Supply Chain Management

Courses

1. **A first semester covering fundamental concepts** in order to understand the business environment and improve the flow management of physical objects and information. It covers scientific operational approaches and economic and sociological understanding of organizations.

2. **The second semester focuses on a "field trip" study,** an assignment of 13 days spread over 8 weeks in enterprise. Each assignment group is made up of 3 students advised by a science professor and a social sciences professor. Elective courses allow the student to create his or her specific path to different careers and to experience a range of industrial sectors. The first module deepens the student's current knowledge while the second module allows the student to explore a particular technology.

3. **The third semester allows the student to concentrate** on one of several particular themes in the program (strategic planning and decision making in the supply chain, transportation management systems, production system architecture, etc.) and also to **further experience the industrial environment** (innovation management, environmental risk management, integrated management systems, etc.)

4. **The final semester is dedicated to the End of Studies Project** either in a laboratory or in industry.

Semester 3 – 1st Year at Master level		
Modules/Subjects	**ECTS**	**Number of Hours**
Operations Research and Production Planning Basic Topics in Operations Research, Production Planning: Modeling, Solving, Computer Aided Manufacturing	5	63
Discrete Event Systems Discrete Event Systems, Queuing Theory, Simulation Practical	5	63
Quality Quality Management Theory and Tools	3	42
Management of Information Systems Modeling, Basic Techniques, Object Models (UML) Case Studies (Databases, SQL)	3	42
Marketing Analysis, Functional specifications Marketing Research, Critical Characteristics, New Product Design Projects	4	42
Organization and Market Design Management Control and Budgeting	6	84

Exchange Economy and B2B Transactions Sociology of Organisations Human Resources Management		
English (21h) 2nd Foreign Language (21h) Sport (30h)	4	72
TOTAL	**30**	**408**

Semester 4 – 1st Year at Master level		
Modules/Subjects	**ECTS**	**Number of Hours**
Inventory Management and forcasting	5	63
One Elective Module: Supply Chain Management • Performance evaluation of production systems • Scheduling and optimization of production systems • Creativity and innovation • Supply networks and Inter-Firms Cooperation • Manufacturing technics and methods	5	63
One Elective Module: Technological Insights • Biotechnology • Networks and telecoms • Advanced object-oriented modelling and Information systems • Introduction to semiconductors • Industrialization: process and methods	5	63
Field Trip Study Communication Ergonomy and Change Management Case Study in Project Management	11	147
English (21h) 2nd Foreign Language (21h) Sport (30h)	4	72
TOTAL	**30**	**408**

Semester 5 – 2nd Year at Master level		
Modules/Subjects	**ECTS**	**Number of Hours**
CORE COURSES		
• English, 2nd Foreign Language • **The firm, Society and Business Law**	3 4.5	42 54
ELECTIVE COURSES	22.5	270
5 elective modules from the following list, • Advanced Supply Chain Management Modules (minimum requirement of 2 courses)		

◦ Supply Chain Management : Strategy and Decision ◦ Supply Chain Management : Tactical and Operational Decisions ◦ Transportation ◦ Industrial Information Systems ◦ Facilities Planning and Control : from Plant to Workbench ◦ Game Theory and Decision Making ◦ Total Quality Management ◦ Strategy analysis • Free elective Modules (minimum requirement of 1 course) o Research Project o Operations Management o Artificial Intelligence o Advanced Economics in Industrial Engineering o Project Evaluation and Control o Industrialization: Economic and Organizational Aspects o Entrepreneurship Lab o Collaborative Engineering o Implanting Strategic Management and Global Firm o Innovation Management o Purchasing Management o Financial Markets o Business Marketing o PLM (Product Lifecycle Management) for Complex Products o Production and Environmental Management o Immersive Simulations in Product Development, Production and Usage o Reliability and Risk Management for Industrial Systems		
OTHER SPECIALITIES		
Research Program Specialities : Industrial Engineering or Mechanical Design or Operations Research		
Logistics, Optimization and Decision Support Systems (shared with Grenoble INP – Ensimag)		
Mass Manufacturing Specialty		
TOTAL	30	366

Semester 6 – 2nd Year at Master level		
End of Studies Project	30	400