Program Description

The PA Economics is a one-year specialization program in Economics. The program emphasizes the quantitative aspects of economic analysis and relies mainly on modeling and game theory for the theory part, and on econometrics and data analytics for the empirical part. Although various courses are based on case studies, applications in real examples and data analysis, the main focus of the program will be on scientific studies aimed at engineers, and thus the provided courses will use strong scientific methodologies.

The program is aimed to the students who expect to develop their career in the public sector (economic administration, ministries, regulation agency, central banks, international organization) or the private sector (consulting in business strategy, industry, bank, M&A, insurance, Financial services), or who wish to become entrepreneurs.

The PA Eco offers four specialization tracks: market strategy, corporate finance, public policy, and Master in Economics (Research track). All courses are taught in English.
Programme X2020

Research track

The “research track” of the PA Economics corresponds to the first year (M1) of the Master in Economics, which is a two-year program jointly offered by IP Paris and HEC. The objective of this program is to provide an advanced training in economics to students who want to become professional economists working in government, central banks, international organizations, consulting, and finance or in academic research.

The Master in Economics trains students to have a sound expertise in economics. The program heavily relies on advanced quantitative methods. The first year focuses on the theoretical and empirical tools of modern economic analysis, together with their most important applications. By the end of that year, students should be able to read research papers and assess the quality of economic arguments on non-trivial policy issues.

Students who choose to stay on for the second year (M2) will specialize within subfields of economics (finance, games and decision theory, industrial economics, macroeconomics, international economics, labor economics, public economics, sustainable development, and econometrics). By the end of that year, they should be familiar with the research frontier within their main area of specialization.

After finishing the M2, many strong students start a PhD in the U.S., at IP Paris, or elsewhere.

SITE WEB DU MASTER IN ECONOMICS
http://phd-in-economics.com/

Fourth-year opportunities

In France
- Corps de l’État.
- Écoles: ENSAE, Mines, Ponts (économie, gestion, finance), Télécom, HEC.
- Master en Economie de l’énergie et de l’environnement et de transports.
- Master 2 at École Polytechnique: Economics, Data Analytics and Corporate Finance, Economics for Smart Cities and Climate Policy, REST, STEEM.
- Second year (M2) of the Master in Economics at IP Paris (mainly for students from the “research track”).

Abroad
- PhD in Economics, Master in Finance, Public Administration, Operations Research.
- Academic research.
# COMPOSITION DU PROGRAMME

## Track Corporate Finance

### First period

2 Mandatory courses

- **ECO552A** – Applied Econometrics 1
- **ECO554** – Corporate Finance

One mandatory course among

- **ECO553** – Financial Decisions under risk 1
- **ECO570** – Blockchain 1: Bitcoin and Smart-Contracts (ENSAE)
- **ECO579** – Case studies in Corporate Finance
- **ECO579B** – Private Equity
- **ECO652** – Valuation of start-ups

One course among

- **ECO511** – Research Project in Applied or Theoretical Economics
- **ECO553** – Financial Decisions under risk 1 (if not chosen)
- **ECO556** – Industrial Organization
- **ECO557** – Market Design
- **ECO559** – Urban Economics and Real Estate
- **ECO570** – Blockchain 1: Bitcoin and Smart-Contracts (ENSAE)
- **ECO572** – Environmental economics and corporate environmental responsibility
- **ECO579** – Case studies in Corporate Finance (if not chosen)
- **ECO579B** – Private Equity (if not chosen)
- **ECO611A** – Lecture Series
- **ECO652** – Valuation of start-ups (if not chosen)
- **INF553** – Database and Big Data, Prerequisite: INF411 (strongly recommended) or INF412
- **MAP557** – Operations Research: Mathematical Aspects and Applications

### Second period

2 Mandatory courses

- **ECO562B** – Advanced Econometrics 2
- **ECO552A** – Applied Econometrics 2, prerequisite: ECO552A/B

