Description of the LSM Majors

MAJORS OFFERED TO FUTURE STUDENTS OF THE
MASTER [120] IN BUSINESS ENGINEERING

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Major in Supply Chain Management

Content
6 mandatory courses:
- Supply chain management (Q1)
- Tools for supply chain management (Q1)
- Supply Chain coordination and sourcing (Q1)
- Advanced operations management (Q2)
- International supply chain management (Q2)
- Supply chain planning (Q2)

Language
English

Prerequisites
Bachelor in business engineering or a course in operations management and a course in operations research

Teaching methods
Ex-catedra, case studies, company visits, group and individual projects

Evaluation methods
Written exams (mostly open book), oral exams, case presentations, project presentation, case reports

Aims
Develop both methodological and practical knowledge in the area of supply chain management.

Acquired skills
Analytical skills, presentation skills, mathematical skills.

Career opportunities
Various supply chain management functions (planning, customer support, operations management, transport, sourcing) for multinational companies, consultant, logistic companies, distribution companies. In general the supply chain management function involves a lot of coordination between different departments or companies. Your role will be that of facilitating exchanges of goods, information and payments.

Major in Innovation Management

Content
The management and economics of innovations, in particular from a knowledge-intensive, ecosystem and digital economy viewpoints

Language
English

Prerequisites
Bachelor en Ingénieur de gestion

Teaching methods
Lectures, pre-reading, case studies, testimonials, group works

Evaluation methods
Written and oral exams, group reports and presentations

Aims
At the end of the major, students will be able to better master how to manage organizations and regions in innovation-intensive environments, where constant disruptions is the “new normal” and where new partners and new knowledge are key assets

Acquired skills
Understand the characteristics and key success factors of innovation-based business models and firms
Understand how to adapt classic economics, marketing, finance, project management and strategy approaches in innovation-intensive environments

Career opportunities
Executive positions in innovative firms
Corporate entrepreneurship, new business development and corporate venturing roles
Innovation policy responsibilities

Major in Quantitative Corporate Finance

The description will be communicated later.
Major in Financial Engineering

Content

6 mandatory courses:
- Computational Finance (Q1)
- Elements of Stochastic Calculus (Q1)
- Advanced Finance (Q1)
- Macro Finance (Q2)
- Investments (Q2)
- Derivative Pricing (Q2)

Language
English

Prerequisites
Basic Courses in: Mathematics, Probability and Statistics, Econometrics, Finance

Teaching methods
This major aims at delivering top-quality courses offering both a sound theoretical basis as well as applied methods and tools to address topical questions of finance in a scientific way. The theory will be illustrated on realistic examples and practiced on realistic cases via projects that will be handled in groups using professional softwares. This major also aims at bridging the gap between the university and the professional sector. Hence, speakers from private or public (national and European) institutions will intervene in some courses, thereby stressing the relevance of this program and the good balance between theory and practice. In addition, the students will be proposed to take part to the Bloomberg market concept® and to a training at the London Stock Exchange.

Evaluation methods
Team projects and final exam

Aims
Finance is becoming increasingly complex and relies more and more on advanced quantitative methods. Managers cannot afford to overlook this complexity any longer, neither can they naively rely on technical experts: they have to understand how to tackle this reality. The courses selected in this major precisely aim at preparing the students to face this challenge. The track is structured along three objectives: (i) equip the student with the necessary background allowing for a rigorous treatment of financial problems; (ii) propose to students an overview of the current (applied) finance-related issue; (iii) teach softwares as well as powerful techniques and numerical methods to solve real-world investment, pricing or risk-management problems.

Acquired skills
Critical approach, team working, programming, Bloomberg scientific approach to problem solving

Career opportunities
Risk Management, Asset Management, Specialized Consultancy Firms, Insurance, Regulators, Banking, FinTech

Major in Marketing Strategy for Connected Brands

Content

The objective of this new marketing major is to understand how to strategically manage brands in the new and changing digital landscape. The new digital environment had a major impact on consumers’ habits and needs. As a result, the way to understand, communicate and reach consumers has changed dramatically. The different courses organized in this major will tackle all these changes with state of the art concepts and models given by specialists in the different fields. In the first term, we will offer courses on:
- Marketing research
- New business models and e-commerce
- International marketing
In the second term, we will offer courses on:
- Brand management
- Big data/data mining applied to marketing
- **On-line and off-line communication strategies**

**Language**

English

**Prerequisites**

One basic marketing course is needed

**Teaching methods**

Lectures, case studies, conferences from marketing managers, discussion of articles and videos and development of group projects will be used depending on the course. Participation to company games will also be organized.

