Supply Chain and Purchasing Management

Supply Chain Management and Purchasing has become strategically important to the competitive advantage of companies in France and globally. SCM concerns the **management of value** across the whole chain from sourcing resources to delivery of products and services to final customers. In many sectors **60-70% of a product's value** stems from the **supply base**.

The aim of this majeure is to provide students with the necessary **skills and knowledge** to start a career path in one of the key supply chain professions eventually leading to **Supply Chain Manager, Purchasing Manager** or **Logistics Manager** opportunities. Related positions also includes demand planners or consultants. The majeure comprises 7 modules that develop a clear perspective on how supply chain management can lead to superior performance. The themes of **CSR, sustainability** and **innovation** will be integrated across the whole majeure. Involvement from business will include identification of current skills requirements, curriculum design and regular involvement in each of the 7 modules.

1) **Supply Chain Strategy**

This module provides an introduction to the core area of Supply Chain Management (SCM). It has been developed to help students develop skills in designing business models and managing business processes of global supply chains. It focuses on the structural elements of SCM, i.e. make or buy decisions, design of supply networks, the design and management of business contracts, supplier relationship management, the development of strategies for the coordination of activities across the supply chain and management of supply chain performance. Alongside this key supply chain issues such as **risk, innovation** and **sustainability** will be discussed in depth. By adopting a holistic strategic view of SCM as a source of competitive advantage it will prepare students to develop leadership skills that are essential for supply chain professionals.

COURSE N°	**Supply Chain Strategy**			
Course leader	Joe Miemczyk			
Instructors(s)	Joe Miemczyk, Mihalis Giannakis, Davide Luzzini, Vacataires & Invited speakers			
Course objectives	• Understand the strategic role of Supply Chain and Purchasing Management and acquire the knowledge of advanced supply chain and purchasing management concepts, tools and techniques			
Tackled concepts	• Evolution of the function organizational role • Purchasing process and organization • Supply Chain Management process • Strategic outsourcing (make or buy) • Strategic management of suppliers, including innovation. • Risk management • Sustainability			
Learning methods/Teaching procedures	Lectures Case analysis and discussion Teamwork Student presentation Company seminars			
Assignments	Exam (60%) – an individual closed book 2 hour exam at the end of the course Continuous Assessment (40%) – At the beginning of the course student groups will be assigned a group report about a case study or a hot topic in purchasing, to be presented at the end of the course (20%). In addition, class participation will be assessed on the basis of class attendance, contributions to class discussions and written/oral presentations of case analyses (20%). Depending on the invited speakers, any further individual or group activity might be included in the continuous assessment.			
Evaluation	Continuous Assessment	40%	Case study analysis & participation Final presentation & report	20% 20%
	Final Exam	60%	Exam	60%
Bibliography/Course Material	A selection of seminal article and cases on purchasing and supply chain management			
Number of ECTS credits	4			
Schedule	10 sessions of 3 hours			
N°	Type			
1	Course	Supply Chain Strategy		
2	Course	Supply Chain Mapping and Analysis (SCOR)		
3	Course	Global Supply Chain Management		
4	Course	Supply Chain Risk Management		
5	Course	The role of information in the supply chain: simulation/game		
6	Course	Supply Chain Management, New Product Development & Innovation		

7	Course	Supply Chain Sustainability (Guest speaker)
8	Course	Advanced Supply Chain Planning
9	Seminar (Guest)	Enacting Supply Chain Strategy
10	Course (student presentations)	Case based analysis and presentation

2) Supply Chain Planning and Forecasting

Planning supply chain resources is key to **efficiency and effectiveness** in supply chains. The process of planning starts with determining what customers want by using **forecasting techniques**, moving to a more operational phase of making decisions regarding which markets will be supplied from which locations, subcontracting of manufacturing, inventory policies to be followed and timing and size of marketing and price promotions. Understanding planning and forecasting decisions is essential for any supply chain position and so this module will provide an introduction to the main decision models used for these strategic and operational business processes. The course will cover **quantitative and qualitative** forecasting techniques, aggregate supply chain planning and the sales and operational planning processes.