One mandatory course among

- **ECO568** – Advanced Corporate Finance, Prerequisite: ECO554

One course among

- **ECO563** – Financial Markets
- **ECO562** – Financial Decisions under Risk 2, prerequisite ECO553
- **ECO584** – M&A (ENSAE)
- **ECO587** – Behavioral Finance
- **ECO586/PHY560C** – Modelling of Financial Markets: an Introduction to Econophysics

One course among

- **ECO511B** – Research Project in Applied or Theoretical Economics
- **ECO563** – Financial Markets (if not chosen)
- **ECO564** – Economics of energy sectors
- **ECO567A** – Energy Economics with geography focus
- **ECO569** – Environmental Economics 2 (prerequisite ECO572)
- **ECO580** – Competition Policy (prerequisite ECO556)
- **ECO582** – Financial Decisions under Risk 2, prerequisite ECO553 (if not chosen)
- **ECO584** – M&A (if not chosen)
- **ECO585** – Economics facing nature: history and context
- **ECO586/PHY560C** – Modelling of Financial Markets: An Introduction to Econophysics (if not chosen)
- **ECO587** – Behavioral Finance (if not chosen)
- **ECO588** – Digital Economics (prerequisite ECO556)
- **ECO589** – Perspectives crois es sur les problématiques environnementales à travers l’étude de territoires
- **ECO686/PHY560C** – Modelling of Financial Markets: An Introduction to Econophysics (if not chosen)
- **ECO684** – Public Economics & Public Finance (ENSAE) (Prerequisite ECO550 or ECO431)
COMPOSITION DU PROGRAMME

Market Strategy

First period
2 Mandatory courses
ECO552A – Applied Econometrics 1/ECO552B Advanced Econometrics 1
ECO556 – Industrial Organization

One mandatory course among
ECO557 – Market Design
ECO572 – Environmental Economics (prerequisite ECO431)

One course among
ECO511 - Research Project in Applied or Theoretical Economics
ECO554 – Corporate Finance
ECO565 – Valuation of start-ups
ECO553 – Financial Decisions under risk 1
ECO557 – Market Design (if not chosen)
ECO559 Urban Economics and Real Estate
ECO570 – Blockchain 1: Bitcoin and Smart-Contracts
ECO572 – Environmental Economics (if not chosen)
ECO579 – Case studies in Corporate Finance
ECO579B – Private Equity
ECO655 – Dynamic pricing and revenue management (ENSAE)
ECO611A – Lecture Series in Economics and Finance
INF553 – Database and Big Data, Prerequisite: INF411 (strongly recommended) or INF412
MAP557 – Operations Research: Mathematical Aspects and Applications

Second period
2 Mandatory courses
ECO562B – Advanced Econometrics 2/ECO562A Applied Econometrics 2, (prerequisite: ECO552)
ECO583 – Business Economics; prerequisite ECO556

One mandatory course among
ECO580 – Competition Policy (prerequisite ECO556)
ECO588 – Digital Economics (prerequisite ECO556)
ECO680B – Big Data (for X)

One course among
ECO511B – Research Project in Applied or Theoretical Economics
ECO563 – Financial Markets
ECO564 – Economics of energy sectors
ECO567A – Energy Economics with geography focus
ECO568 – Advanced Corporate Finance, (Prerequisite: ECO554)
ECO569 – Environmental Economics 2 (prerequisite ECO572)
ECO580 – Competition Policy (prerequisite ECO556) if not chosen
ECO581 – Economics of Biodiversity
ECO582 – Financial Decisions under Risk 2, (Prerequisite: ECO553)
ECO584 – Mergers and Acquisitions (ENSAE)
ECO585 – Economics facing nature: history and context
ECO587 – Behavioral Finance
ECO588 – Digital Economics (Prerequisite ECO556) if not chosen
ECO589 – Perspectives crois es sur les problématiques environnementales à travers l’étude de territoires
ECO660 – New technologies and Sharing Economy
ECO664 – Blockchain 2 : Advanced topics on Blockchain and Platform Design
ECO680B – Big Data (for X) if not chosen
ECO684 – Public Economics & Public Finance (ENSAE)
COMPOSITION DU PROGRAMME