**Evaluation methods**

Individual exams and group projects

**Aims**

The objective is to master all the new concepts and techniques that are needed to manage brands in the current digital landscape. At the end of the course, the student will be able to develop on his own a marketing strategy and effective marketing program for a brand, using all the traditional and digital tools that are available in the market today. He will also understand how the multiple digital data can be used to predict consumer behavior and achieve a good ROI.

**Acquired skills**

The students will develop their:

- knowledge and reasoning using multiple digital data
- scientific and systematic approach
- Project management skills
- Communication and interpersonal skills.

**Career opportunities**

The students will be prepared for careers in marketing or general management or consulting. In marketing, he could become a Brand manager in an international company, in a medium size company or in start-ups in multiple industries from Consumer Goods to services or BTB, he could become marketing analyst or consultant or work in advertising or digital agencies.

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**Philippe de Woot in Corporate Sustainable Management**

**LLN**

**Content**

The current economic system has been very effective in supporting private interests, but this wealth creation now faces two major challenges that jeopardize future prosperity: (i) wealth creation is very unequally shared among individuals and countries, (ii) natural resources management and environmental issues now turn out to able to limit our growth perspectives. The new challenge is to manage global commons, which requires to adopt a creative and transversal perspective in business management.

In this context, this multidisciplinary major aims to develop competent and responsible leaders with a transversal view of the different management fields (leadership, strategy, entrepreneurship, human resource, finance, marketing, accounting, audit, supply chain). This major will offer a solid understanding of the complex dilemmas and the tools to develop agile and responsible organizational cultures and to implement effective compliance, business ethics and corporate sustainable management programmes.

**Language**

English

**Prerequisites**

The CSR class (compulsory course in the part 1 of the first semester).

**Teaching methods**

The format is based on active learning and includes lectures, conferences with practitioners, multisector case studies, videos, readings, incidents and class discussion, and project work (individual projects and projects by group).

**Evaluation methods**

Discussion and active participation will be very important in this major. It’s only through sharing and confronting opinions and ideas that you can forge your own values and convictions and develop your knowledge on this topic. Moreover, students’ acquisition of knowledge and know-how will be assessed using written exam, written reports based on group or individual projects, and oral presentations.

**Aims**

The objectives of this multidisciplinary major are:
to analyze how business organizations can learn how to use their resources not only efficiently but also in a sustainable and regenerative way and thus to integrate sustainability and responsibility thinking in corporate policies, strategies and practices;

to identify how this fundamental paradigmatic change in thinking about management can contribute to addressing effectively economic, environmental, societal and human sustainability challenges (such as climate change, human rights);

to provide appropriate understanding of the management tools needed to develop policies, strategies and practices which contribute not only to corporate sustainability but also to societal sustainable welfare and how these tools can be implemented and dealt with on a daily basis;

to stimulate students’ critical thinking about their role in a society confronted with sustainability challenges and paradoxical choice situations as individuals, consumers, future employees and corporate leaders.

Acquired skills

Priority in this major is given to

1. **Corporate citizenship** to enhance ability to act consciously, aware of your responsibilities, placing human and ethical considerations at the very heart of thinking and actions;

2. **Innovation and entrepreneurship** or the ability to innovate, develop entrepreneurial skills and lead change;

3. **Knowledge and reasoning** to master a multidisciplinary body of knowledge (in terms of contents, methods, models and conceptual frameworks);

4. **Personal development** to prepare students to act effectively as an emerging leader or as a professional in the field of compliance management, business ethics and sustainable development of companies;

5. **Work effectively in an international and multicultural environment**: The capacity to serve as an interface between stakeholders with different ways of thinking, belief systems, backgrounds, nationalities, cultures, etc.

Career opportunities

We live in a “risk society” that is struggling to maintain its values; the job opportunities related to corporate sustainable management, ethics and compliance are thus growing. These opportunities are transversal functions that require both a thorough knowledge of the company and the ability to work closely with all the functions of the company.

Among other career opportunities, we can quote ethics and compliance officers, CSR managers, sustainability manager, management consultants, risk managers, auditors, CEOs, board members, directors, regulators, public officers and international directors.

