TECHNOLOGY VENTURE
MASTER'S PROGRAM

ÉCOLE POLYTECHNIQUE
UNIVERSITÉ PARIS-SACLAY

AT THE INTERSECTION OF
TECHNOLOGY INNOVATION AND ENTREPRENEURSHIP

AN IDEAL ENVIRONMENT FOR GROWING STARTUPS:

- MENTORSHIP
- EDUCATION
- ENTREPRENEURIAL PROJECTS

A UNIQUE CAMPUS COMBINING
STATE-OF-THE-ART SCIENTIFIC RESEARCH AND HIGH LEVEL EDUCATION

A PROGRAM WITH GLOBAL OPPORTUNITIES:

- INTERNSHIPS IN THE SILICON VALLEY
- STARTUP@BERKELEY: FULL TERM EXCHANGE PROGRAM WITH UC BERKELEY

THE TECHNOLOGY VENTURE MASTER'S PROGRAM

THE TECHNOLOGY VENTURE MASTER'S PROGRAM AIMS TO BE ONE OF THE TOP EUROPEAN LAUNCHPAD FOR TECHNOLOGY STARTUPS

POSITIONING

The Technology Venture Master's Program combines high level scientific education along with an intense training on entrepreneurship and innovation. It is organized around the following principle:

- **50%** of the studies is dedicated to a scientific track, in a domain elected by the student (big data, new energies, biocomputing, electrical engineering, etc.)
- **50%** is devoted to courses, projects on entrepreneurship and innovation.

KEY POINTS

Created after 2 years of development, involving continuous dialogue with professors, entrepreneurs, and leading international institutions, the Technology Venture Master's Program aims to be the reference for cutting-edge education in entrepreneurship and innovation. It is designed around the following principles:

- ***Action-oriented learning,*** focusing on projects and real-life assignments.
- ***A hybrid faculty team*** grouping top professors, high-level executives and inspiring entrepreneurs from around the world
- ***International exposure*** that encompasses the faculty, the program, and the student network.
- ***A mix of ground experiences*** offering students a large exposure to entrepreneurial innovation: internship (early stage technology startup, VC), entrepreneur in residence with SR2PI, wokrshop "introduction to software and app development", Workshop "Big Data and Machine learning", Introduction to Design Thinking and Rapid Prototyping, Robotic with INRIA, Startup Weekends.

AN IDEAL PLACE FOR DEVELOPING TECHNOLOGY STARTUPS

Closely involved with laboratories, research and innovation, connected with the entrepreneurial ecosystem throughout the world (Silicon Valley, Boston, Hardware accelerator in Shenzen) the Technology Venture Master's Program Master's Program aims to be one of the top European launchpad for technology startups. The projects and missions assigned throughout the program are designed to expose students to real-life business situations.

The startup project, which spans across the full 2-year program, puts the student in the role of creating a startup, with the intent that many of the projects will continue to be developed beyond completion of the degree.

INTERNATIONAL EXPOSURE

Getting exposed to the many different forms that entrepreneurship and innovation are taking around the world is major source of inspiration and a key learning objective in building a strong entrepreneurial cultural background.

Internships

The Technology Venture Master's Program incorporate 2 internship periods:

- ***Discovery of an early stage startup.*** The goal is to immerse the student in the context of a newly founded entrepreneurial venture: a small team, barely-prototyped technology, still no working business model. Many students undertake this internship in Silicon Valley startups.
- ***Startup project or Venture Capital:*** students may devote their internship either to developping their own project, or joining a venture capital team. The goal is then for students to understand the principles of Venture Capital in funding innovative technology startups.

International education

Beyond internships, the Technology Venture Master's Program also offers many opportunities for students to see the world:

- ***Startup@Berkeley:*** one full term of entrepreneurial education through a unique exchange program with UC Berkeley
- ***Master Classes with prestigious guests,*** entrepreneurs, professors from top US Universities

A NETWORK OF EXCELLENCE

Situated at the very heart of the Paris-Saclay campus, students in the Technology Venture Master's Program are in a unique environment combining high-level scientific research, excellent academics, and entrepreneurial coaching, support and funding.