Master in Economics

All is mandatory

First period

ECO511 – Research Project in Applied or Theoretical Economics
ECO550 – Microeconomics 1
ECO551 – Macroeconomics 1
ECO552B – Advanced Econometrics 1
ECO558 – Time Series Econometrics

Second period

ECO511B – Research Project in Applied or Theoretical Economics
ECO560 – Microeconomics 2
ECO561 – Macroeconomics 2
ECO562B – Advanced Econometrics 2

Public Policy

First period

1 Mandatory course
ECO552A – Applied Econometrics 1/ECO552B Advanced Econometrics 1

Two mandatory course among
ECO550 – Microeconomics 1 (compulsory if ECO431 not passed)
ECO556 – Industrial Organization
ECO557 – Market Design
ECO572 – Environmental Economics
ECO559 – Urban Economics and Real Estate

One course among
ECO550 – Microeconomics 1 (if not chosen)
ECO551 – Research Project in Applied or Theoretical Economics
ECO553 – Financial Decisions under Risk 1
ECO554 – Corporate Finance
ECO556 – Industrial Organization (if not chosen)
ECO557 – Market Design (if not chosen)
ECO559 – Urban Economics and Real Estate (if not chosen)
ECO570 – Blockchain 1: Bitcoin and Smart-Contracts
ECO572 – Environmental Economics (if not chosen)
ECO579 – Case studies in Corporate Finance
ECO579B – Private Equity
ECO611A – Lecture Series
INF553 – Database and Big Data, Prerequisite: INF411 (strongly recommended) or INF412
MAP557 – Operations Research: Mathematical Aspects and Applications
Second period
1 Mandatory course
ECO562B – Advanced Econometrics 2/ECO562A Applied Econometrics 2, (Prerequisite: ECO552)
1 mandatory course among
ECO561 – Macroeconomics 2
ECO580 – Competition Policy
ECO684 – Public Economics and Public Finance (ENSAE)

2 courses among
ECO511B – Research Project in Applied or Theoretical Economics
ECO561 – Macroeconomics 2 (if not chosen)
ECO563 – Financial Markets
ECO564 – Economics of energy sectors
ECO567A – Energy Economics with geography focus
ECO568 – Advanced Corporate Finance, (Prerequisite: ECO554)
ECO569 – Environmental Economics 2 (Prerequisite ECO572)
ECO580 – Competition Policy (Prerequisite ECO556)
ECO680B – Big Data (for X)
ECO581 – Economics of Biodiversity
ECO582 – Financial Decisions under Risk 2, (Prerequisite: ECO553)
ECO585 – Economics facing nature: history and context
ECO587 – Behavioral Finance
ECO588 – Digital Economics (Prerequisite ECO556)
ECO589 – Perspectives croisés sur les problématiques environnementales à travers l'étude de territoires
ECO684 – Blockchain 2: Advanced topics on Blockchain and Platform Design
ECO688 – Public Economics and Public Finance (ENSAE) (if not chosen)

In order to complement theoretical knowledge acquired during the courses, Project ECO511 provides students with opportunities to work on a topic in applied economics, with some empirical ingredients or applied economic theory. Students work in groups of two or three members, and they are graded during an oral exam in March. A written report is submitted a week before the oral exam. Academic tutors provide topics, and meet the students on regular basis to supervise their work. The list of topics is provided at the end of September. The allocation of the groups will be on the first-come-first-serve basis. Any topics proposed by the students/any arrangements are to be discussed individually.

Approximate timeline
• September: announcement of the subject list by the department
• Beginning of October: registration, beginning of work
• Beginning of December: mid-term report
• Beginning of March: final report
• Mid-March, oral exam

Semester 3
Stage de recherche (Research Internship)
ECO581 – Internship in Microeconomics/Corporate/Environmental Sector
ECO592 – Internship in International Economics/Public Policy
ECO593 – Internship in Banking/Finance

In the third semester, students do an internship of 16-weeks’ minimum. The objective of this research internship is to provide students with opportunities to apply economic theory in practice. The students are expected to deliver application of economic theory into practice in a public or private institution, or conduct economic research in an academic institution.