Philippe de Woot was a Doctor in the Law and in Economic Sciences. He taught at Université catholique de Louvain (1965-1995) and was an invited professor at INSEAD Avira Program (1987-2000). His works aimed to promote the ethical and political dimensions of the economic activity. His research focused on long term business success factors and their consequences for society at large. He analyzed the ways corporate strategic power was exercised and the recent evolution towards new societal responsibilities. On a global level he was among the founding fathers of the Globally Responsible Leadership Initiative (GRLI). He has written many books among others about innovation, Corporate Social Responsibility and the globalization.

Major in CPME

**Content**

- 3 cours obligatoires en français (suivis au sein d’un groupe d’étudiants issus de 8 facultés différentes) :
  - Théories de l’entrepreneuriat (Q1)
  - Aspects juridiques, économiques et managériaux de la création d’entreprise (Q1)
  - Approfondissement en entrepreneuriat (Q2)

- 3 cours optionnels en anglais pour les étudiants LSM :
  - Social and Sustainable entrepreneurship (Q2)
  - Strategic management of startups (Q2)
  - International entrepreneurship (Q2)
Entrepreneurial Finance (Q2)

Regenerative economy (Q1)

- Plans d'affaires et étapes-clés de la création d'entreprise (cours en bloc annuel 2-Q2) : suivi spécifique du mémoire CPME en création d'entreprise
- Le mémoire CPME de fin d'études doit obligatoirement être réalisé dans le cadre de cette majeure. Ce mémoire CPME remplace le mémoire classique LSM et doit être réalisé en équipe interfacultaire de 3 à 4 étudiants issus de 3 à 4 facultés différentes et porter sur un projet entrepreneurial.

Languages
Français pour les cours en auditoire interdisciplinaire.
Anglais pour les 3 cours complémentaires.

Prerequisits
Avoir posé sa candidature pour la formation CPME (www.uclouvain.be/cpme) (avant la rentrée du bloc annuel 1 de master 120) et avoir été sélectionné (fin septembre du bloc annuel 1 de master120)

Teaching methods
Pédagogies actives, participatives, reliées au terrain, en équipes interdisciplinaires.
- Études de cas
- Analyses de terrain
- Lectures - Conférences – débats
- Projet entrepreneurial interdisciplinaires (voire international)
- Participation à des concours & Mentorat
- Mémoire projet de création d'entreprise

Evaluation methods
Evaluation continue hors session pour la majorité des cours.
- Présence et participation aux cours obligatoire et notée.
- Nombreux travaux écrits et présentations orales en équipes.

Aims
Outiller et renforcer les compétences entrepreneuriales des étudiants de manière à ce qu'ils soient capables de concevoir un business plan (spinoff, startup ou autre projet intrapreneurial) et se sentent en confiance pour se lancer dans l'aventure entrepreneuriale/intrapreneuriale.

Acquired skills
Au terme des deux années de cours et travaux dans le cadre de la majeure CPME, l'étudiant-e
- Aura acquis les connaissances et les compétences nécessaires à la réalisation d’un plan d’affaires ;
- Sera capable d’agir en acteur socialement responsable ;
- Sera capable de gérer un projet en équipe ;
- Sera capable de présenter un projet entrepreneurial et de convaincre des partenaires potentiels ;
- Se sera construit un réseau professionnel et entrepreneurial ;
- Sera capable de détecter de nouvelles opportunités ;
- Sera capable de planifier la stratégie d’une nouvelle entreprise ;
- Sera capable de prendre en compte l’environnement dans lequel évolue une entreprise et modifier la stratégie de celle-ci au besoin ;
- Sera capable de....

Career opportunities
Entrepreneuriat & Intrapreneuriat
- Création ou reprise d’entreprise
- Développement de projets entrepreneuriaux au sein d’une entreprise existante
- Internationalisation d’une PME
- Consultance/Services aux entrepreneurs
- Audit de PME
Major in International Business ‘IB’

Content
The IB track offers 25 selected students the opportunity to act as intrapreneurs, undertaking concrete initiatives in an international context and transforming ideas into business success. It offers ONE year abroad during master 2: four to five months of academic exchange in a partner university and a 6-month internship outside Europe within an international SME, multi-national or NGO. Mandatory courses in master 1 include:

- International financial Management (Q1)
- Industrial Relations in Europe (Q1)
- International Marketing Management (Q1)
- Cross-cultural Management (Q2)
- International Business (Q2)
- Entrepreneurial Finance (Q2)