Laboratories

Ecole Polytechnique is among the world's top establishments for scientific research. Master's students constantly interact with the research teams located on campus. Ecole Polytechnique is home to 22 laboratories, performing research in all of the major scientific fields. In addition, the Technology Venture Master's Program also has partnerships with INRIA, DIGITEO, the CEA, and other major scientific organizations.

Partnership with UC Berkeley

The Technology Venture Master Program has built with UC Berkeley a program, tailored for the Master students. It consist in a full term on campus at UC Berkeley:

- **Entrepreneurship courses,** developped by the Center for Entrepreneurship and Technology and the Haas Business School
- **Discovery activities** that consist in visits, conferences, events, where the students can meet and interact with the entrepreneurs, the key players who are at the heart of the Silicon Valley.
- ***Project :*** students, working in teams, develop a real life startup project. At the end the students get a UC Berkeley certificate for completing the program.

Mentoring – Coaching – Funding

Learning about entrepreneurship doesn't stop when classes end. From this viewpoint, the Technology Venture Master's Program offers its student many additional connection to various entrepreneurial networks and progams, such as:

- ***Silicon Valley Fellowship Program*** - coaching, mentoring, acceleration services and funding for the 3 selected best startup projects developed by students.
- ***MIT Venture Mentoring Services:*** a formal coaching program, based on the methodology devleopped by MIT
- ***XMP Business Angels*** - the Polytechnique Alumni Business Angels network
- ***XMP Entrepreneur*** - Ecole Polytechnique alumni providing sup port and coaching to young entrepreneurs.

THE PROGRAM

"INVENTING THE NEXT GOOGLE OR FACEBOOK..."

The Technology Venture Master's Program combines scientific research and entrepreneurial innovation. This is where the most promising breakthrough innovations that will change the world are being generated! The program targets high-profile engineering students with strong scientific backgrounds and provides them with a very high level of education and training in entrepreneurship, innovation and management as they continue to develop their scientific expertise. Combining top scientific skills, with entrepreneurial talent, the Technology Venture Master Program seeks to:

- create the best possible environment for emergent technology startups,
- boost entrepreneurial enthusiasm and motivation from students,
- prepare students for the specific challenges and uncertainty that go hand in hand with breakthrough innovations.

KEY POINTS

Academic excellence: the Technology Venture Master's Program partners with top world universities and establishments in order to build a "world class" program, built on 3 key points:

International networking:
throughout the 2 years of the program, the student is constantly immersed in an international environment :

- internships (students are strongly encou raged to go abroad)
- attracts the best students from top-ranking universities
- Startup@Berkeley: one full term on UC Berkeley Campus

At the crossing point between science and startups
Along with their entrepreneurial and busines education, Master students also follow a scientific track. Both represent 50% of the program. This interaction between science and entrepreneurship opens new exciting teaching experiences that leverages simulaneously the scientific expertise and the entrepreneurial skills of the student.

Faculty
In order to maximize academic quality and enhance the international visibility of the program, the school will invite famous entrepreneurs and world-renowned professors to teach the courses at the Polytechnique Campus.

An innovative learning approach.
Combining the various levels of learning (by listening, by doing, by thinking), the student track combines in-class modules, ground work, blended learning with moocs and spocs, startup projects, and content production assignements (wiki, research memo, etc.), and various internship experiences.