COURSE N°		**Supply Chain Planning and Forecasting**			
Course leader		Davide Luzzini			
Instructors(s)		Guest and Invited speakers			
Course objectives		Having completed this course the student is expected to show an ability to: • Understand the main concepts and tools of supply chain and manufacturing planning • Understand the value of information sharing and planning along the supply chain • Understand the role of demand management • Learn the various approaches, methods and tools for demand management and forecasting			
Tackled concepts		• Sales and distribution planning • Manufacturing planning • Demand management and forecast • Quantitative and qualitative forecast techniques • Informatics instruments as support			
Learning methods/Teaching procedures		Lectures Case analysis / Simulation In-course assignements Company seminars			
Assignments		Exam (60%) – an individual closed book 2 hour exam at the end of the course Continuous Assessment (40%) – Class participation will be assessed on the basis of class attendance, contributions to class discussions and completion of assignments during the course. Depending on the invited speakers, any further individual or group activity might be included in the continuous assessment.			
Evaluation		Continuous Assessment	40%	In-course assignments	40%
		Final Exam	60%	Exam	60%
Bibliography/Course Material		All material will be supplier on Blackboard during the course. Suggested Textbooks for the course: Operations and process management, 4th ed., Nigel Slack, Alistair Brandon-Jones, Robert Johnston, Alan Betts. Pearson. Forecasting: methods and applications 3rd ed. S. Makridakis, S.C. Wheelwright, R.J. Hyndman, Wiley. Principles of forecasting: A handbook for researchers and practitioners, S. Armstrong (ed.), Kluwer Academic Publishing.			
Number of ECTS credits		4			
Schedule		10 sessions of 3 hours			
N°	Type				
1	Course	Introduction to Supply Chain planning			
2	Course	Sales and operations planning, material requirement planning			
3	Course	Supply chain simulation 1/2			

4	Course	Supply chain simulation 1/2
5	Course	Demand management and forecasting
6	Course	Demand analysis and decomposition
7	Course	Quantitative forecasting techniques 1/2
8	Course	Quantitative forecasting techniques 2/2
9	Seminar (Guest)	Invited company speaker
10	Seminar (Guest)	Invited company speaker

3) Operations Management

Operations Management deals with the design and management of products, processes, services and supply chains. This module has been developed to help students develop skills in acquisition, development, and utilization of resources that firms need to deliver the goods and services their clients want. Operations Management (OM) ranges from **strategic to tactical and operational** levels. Representative strategic issues include determining the **capacity** manufacturing plants, deciding the structure of operations networks, and **determining technology** choices. Tactical issues include plant layout and structure, **project management** methods, **process design** and control. Operational issues include production **scheduling and control**, **quality** control and inspection**, lean** and **continuous improvement**.

	Operations Management			
Course leader	Mihalis Giannakis			
Instructors(s)	Mihalis Giannakis, Joe Miemczyk, Guest Lecturers			
Course objectives	Our main objectives are: • To understand why operations management is key to making business gain and maintain competitive advantage. • To critically evaluate the core concepts of operations management such as quality control, inventory management, lean thinking, and how these link to the sustainability agenda in companies today. • To be equipped with tools and techniques enabling operations managers to audit their organisations and processes, to identify initiatives to ensure business gain, through implementation to monitoring.			
Tackled concepts	Product process matrix, process design (Little's Law), layout design, planning and control methods, lean & green operations and JIT, sustainable risk management			
Learning methods/Teaching procedures	Lecture, Readings, Case Studies, Game			
Assignments	- Group presentation and discussion - Individual assignment on process design and improvement			
Evaluation	Continuous assessment	50 %	Individual Assignment Group Presentations	25 % 25 %

	Final assessment	50%	Exam	50 %
Number of ECTS credits	4			
Bibliography/ Course Material	Operations Management 7th edition – by Slack, Brandon-Jones and Johnson 2014– FT Prentice Hall (specific chapters to be defined at the beginning of the course) various case studies			
N°	10 sessions of 3 hours			
1	Introduction to Operations Management & the sustainability challenge			
2	Strategic objectives of operations			
3	Process Design			
4	Detailed process design			
5	ERP, JIT and lean & green operations (Guest speaker)			
6	Capacity Management			
7	Quality and Improvement			
8	Sustainable performance management			
9	Management of Change (Guest speaker)			
10	Case presentations and feedback			

