

# Master

## Sustainable Industrial Engineering STILE

### ✓ Duration

Year 1 : Course work from October to June

Year 2: Course work from September to January then Industrial Final Project from February to June

### ✓ Start date

October

### ✓ Tuition Fees

Check website

### ✓ International students

Welcome package

### ✓ Admission Criteria

Bachelor of Science or Bachelor of Engineering or the equivalent thereof

English proficiency

Excellent academic results

### Program chair:

Michel Tollenaere:  
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Industrial Engineering started over a hundred years ago when Henry Ford came up with the idea that the production of his Ford T could be scientifically organized and rationalized. Frederick Winslow Taylor then conceptualized the idea of mass production where work was cut up in units, tasks and activities. This industrial concept was still greatly in use til the 70's when came about the concept of mass customization to meet the needs of clients who wanted diversified and specifically adapted products. Starting in the 90's, new countries and new actors came into play and industries had to adapt to globalization and complex supply chains, including best in class suppliers. Sustainable Industrial Engineering has now become a key concept in industrial engineering. This entails innovative products, risk management, natural resource management and sustainable development.

### Learning outcome

To train professionals in sustainable industrial engineering who will work collaboratively in a globalized international context, with societal constraints and environmental and economical impacts.

### Benefits/ Career opportunities

Knowledge and skills to analyze, model and optimize industrial processes in design and production

Develop capacities in quality management, operation scheduling, information systems, product architecture

Capacities to work in teams in a complex international and multicultural environment with colleagues from different cultures.

Aptitude to lead and manage group cross-disciplinary projects, research or industrial projects in an international context.

Capacity to develop innovation, to explore breakthrough technologies and to implement them, taking into account environmental, societal and human constraints.

Expertise to anticipate future needs, new markets and how to respond with the appropriate strategy through new socially and culturally suitable competitive technologies.

A chance to improve on the French language and get a feel for a different culture and country.

### Become a

- Project engineer
- Development or research engineer
- Business or consultant engineer
- Production and supply chain engineer
- Product architect

## Program content\*

Period	Courses	ECTS
Year 1 October - January	Global industrial Engineering (project) Seminars (manufacturing technologies, economics, project management) Engineering Design: methods and tools. Production and operations management Supply chain management Basic economics for sustainable Industrial Engineering Sustainability in industrial engineering	30
Year 1 February - June	Quality and Process Development Discrete Event Simulation Creativity and Innovative Design Industrial Information Systems Global Firm and Economic Dynamics	30
Year 2 October - January	Intercultural: French, European, North American cultures Preparation for Final Project: Bibliography, Research, CV 1 optional course (sureté des installations industrielles, production et environnement, management de projets internationaux) <b>Students choose a curriculum between the following two-----</b> <b>Supply chain curriculum</b> Logistique de transport et recherche opérationnelle Gestion de flux en production de biens et services 1 optional course (Advanced Economics in industrial eng., Gestion tactique et opérationnelle de la chaîne logistique, Sureté des installations industrielles, systèmes d'info industriels, Recherche opérationnelle.) <b>Product Development Curriculum</b> Modelling and optimisation in design Knowledge in product engineering 1 optional course: Conception intégrée, ingénierie collaborative, simulation avancée de produits, Product lifecycle management	30
Year 2 February-June (5 months)	Industrial Final Project	30
<b>Total</b>		<b>120</b>

ECTS European Credits Transfer System

\* May be modified

## School environment

Most of the courses will be taught at Génie Industriel, the industrial Engineering school of the Grenoble INP group. The school is centrally located in downtown Grenoble.

Student life in Grenoble is very rich and active. Numerous activities are offered by clubs and societies that allow students to follow their interest whether it be in sports (leading center for mountain sports), the arts, non-profit organizations, international relations, or yet other options.

The international Student and Scholars Office (ISSO) is there to welcome students and help them with their administrative and housing questions.

## Master thesis

The Master thesis work can be done at the G-SCOP lab or in any other lab or industrial firm.



Rhône-Alpes Région

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