FACULTY

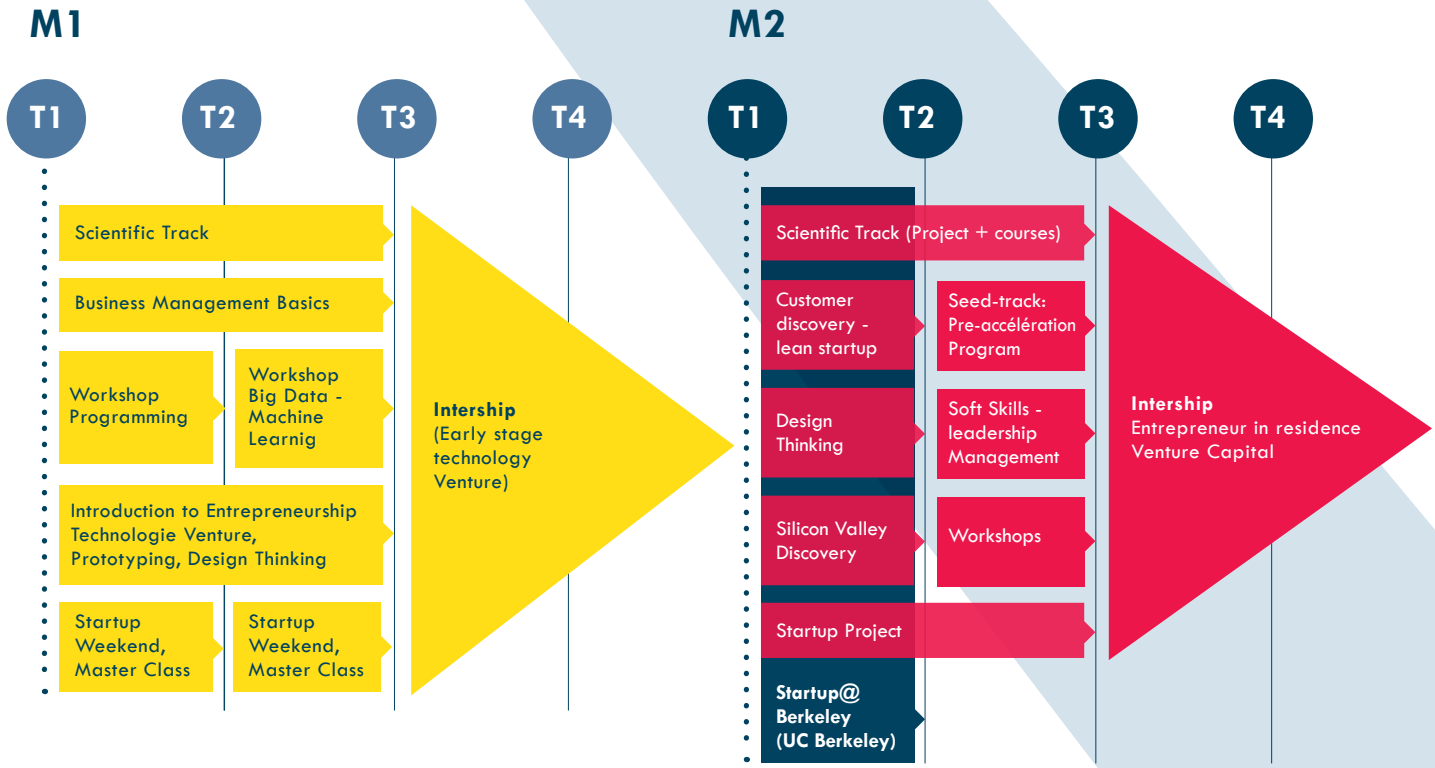
The program features a hybrid faculty team, where the best professors teach alongside inspiring entrepreneurs and successful business executives from leading organizations. Classroom modules with professors are mixed with seminars conducted by leading international experts.

- **Directors of the Technology Venture Master's Program:** Bruno Martinaud
- **Director of the Technology Innovation Masters:** Yvan Bonnassieu
- **Scientific Coordinators**
  - Mechanics: H. Maitournam, J.J. Marigo
  - Computer Science: J.M. Steyaert, B. Werner
  - M-N-O-Electronics: Y. Bonnassieux
  - Applied Mathematics: S. Mallat
  - Innovations, Strategies, Organizations: A. Jeunemaitre, H. Dumez
- **Program supervised by the Ecole Polytechnique Graduate School**

THE STARTUP PROJECT

As they progress through the program, students develop a startup project in a real-life context based upon a scientific result or an innovative technology. Through this long-term assignment, the student learns to think and act as a potential startup founder. During the 1st year, the focus is on opportunity identification and validation. The 2nd year is dedicated to project design and development, and writing a business plan. For the final evaluation, the business plan is submitted to a committee of venture capital investors who assess the viability and the attractiveness of the startup.