Language English
Prerequisites Bachelor in management
Teaching methods -
Evaluation methods -
Aims Develop a broad knowledge base about international management and business
Acquired skills
- Work effectively in an international and multicultural environment
- Personal and professional development (self-motivation, self-awareness, self-control, ability to manage one’s work independently)
Career opportunities Former IB students now work in companies such as Accenture, AB-Inbev, L’Oréal, Deloitte, Unilever, Total, but also in many SMEs or NGOs in Asia, Europe or Latin America

Major in Business Analytics

Contenu Les technologies de l’information et de la communication jouent un rôle de plus en plus crucial dans l’évolution des organisations et affectent significativement leurs pratiques et modes de vie. Plus particulièrement, l’utilisation de l’outil informatique comme aide à la prise de décision est désormais considéré comme un élément stratégique dans de nombreuses politiques d’entreprises. La majeure en Business Analytics fournira, dans chacun de ses cours, des outils aux étudiants pour traiter des données, données caractérisées par leur volume, leur variété, leur valeur, leur vélocité ou encore leur véridicité.

Langues Français (principalement) et anglais
Prérequis Bachelier en ingénieur de gestion
Approche pédagogique (A déterminer par chaque enseignant)
Principalement : Exposés magistraux, exercices intégrés au cours, développement de projets
Méthodes d’évaluation (A déterminer par chaque enseignant)
Principalement : Examens écrits et défenses de projets
Objectifs La majeure en Business Analytics a pour objectif d’apprendre à maîtriser les principales techniques de recherche, de récolte, de nettoyage et d’analyse de données business (données qui peuvent être de différents types et provenir de différentes sources), ainsi que les principales techniques d’interprétation et d’exploitation des résultats obtenus.
Compétences acquises Appliquer une démarche scientifique d’analyse de données
Appliquer les méthodes adéquates face à un problème donné
Gérer des projets
Résoudre des problèmes complexes
Porter un jugement critique sur les apports et limites du traitement de données dans une organisation

Débouchés
Le traitement des données (dans tous les volets évoqués ci-dessus) étant désormais un élément clef de toute stratégie d’entreprise, tout étudiant ayant suivi la majeure en Business Analytics pourra s’orienter vers tout métier touchant à des données, et donc également, dans de nombreux domaines d’activité.

**Major in Financial Management**

**Content**
Le contenu de la majeure est défini pour permettre aux étudiants d’aborder les sujets de finance faisant l’objet des examens du CFA Institute.
La première partie de la majeure (Q1) est consacrée aux instruments financiers : actions, obligations, produits dérivés. Dans la deuxième partie de la majeure (Q2), ces produits sont intégrés dans une gestion de portefeuille. La majeure propose aussi une introduction à la gestion des risques et au nouvel environnement réglementaire des institutions financières. On offre également aux étudiants la possibilité de s’interroger sur l’hypothèse de l’investisseur rationnel, en tenant compte des biais comportementaux.
Les étudiants intéressés pourront compléter la majeure par une option en Q3 qui couvre les sujets non abordés dans les examens du CFA : les questions éthiques et le code de conduite des CFA Charterholders, les référentiels IFRS de publications de l’information financière et les investissements alternatifs.

**Language**
Anglais/Français

**Prerequisites**
Cours de finance de base, mathématiques, probabilités et statistiques, économétrie (niveau bachelier)

**Teaching methods**
Méthodes variées : exposés, classe inversée, exercices en salle informatique, études de cas, expérimentations, gestion d’un portefeuille virtuel

**Evaluation methods**
Méthodes variées : examen final, quiz hebdomadaires, travaux de groupes, travaux individuels

**Aims**
L’objectif de la majeure est de préparer les étudiants pour qu’ils soient capables de présenter les examens du CFA, niveau 1 et niveau 2.

**Acquired skills**
Les acquis d’apprentissage des cours sont en ligne avec les « learning outcomes » du CFA Institute en ce qui concerne les matières de : Fixed Income, Equity Investments, Derivatives, Portfolio Management, Alternative Investment

**Career opportunities**
Gestionnaire de portefeuille, analyste, consultant, conseiller financier, trading, direction financière, private banking. De manière générale, dans les métiers de la banque et de l’investissement, à un certain niveau, la certification CFA est souvent exigée.

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**Major in Décisions marketing tactiques et digitales**

**Content**
Built on the core fundamentals of any marketing plan and taking into account the evolution of marketing in the digital environment, the Decisions and Digital Marketing major focuses on the strategic and operational dimensions of key marketing decisions: product innovation, pricing and distribution as well as the marketing decisions making and management in the digital world.