4) Purchasing Management

This module delivers the basics of purchasing strategy, process, and organization provides the essential **toolkit** for any purchasing professional. As the key interface between the firm and the supply chain, the purchasing function has a great potential for value creation, especially considering the ever-increasing trends towards outsourcing and supply chain collaboration. The rationale of the module is understanding how the purchasing function can contribute to the creation of a sustainable competitive advantage in the long term, for example by aligning the purchasing strategy to the firm's and to other departments' strategies, by effectively managing the **purchasing portfolio** of goods and services, by leveraging on a **collaborative relationships** with suppliers, by appropriately designing the purchasing organization within the firm.

<table>
<tr><td>COURSE N°</td><td colspan="4">Purchasing Management</td></tr>
<tr><td>Course leader</td><td colspan="4">Davide Luzzini</td></tr>
<tr><td>Instructors(s)</td><td colspan="4">Davide Luzzini, Vacataires & Invited speakers</td></tr>
<tr><td>Course objectives</td><td colspan="4">Having completed this course the student is expected to show an ability to:
• Understand the role of purchasing in the supply chain
• Assess the relevance and challenges of outsourcing and global sourcing
• Illustrate and explain the purchasing and strategies sourcing processes
• Design different sourcing strategies appropriate for different buying situations
• Understand the different types of buyer-supplier collaboration
• Evaluate the concepts and methods of supplier assessment and evaluation
• Explain the role of supplier development in achieving supplier performance improvement
• Analyse different organisational structures of the purchasing function
• Evaluate the relevance and methods of e-procurement
• Understand the contribution of purchasing in product development and innovation
• Assess the relevance and challenges of sustainable purchasing management especially in terms of potential environmental and ethical risks in the supply chain</td></tr>
<tr><td>Tackled concepts</td><td colspan="4">• The purchasing value creation potential
• Purchasing strategy
• Purchasing process
• Purchasing organization
• Purchasing portfolio models
• Supplier relationships and partnership
• Supplier and purchasing evaluation
• Supplier development and supplier performance improvement
• Sustainable procurement: ethical and environmental supply</td></tr>
<tr><td>Learning methods/Teaching procedures</td><td colspan="4">Lectures
Case analysis and discussion
Teamwork
Student presentation
Company seminars</td></tr>
<tr><td>Assignments</td><td colspan="4">Exam (60%) – an individual closed book 2 hour exam at the end of the course
Continuous Assessment (40%) – At the beginning of the course student groups will be assigned a group report about a case study or a hot topic in purchasing, to be presented at the end of the course (20%). In addition, class participation will be assessed on the basis of class attendance, contributions to class discussions and written/oral presentations of case analyses (20%). Depending on the invited speakers, any further individual or group activity might be included in the continuous assessment.</td></tr>
<tr><td rowspan="2">Evaluation</td><td>Continuous Assessment</td><td>40%</td><td>Case study analysis & participation
Final presentation & report</td><td>20%
20%</td></tr>
<tr><td>Final Exam</td><td>60%</td><td>Exam</td><td>60%</td></tr>
</table>

Bibliography/Course Material		Textbooks for the course: **Main book :** Johnsen, T., Howard, M., & Miemczyk, J. (2014). *Purchasing and supply chain management: a sustainability perspective*. Routledge. Electronic copies of selected chapters to be provided. Additional books: Monczka, R., Handfield, R., Giunipero, L., & Patterson, J. (2015). *Purchasing and supply chain management*. Cengage Learning. Van Weele, A. J. (2009). *Purchasing and supply chain management: Analysis, strategy, planning and practice*. Cengage Learning EMEA. Additional readings supplied on Blackboard during the course.
Number of ECTS credits		4
Schedule		10 sessions of 3 hours
N°	Type	
1	Course	Introduction to Purchasing Management
2	Course	The Purchasing Process
3	Course	Purchasing Strategy and Organization
4	Course	Portoflio management
5	Course	Supplier and purchasing evaluation
6	Course	The role of Purchasing in product development and innovation
7	Course	Sustainable Procurement
8	Seminar (Guest)	The business view
9	Seminar (Guest)	The Purchasing and Supply Management profession
10	Course (student presentations)	Group presentations & Exam guidance

