping, manufacturing, and materials into the design and successful launch of green products. CT5: 2 - Stages of green product development - Material Processing Methods for Metals, Plastics, Composites - Green Design Principles and SolidWorks Sustainability - Life cycle thinking and principles of cradie-to-cradie in green product design - Sustainability frameworks, Transformative innovation The walls between the for-profit sector and the not for-profit sector and the nongeneent in the international context and the impact of globalisation. The course also explores how NGOS can play a key role in promoting social and economic progress and students will have the opportunity to meet representatives of different NGOs in order to discover different NGOs in order to discoveredifferent NGOs			Dioonorgy
Managing NGOs - Water Power (Hydro, Tidal & Wave) Green product design - Geothermal Energy Green product design - Politics and social policy of renewable energies This course is concerned with the management of innovation processes for green product, from product denthino to sustainable manufacturing, the content will cover all the stages of product design, prototyping, manufacturing and product launch in the marketplace. The course stresses the importance of ecosystems in the design and successful launch of green product. The aim of this course is to enable students and development of new green products. Course content: Stoh Stoh - Stages of green product development - Stages of green product development - Material Processing Methods for Metals, Plastics, Composites - Prototyping techniques - Green Design Principles and SolidWorks Sustainability - Sustainability frameworks, Transformative innovation The walls between techniques from the NGO sector. Students will learn about development management techniques to discussion. - Sustainability frameworks, can students will have the opportunity to weelopment management techniques to manage their performance and effectiveness, while social enterprises borrow frameworks and techniques from the NGO sector. Students will learn about development - NGOs community Development - NGOS Fi			- Bioenergy Wind Energy
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		- Identity
		- Civilization
		- Territorial issues
		- Inclusion
Environnemental Communications ECTS: 3	30h	A growing emphasis on environmental responsibility, sustainability, and climate change mitigation has fostered a growing demand for environmental public relations on the part of governments, companies, NGOs. Environmental public relations, communicators use strategic tools to establish dialogue with key publics, influence audiences and public policy, and ultimately advance their missions. <u>Course content:</u> - Sustainability communication - Greenwashing reduction - Social Marketing - Stakeholders engagement and persuasion - Media relations - Green branding and green labels - Public engagement green activism
Ethics of technology ECTS: 3	30h	Although the advent of technologies in all areas of humans' life creates immense opportunities for development and societal advancements it also poses great challenges to how these technologies may be used by malevolent entities to cause harms. Taking the specific example of facial recognition in artificial intelligence, this technology may improve public safety by identifying criminals but can also be used to identify and discriminate a sub-group of people based on their skin-color or any other discriminatory feature. Another unsolved case is that of autonomous vehicles which poses many issues of responsibility but still does not seem to impede its development among all car makers. This course is concerned with the legal and moral challenges of managing technologies in societies so that they serve rather than harm individuals. <u>Course content:</u> - Introduction to business ethics - Responsibility and accountability in technology - Ethics of new technologies - Case studies of moral and legal issues in technology
Sustainable Entrepreneurship & Green tech Challenge ECTS: 3	30h	Sustainable entrepreneurship refers to the discovery, creation, and exploitation of entrepreneurial opportunities that contribute to sustainability by generating social and environmental gains for others in society. Sustainable Entrepreneurship engages students in the process of exploring significant global problems and developing innovative solutions that drive transformative social and environmental change. The course helps students understand some of the strategies that sustainable entrepreneurs employ to create high-impact ventures, highlighting unique models for social problem-solving that offer bold solutions to complex and entrenched societal and environmental issues. Working in a semester-long project and on an issue they care about, students will learn system thinking skills, entrepreneurial

		 mindset, skills, and tools to start up their own sustainable venture or work in a sustainable business. Their developed projects are presented to an external jury of experts and the winners of the challenge have the possibility to receive personalized entrepreneurship coaching. <u>Course content:</u> Theory of change Green Tech opportunities assessments Fourth sector Market and industry analysis Sustainable business models Sustainable business planning Fundraising a green tech business project
Green Tech Trip ECTS: 0	21h	Every year, students will go on a field trip to witness the green tech and sustainable development issues in practice and to study the measures already implemented or those to be developed. This course also allows students to learn about green tech phenomena by exploring the green tech ecosystems of the greater region of Lyon. Students are expected to engage in several of the following activities: Professional trade fairs and forums, TED conferences, green tech related events at governmental, non-governmental, and private organisations, social events, cultural events, and media events.