The courses track is designed so that students dig into the conceptual as well as the methodological foundations of each marketing decision: product innovation, price and retailing, taking the perspectives of two main actors: the company and the consumer, and alternating examples from the B2C and B2B sectors. The
second part of the major focuses more specifically on digital marketing shedding the light on the understanding of the e-consumer behavior and the digital marketing trends. The objective is to offer a 360-degree in-depth perspective of issues the marketing manager has to deal with.

Students will also study and practice advanced qualitative and quantitative methods as well as tools that help managers making optimal marketing decisions in the digital world.

Several course of this major are built on the basis of partnerships
• with an international company active in the B2B chemical sector and
• with companies involved in the IPM-Digital Marketing chair.

In the first term, courses focus on the marketing decisions
• Distribution
• Price Management
• Product Innovation

In the second term, courses are oriented towards digital marketing
• Tendances en digital marketing
• E-Comportement du consommateur
• Méthodes et Modèles en Marketing

Languages
French is used most of the time, but sessions conducted in partnership with international speakers will be taught in English

Prerequisites
Introductory course of marketing

Teaching methods
Lectures, conferences by professionals, case studies, practical exercises on computer, discussion on scientific and managerial articles, group assignments with methodological supervision provided by the professors.

Evaluation methods
Oral exams, Written exams, group assignments evaluation. Individual work on articles and e-learning are also assessed.

Aims
In this major, students will learn to master the strategic as well as the operational nature of all aspects of marketing decisions. Hence they will develop specific competencies that are key when managing marketing decisions in the digital world.

Participants will be equipped with the most significant conceptual frameworks and latest thinking on identifying, formulating and assessing companies’ pricing, retailing, product innovation strategies and tactics, also in a digital marketing context.

A special emphasis is set on advanced and innovative approaches used in the practice, as well as on the interdependencies of decisions taken in relationship with these marketing mix variables.

Acquired skills
In this track the students will develop the following skills:
- Knowledge and reasoning
- Scientific and systematic approach
- Capacity to work effectively in an international and multicultural environment
- Project management skills

Communication and interpersonal skills

Career opportunities
This major prepares students who want to pursue careers in marketing (marketing management, product management, price management, retail management, marketing analyst, digital marketing), in general management and in business consulting, in large as well as small companies, mainly focused on the national market or opened internationally.

Major in Business Analytics and Digital Marketing

The description will be communicated later.
**Major in Supply Chain and Transportation Management**

**Content**
- *Supply Chain Management* @ Mons (Q1)
  The course introduces the main concepts and decisions in supply chain management, related to the strategic design of the supply chain, the drivers of performance, the inventory management, sourcing decisions and new trends.
- *Transport et mobilité* @ Mons (Q1)
  This course presents the main notions related to transportation, i.e. the supply and demand of transport services, their pricing, the location of activities, the external costs and the environmental impacts.
- *Modélisation des systèmes de transport* @ Mons (Q1)
  This course focuses on transportation networks and their modeling. The classical modeling technique is presented in four stages: demand generation, demand distribution, transport mode selection and demand assignment. Alternative techniques are then discussed.
- *Advanced operations management* @ LLN (Q2)
- *International supply chain management* @ LLN (Q2)
- *Supply chain planning* @ LLN (Q2)

**Languages**
- English (mainly) / * French

**Prerequisites**
- None

**Teaching methods**
- Lectures, case studies, individual and group projects, student presentations, class discussions, serious game and company visits

**Evaluation methods**
- Written exam (mostly open book), oral exams, case presentations, case reports, project presentation, individual and group assignments.

**Aims**
At the end of the three Mons courses, the student should become familiar with the main concepts in logistics, and have a more in-depth knowledge of the main theories and models in transportation. When followed with the three courses in SCM II (LLN), the student gets a broader expertise in supply chain management (operations, planning and international SCM).
The aim of the three LLN courses is to develop both methodological and practical knowledge in the area of supply chain management.

**Acquired skills**
- Supply chain management, transportation, operations management, inventory management, transportation networks modeling and analytical skills, presentation skills, mathematical skills.

**Career opportunities**
Supply chain management (as well as logistics and transportation) is a flourishing sector, generating many interesting jobs, particularly in our region of Europe. Jobs are to be found in distribution centers, transportation companies, factories, purchasing or planning departments, international export companies, etc.

- Various supply chain management functions (planning, customer support, operations management, transport, sourcing) for multinational companies, consultant, logistic companies, distribution companies. In general the supply chain management function involves a lot of coordination between different departments or companies. Your role will be that of facilitating exchanges of goods, information and payments.