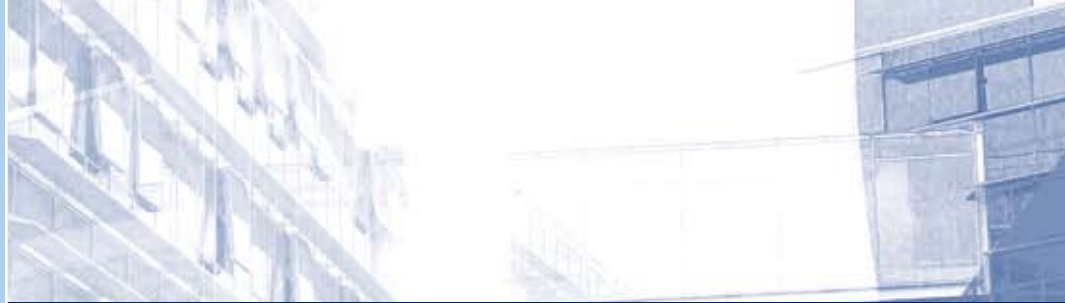


EMNantes



GOPL

**Operations Management
in Production and Logistics**



ECOLE DES MINES DE NANTES

The GOPL option



This option has existed since the School was founded, and was originally focused on the optimization of production systems. The curriculum has evolved and now covers the entire supply chain, including sourcing, production and distribution. In all cases, the goal is to optimize complex flows of materials and information to achieve maximum quality of service at minimum cost and lead times. But some factors related to human and environmental issues are difficult to model and measure. Hence the main difficulty is often to find a trade-off between the mathematically optimized solutions and the ones that can be really applied.

> Career Opportunities

GOPL engineers can find employment as:

- **Production team manager, logistics engineer**, in charge of quality and delivery lead times.
 - **Sourcing or distribution manager**, in charge of managing relations with suppliers and/or customers, to ensure efficient logistics flows based on a variety of parameters (inventory, transportation, price fluctuations, time elements).
 - **Information systems consultant**, providing ERP software integration services for businesses.
- There are numerous job opportunities, with services now being one of the primary fields. GOPL graduates work for large corporations, for logistics service providers, and in consulting. Accenture is one of the top employers.

> Jobs for Tomorrow and the Future

Logistics engineers acquire more and more responsibilities during their careers. After starting as production shop managers, they move on to manage the entire production or supply chain process. Engineers starting out in production and logistics discover the ins and outs of a business. This is an excellent way to move up to strategic management positions.



Olivier Péton,
Program Head.

E-mail: olivier.peton@emn.fr

“One of our concerns is to meet the immediate demand of businesses by providing our students with good professional training so they can be effective right out of the starting blocks. But we also emphasize the more general skills of modeling and abstraction, which will help them throughout their careers in any one of a large number of possible occupations.”



> The program

After the 1st year of specialization, the curriculum focuses on operations research. To solve organizational problems, the students must use quantitative decision-making methods, which are based on information technology, but above all they must find solutions that are ingenious, realistic, and in keeping with the corporate culture.

The students learn the fundamentals of production management, logistics, quality management, and finally the theoretical and practical aspects of modeling.

In the final year, the focus is placed on information flows (in particular ERP software) and social and management sciences.

One of the high points of the program is the option project.

This project is performed in collaboration with a business, on a real problem, and lasts one semester.

The students work as a group of consultants and engineers and carry out the entire study, from drafting the specifications to delivery to the client.

This gives them the opportunity to use what they have learned in a real environment, and gives them extensive experience in managing a technological project.