THE PROGRAM



THE PROGRAM LASTS 2 YEARS AND IS ORGANIZED AS FOLLOWS:

Science Major (M1 and M2)

Students allocate 50% of their time to developing their scientific expertise in any subject taught at Ecole Polytechnique and its partner institutions (Chemistry, Physics, Biology, Mathematics, Mechanics, etc.).

Entrepreneurship and Innovation

M1: acquiring the basics

- Management (corporate finance, marketing, strategy): **90h**
- Managing innovation projects (from technology): **60h**
- Introduction to technology ventures: **40h**
- Introduction to Design Thinking, Rapid Prototyping in a fablab: **30h**
- Workshop "Basics of app and software development": **20h**
- Workshop "Introduction to Big Data and Machine Learning": **20 h**
- Early stage startup internship: **3 to 5 month**

Calendar

Each year (M1 and M2) is split into 3 terms.

- **Terms 1 and 2 are dedicated to education**
- **Term 3 is for internships**

M2: Personal development and entrepreneurial training

- Startup@Berkeley : a full term exchange program with UC Berkeley
- Management, Leadership, Decision Making: **30h**
- Verticals (IP, web marketing, etc): **30h**
- Understanding the entrepreneurial process (business plan, business model, early-stage management): **120h**
- Design and development of a technology startup (pré-accélération program (Seedtrack), coaching, mentoring)
- Business assignment: "Entrepreneur in Residence » with the Technology Tranfers Department
- Startup project or Venture Capital internship: **4 to 6 months**


“INVENTING THE NEXT GOOGLE OR FACEBOOK...”

MULTIMEDIA LEARNING

Learning about technology startups and breakthrough innovations requires going beyond core concepts, tools and methods. It is first and foremost about acquiring a large background of entrepreneurial culture, based on meeting with others, reading, and sharing experiences.

As an extension of the program's core curriculum, the Technology Venture Master's Program emphasizes a large spectrum of multimedia learning:

- **e-learning, moocs and blended learning :**
  All of the modules are also expanded via an e-learning platform where students can learn, access additional materials, and interact with their teachers. Some courses are taught using a blended learning approach, mixing an online introduction in the form of a mooc, and in-class hands-on activities (projects, business cases). The combination of both allows to optimze the engagement of students and the learning experience
- **Wiki:**
  In order to reinforce the learning dynamic, students are asked to write comprehensive wiki articles covering key topics in entrepreneurship, innovation, funding, etc. These articles are published and shared in the Master Wiki web space, that will grow over time to become a knowledge base and reference for future generations of students.
- **Online Media library:**
  All of the main teaching modules are recorded, edited in short segment and published online in a media library, accessible to students.

THE POLYTECHNIQUE EXPERIENCE

A unique place for scientific research and education

Ecole Polytechnique has a unique position in the French scientific and educational landscape. Since its establishment over 200 years ago, many of its graduates have become famous scientists who have made major contributions to their fields: mathematicians, physicists, chemists...

The Paris-Saclay Campus

Ecole Polytechnique is a member of the Paris Saclay University. It is located on the Saclay campus along with 21 other institutions, including Paris XI University, HEC, and Ecole Centrale. The campus is a world-class center for science.

A close partnership with HEC

The Technology Venture Master's Program is managed both by Ecole Polytechnique, a leading institution in science and engineering, and HEC, one of the premier European business schools. This partnership combines the best of both worlds into a unique educational program.

The core values of the Technology Venture Master's Program are: mobility, flexibility, and skill aquisition, thus it opens the doors to a large spectrum of career paths.

Entrepreneurs who will create breakthrough innovative startups

Intrapreneurs recruited by existing large organizations, who will bring their ability to think outside the box, and manage projects.

Early employees, joining existing startups or mid-sized businesses, who will leverage their abilities to think big and take on large ambitious projects

Venture Capital is also a potential career path for students who might not want to face the uncertainty and pressure involved in pursuing their own projects.

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CONTACTS

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