5) Logistics Management

This module aims to provide both academic frameworks for understanding and taking logistics decisions as well as practical insights into logistics as a function. The module provides understanding of the role of the logistics function in the firm and its links to firm strategy. Students will also be introduced to the wider influences on transport logistics, understanding and applying key theories and models in **inventory, transport, distribution**. Students will also identify and make decisions on appropriate technology choices for logistics including warehouse **processes and technologies**. Some of the key topics include: transport planning and management (incl. loading and routing); logistics network design and location analysis, inventory management models, and understanding of total logistics costs; Recent trends in reverse logistics strategies and sustainability will also be covered.

Logistics Management	
Faculty Coordinator	**Joe Miemczyk**
Course objectives	This course aims to provide both academic frameworks for understanding and taking logistics decisions as well as practical insights into logistics as a function. To understand the role of the logistics function in the firm and its links to firm strategy.

	To understand the wider influences on transport logistics To understand and apply key theories in inventory, transport, distribution planning To identify and make decisions on appropriate technology choices for logistics			
Pedagogical methods	Lectures, Exercises, Case studies, Assignments			
Tackled concepts	• The Logistics Function • Transport planning and management • Network Design and location analysis • Inventory models, incl. EOQ and safety stocks • Total logistics costs • Distribution Resource Planning • Reverse logistics strategies • Warehouse processes and technologies • Logistics Performance Management and Systems			
Assignments	In-class exercises, Group work, Team presentations			
Evaluation	**Overall Assessment**			
Evaluation Bibliography	**Overall Assessment** The main text will be: Rushton et al 2010 The Handbook of Logistics and Distribution Management, Kogan Page Additional resources available on BlackBoard	100 %	Continuous assessment Written exam	50% 50%
Sessions	10 sessions of 3 hours			
Number of ECTS credits	4			
1	Introduction to Logistics management, distribution channels & sustainability			
2	Inventory models and total cost			
3	Warehousing (Guest industry speaker)			
4	Distribution Resource Planning			
5	Logistics Service Quality & Logistics Service Providers (Guest industry Speaker)			
6	Network design and location decisions			
7	Transportation (road and route planning)			
8	Reverse logistics (incl. reuse/recycling)			
9	Integration of logistics information systems (TMS, WMS)			
10	Team presentations SCM & Logistics performance			

6) Digital Business Information and Value Chains

This module exposes students to current methods and strategies that are utilized in managing supply chains with modern information systems. The new electronic models of supply chain management (SCM) are contrasted with traditional channels for creating value for ultimate consumers and end users. The adoption of e-business models not only helps enterprises to improve their business processes, but also enables them to incorporate new technologies for **digital solutions** in the future such as the "***internet of everything***". We will examine the radical ways in which organisations are restructuring their supply chains with the use of online and digital information systems. We will explore how value is created with virtually integrated supply chains, how to **automate** aspects of the procurement process (**e-procurement** applications, use of **digital information systems** in logistics), how we can extend traditional marketing principles to make them effective in the on-line environment (such as the use of **e-auctions** and viral marketing), how to handle risk and security problems in virtual value chains.

