

MANAGEMENT, TECHNOLOGY AND ENTREPRENEURSHIP

MASTER



EPFL

If you want to acquire project management skills, create your own company, commercialize new technologies, or set up processes to streamline supply chains, this Master is for you! It will allow you to understand the functioning of modern businesses in a holistic manner, “think outside the box” in order to develop innovative, entrepreneurial approaches, manage key firm-internal processes, and engage with external stakeholders.

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The program allows students with a Bachelor's degree in engineering or in a technological field to acquire a high employability profile for those leadership positions which require both technology and management skills.

Students can choose to specialize either in **Strategy, Innovation & Entrepreneurship**, in **Operations Management & Systems Modeling** or in **Business Analytics**, which provides them with

more specific competences in one of these three important areas of management. Students round-off their education with a Minor in a specific technical discipline and may select elective courses according to their preferences and specific future employment goals.

Watch the video:



"We had some very interactive classes with very good teaching. And the students being very diverse, you get a lot of different perspectives."

*Gayatri Kondepudi,
Master MTE, 2013*

The master MTE offers since 2017-18 an **orientation in Business Analytics**, which uses data, mathematics and business insights to solve societal and business challenges. This orientation will appeal to students with a deep interest in data science, statistics, machine learning and optimization who are keen to apply these methods in new contexts.

Strategy, Innovation & Entrepreneurship Specialization - Building a more sustainable innovation culture at Logitech

During her Master's project Ran Li was involved in assessing and implementing a measurement system for innovation management at Logitech. A lot of companies get lost in different metrics and end up with using suboptimal ones to measure their innovation.

As an innovation leader, Logitech has realized that such a system should be customized to suit their specific needs. This Master's project assessed the current innovation capability of a new product and designed a proper metric system to measure the associated innovation activities.

Watch the video:



"What I really appreciated was the ability to pick your own curriculum depending on your interest."

*Adrian Cachinero Vasiljevic,
Master MTE 2013*

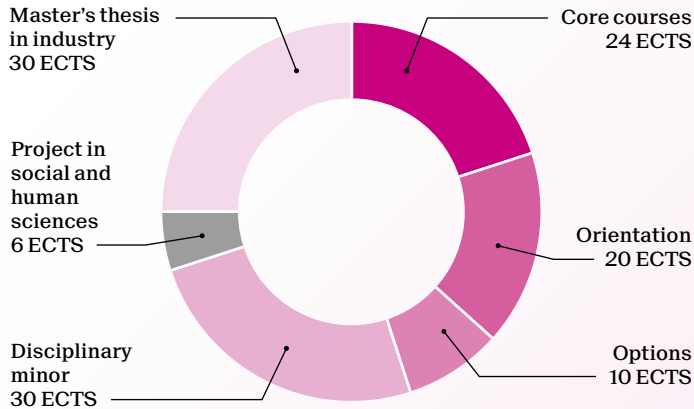
Operations Management & Systems Modeling Specialization - Applying the seven step strategic sourcing method at PepsiCo

The objective of Eirini Kefala's Master's project was to support the strategic sourcing process in one of PepsiCo's Indirect Purchasing categories. Leading firms such as PepsiCo have identified the need to leverage supplier relationships beyond traditional purchasing practices in order to achieve a competitive advantage. The seven step strategic sourcing method focuses on assessing internal and external factors to shape procurement strategies and achieve improved and predictable lifecycle costs, optimized service levels and adoption of more efficient operating models with strategic partners. The end result is building stronger, more collaborative relationships with selected, capable partners that are focused on driving continuous improvement and value globally. During her Master's Project, Eirini supported the implementation of this approach in a specific category by providing market intelligence, facilitating the stakeholders' engagement, using advanced sourcing tools, and performing data analysis.

Master of Science in

MANAGEMENT, TECHNOLOGY AND ENTREPRENEURSHIP

2-year program - 120 ECTS



Orientations:

- A** Strategy, innovation and entrepreneurship
- B** Operations management and systems modeling
- C** Business analytics

Disciplinary minor

In order to get additional expertise in their original technological field of study, the MTE master students must complete a "disciplinary minor" (30 ECTS) in the field of their Bachelors' degree.

Admission requirements:

- Bachelor's degree in engineering or in a scientific discipline such as Mathematics, Physics, Chemistry or Life Sciences.
- Solid background in statistics, probability theory and linear algebra.
- Proficiency in English (The curriculum of the MTE program is entirely in English).

Career prospects

Graduates will have acquired the knowledge and developed the skills necessary for successfully bridging the worlds of technology and business in a large variety of organizations (such as small start-ups, large established firms, consulting firms, public organizations, VCs, and Tech Transfer Offices). For instance, at the start of the career they may work in junior or associate positions in Production and Manufacturing, Supply Chain and Logistics, Product & Project Management / Development, R&D, Innovation Management or Business Analytics.

Their unique profile makes them also particularly attractive candidates for joining a start-up team in a technology environment.

College of Management of Technology
go.epfl.ch/master-management-tech-entrepreneur
contact: mte@epfl.ch

	Credits
Core courses	24
Accounting for finance	2
Applied corporate and industry analysis	3
Applied probability and stochastic processes	4
Introduction to econometrics	4
Performance management	2
Principles of finance	5
Principles of microeconomics	4

Orientation	A	B	C	20
Applied data analysis			C	8
Apprentissage et intelligence artificielle			C	4
Causal inference			C	4
Climate entrepreneurship	A			5
Computational social media			C	4
Continuous improvement of manufacturing systems		B		5
Convex optimization			C	5
Corporate strategies for global sustainability	A	B		4
Corporate strategy	A			4
Design in innovation: creation for adoption	A			4
Data science for business		B	C	6
Entrepreneurship and new venture strategy	A			4
Information: strategy and economics		B	C	4
Innovation and entrepreneurship in engineering	A			10
Innovation management in the digital age	A			4
Logistique et analyse de la demande		B		4
Machine learning			C	8
Management de projet et analyse du risque		B		4
Management of intellectual property	A			3
Mathematics of data: from theory to computation			C	6
Optimal decision making		B	C	4
Production management		B		5
Reinforcement learning			C	6
Statistical inference and machine learning			C	4
Statistics for data science			C	8
Strategic marketing and technology commercialization	A			4
Supply chain management		B		4
Technology and innovation strategy	A			3
Technology, sustainability and public policy	A	B	C	4
Value chain management in practice		B		4
Venture capital	A			4

Options	10
Energy supply, economics and transition	2
Foundations of digital humanities	6
Global business environment	4
Globalisation, robotics and the future of work	4
Intercultural presentation skills	2
Leading and managing in a global context	4
Negotiation techniques	2
New space economy	3
Power system restructuring and deregulation	3
Practical business law	4
Transitions, sustainability and technology policy	4