MANAGING FLOWS OF MATERIALS AND INFORMATION

Production management, inventory management

Planning and scheduling

Information Systems, ERP

Statistical process control

MODELING AND SIMULATING LOGISTICS FLOWS

Modeling deterministic and stochastic processes

Simulation of production processes

INCREASING THE PERFORMANCE OF THE LOGISTICS SYSTEM

Operations Research

Optimization in logistics and transportation

MANAGING THE LOGISTICS CHAIN

Industrial strategy

Industrial seminars and case studies

Supply chain planning

Procurement

DEFINING AND MANAGING AN ENGINEERING PROJECT

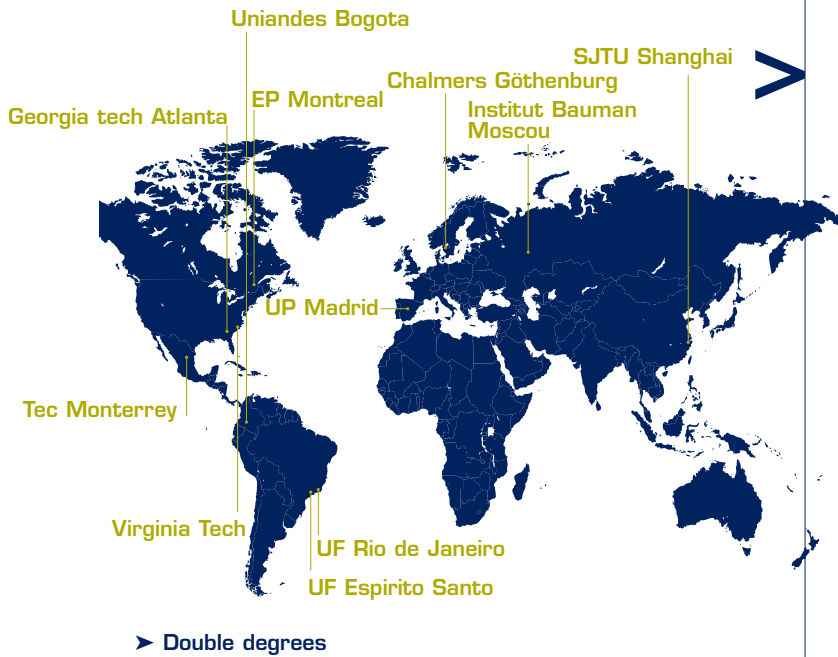
Project management

Change management

Option project conducted in cooperation with a business

> Beyond Borders

Several of the school's foreign partner institutions are also interested in production and logistics optimization, including Virginia Tech (USA), Tec de Monterrey (Mexico), Universidad de Los Andes (Colombia), Ecole Polytechnique de Montréal, Shanghai Jiao Tong University, etc. In addition to these double degrees, there are numerous credit transfer opportunities with foreign universities.



Research

The GOPL academic program is based on research topics developed by the "Logistics and Production Systems" research team (<http://www.irccyn.ec-nantes.fr/irccyn/d.fr.equipes/slp>) at the Nantes Cybernetic and Communication Research Institute, (UMR CNRS 6597), whose automation and control engineering department is actively involved.

GOPL engineering students can get research experience through laboratory internships, double degrees and various team projects. Students are encouraged to pursue a research orientation, in particular in the frame of CIFRE PhD programs.



A "fantastic job"

Didier Chapron,
manager of the mast welding unit at Manitou.

During her graduate internship, Emma Dufour was in charge of reorganizing a warehouse of 250 items at the Manitou plant in Ancenis, Loire-Atlantique. The goal was to facilitate on-time procurement, and also to improve availability, by storing heavier parts near the operators and lighter parts on the shelves. "To achieve this, she worked with purchasing, production, maintenance, procurement, engineering, new work, as well as the operators themselves, to make sure they were happy with the solution," says Didier Chapron, who was her industrial mentor. The result was a "fantastic job," presented on a computer, combining theory and practice, based on thorough research that involved everyone concerned. But Emma's assignment was not over. For now, only one-quarter of her recommendations have been implemented, since most of her study will be used to set up a new "mast mechanical welding" line. "The plant logistics department took over based on her work," explains Mr. Chapron, "and the line should be operational in September 2007."



ECOLE DES MINES DE NANTES

Ecole des Mines de Nantes
La Chantrerie
4 rue Alfred Kastler
BP 20722
44307 Nantes cedex 3
France
Tél. : + 33(0)2 51 85 81 00
Fax : + 33(0)2 51 85 81 99
Site web : www.emn.fr