<table>
<tr><td>Course</td><td colspan="4">Digital Business Information and Value Chains</td></tr>
<tr><td>Course leader</td><td colspan="4">Mihalis Giannakis</td></tr>
<tr><td>Instructors</td><td colspan="4">Mihalis Giannakis, AC Le Du
Guest speakers</td></tr>
<tr><td>Course objectives</td><td colspan="4">We will focus on the following objectives
• the changing business environment created by technological advancements in IT and the value that is generated by moving into digital environments
• the business models, strategies & associated technology of digital business models for analysis of value chains
• the use and abuse of electronic/cyber marketing for generating competitive advantage and/or failure particularly in relation to developing domestic and export markets
• an organisation's physical supply chains to identify the potential role of digital business models for value creation
• the risk and security problems in digital supply chains, and the methods available to minimise them
• the improvements to the design and implementation of an digital SCM strategy for an organisation</td></tr>
<tr><td>Tackled concepts</td><td colspan="4">ERP, RFID, Security and risk, Big Data, Semantic Web Services</td></tr>
<tr><td>Learning methods/Teaching procedures</td><td colspan="4">Lecture, Readings, Case Studies, Game</td></tr>
<tr><td>Assignments</td><td colspan="4">- Group presentation and discussion
- Individual assignment on process design and improvement</td></tr>
<tr><td rowspan="2">Evaluation</td><td>Continuous assessment</td><td>50 %</td><td>Individual Assignment
Group Presentations</td><td>25%
25%</td></tr>
<tr><td>Final assessment</td><td>50%</td><td>Exam</td><td>50%</td></tr>
<tr><td>Bibliography/course material</td><td colspan="4">Laudon, K and Laudon, P (2015) Management Information Systems: Managing the Digital Firm 14th Ed., Pearson</td></tr>
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Number of ECTS credits	4
Course schedule	10 sessions of 3 hours
Séance 1	Description
Session 1	Introduction – digital business and supply chains: traditional vs. digital supply chains & value creation
Session 2	Decision Support Systems for supply chain integration
Session 3	E-procurement & E-Auctions for supplier contracts
Session 4	ERP case work (Guest Speaker)
Session 5	ERP case work (Guest Speaker)
Session 6	ERP case work (Guest Speaker)
Session 7	Use of RFID in Supply Chains
Session 8	Security and risk management in digital-business
Session 9	Semantic Web, Web Services, Semantic Web Services
Session 10	Digital marketing & use of Big Data for supply chain decisions

7) International Trade and Negotiation

The globalization of supply chains broadened the scope of commercial transactions to a worldwide scale. Through this module participants will acquire the necessary contents and skills to operate in an **international business environment**. On the one hand, nowadays configuring and managing a supply chain (or network) requires some basic knowledge about **international trade and regulation**. On the other hand, the module builds individual skills related to cross-cultural negotiation, which is a daily practice within business organizations. Successful negotiation requires technical skills and preparation, self-awareness, and relational capabilities. Drawing on fundamental **negotiation principles and multicultural situations** through simulating **real situations**, this module addresses such requirements, providing participants with a holistic view of negotiation as an instrument to achieve personal objectives as well as building relationships.

International Trade and Negotiation	
Faculty Coordinator	**J Miemczyk**
Course objectives	• An ability to evaluate international management issues related to culture, environment, communication, interaction and strategy using appropriate techniques. • A critical understanding of the key theoretical approaches informing international management. • An ability to critically evaluate options and then make recommendations for the development of international management strategies appropriate to different firms and environments using relevant theoretical frameworks.

	• Understand and describe the key legal factors affecting purchasing and supply chain management with specific reference to standards and INCO terms • Be able to discuss the effect of legal and ethical constraints and opportunities			
Pedagogical methods	Lectures, Exercises, Case studies, Assignments			
Tackled concepts	• International trade theory • influence of cultural dimensions • Economic factors in international trade • Negotiating strategies and tactics • International Contract Management • INCOTERMS and Custom Clearance			
Assignments	In-class exercises, Group work, Team presentations			
Evaluation	**Overall Assessment**			
Evaluation Bibliography	**Overall Assessment**	100 %	Continuous assessment	50 %
			Written exam	50 %
Number of ECTS credits	4			
Sessions	10 sessions of 3 hours			
1	International trade theory and finance, Globalisation & Comparative advantage			
2	The Economic Environment - Tariffs , Quotas			
3	International Organizations-e.g. WTO Customs Union Free Trade Areas			
4	International Contract Management, INCOTERMS and Custom Clearance procedures, import & export rules			
5	International Means of Payment and Financial Risk Assessment			
6	International Standards - ISO			
7	International Negotiating Strategies			
8	International Negotiating Tactics			
9	Inter-cultural negotiation scenario			
10	Assessed project presentations			