

ÉCONOMIE

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🌐 Département d'Économie

Program Description

The PA Economics is a one-year and objectives specialization program in Economics. The program emphasizes the quantitative aspects of economic analysis. Core courses rely mainly on modeling and game theory for the theory part, econometrics and data analytics for the empirical part. Applied courses extend these concepts to corporate finance and economic activity analysis. 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 at 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, venture

capital, 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.

Fourth-year opportunities

In France

- ▶ Corps de l'État.
- ▶ ENSAE, Mines, Ponts (economics management, finance), Télécom, HEC.
- ▶ Master 2 at École Polytechnique: MS&T Economics, Data Analytics and Corporate Finance, Economics for Smart Cities and Climate Policy, Data and Economics for Public Policy.
- ▶ Second year (M2) of the Master in Economics (mainly for students from the "research track").

Abroad

- ▶ PhD in Economics, Master in Finance, Public Administration, Operations Research
- ▶ Master in Business Analytics, Economics, Finance, Public Administration, Technology and Management, International Affairs, Operations Research.
- ▶ Academic research

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.

 [Website of the Master in Economics](#)

Course choice rules

The students must register to, follow and pass four courses per semester. The available course choice is listed in each track. Some courses are mandatory in each track. Students must follow either the full Applied econometrics sequence or the full Advanced Econometrics sequence during the year.

Taking courses outside the list (“panachage”) is allowed only for one course per year. If a student wants to choose a second course outside our PA, they must send a motivated request to the Students outside PA ECO wanting to take Economics courses, must contact the Head of Program.

The research track (master) is composed of a compulsory common core.

General Prerequisites

In order to choose PA Economics, in principle the students must have passed ECO_41031_EP Microéconomie or ECO_42032_EP Macroéconomie in their second year (2A).

ECO_42032_EP is a prerequisite for the research track, APM_41033_EP Statistiques is strongly recommended.

ECO_41031_EP is a prerequisite for Public Policy track. If not passed, ECO_51650_EP becomes mandatory in the track.

Prerequisites for courses

- ▶ ECO_51052_EP Applied Econometrics 1 for ECO_52062_EP Applied Econometrics 1
- ▶ ECO_51652_EP Advanced Econometrics 1 for ECO_52662_EP Advanced Econometrics 2
- ▶ ECO_51054_EP Corporate Finance for ECO_52068_EP Advanced Corporate Finance
- ▶ ECO_51053_EP Financial Decisions under risk 1 for ECO_52182_EP Financial Decisions under risk 2
- ▶ ECO_41031_EP Microéconomie for ECO_5TO13_AE Public Economics and Public Finance
- ▶ ECO_51172_EP Environmental Economics for ECO_52069_EP Environmental Economics 2
- ▶ ECO_41031_EP Microéconomie for ECO_51172_EP Environmental Economics
- ▶ ECO_51056_EP Industrial Organization for ECO_52180_EP Competition Policy, ECO_52183_EP Business Economics and ECO_52188_EP Digital Economics

Semester 1 and 2

Elective Applied projects

ECO_50P11_EP – Research Project in Applied or Theoretical Economics through 1st and 2nd semester, it replaces two courses, one per semester.

In order to complement theoretical knowledge acquired during the courses, Project ECO_50P11_EP 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. A mid term report is submitted for the first semester grade.

Approximate timeline

- ▶ September: announcement of the subject list by the department
- ▶ Beginning of October: registration, beginning of work
- ▶ Beginning of December: mid-term report (Semester 1)
- ▶ Beginning of March: final report (Semester 2)
- ▶ Mid- March, oral exam

Semester 3

Stage de recherche (Research Internship)

ECO_52991_EP – Internship in Microeconomics/Corporate/Environmental Sector
ECO_52992_EP – Internship in International Economics/Public Policy
ECO_52993_EP – 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.

COMPOSITION DU PROGRAMME

TRACK CORPORATE FINANCE

First period

2 Mandatory courses

ECO_51052_EP – Applied Econometrics 1 or **ECO_51652_EP** – Advanced Econometrics 1
ECO_51054_EP – Corporate Finance

One mandatory course among

ECO_51053_EP – Financial Decisions under risk 1
ECO_5MA12_AE – Digital Finance: Cryptocurrencies and Blockchains (ENSAE)
ECO_51179_EP – Case studies in Corporate Finance
ECO_51180_EP – Private Equity
ECO_51152_EP – Valuation of start-ups

One course among

ECO_50P11_EP – Research Project in Applied or Theoretical Economics
ECO_51053_EP – Financial Decisions under risk 1 (*if not chosen*)
ECO_51056_EP – Industrial Organization
ECO_51057_EP – Market Design
ECO_51059_EP – Urban Economics and Real Estate
ECO_5MA12_AE – Digital Finance: Cryptocurrencies and Blockchains (ENSAE)
ECO_51172_EP – Environmental economics
ECO_51179_EP – Case studies in Corporate Finance (*if not chosen*)
ECO_51180_EP – Private Equity (*if not chosen*)
ECO_51152_EP – Valuation of start-ups (*if not chosen*)
ECO_5T013_AE – Public Economics & Public Finance (ENSAE)
CSC_51053_EP – Database and Management Systems,
(*prerequisite: CSC_41011_EP (strongly recommended) or CSC_41012_EP*)
APM_51057_EP – Operations Research: Mathematical Aspects and Applications
ECO_51060_EP – International Economics

Second period

2 Mandatory courses

ECO_52062_EP – Applied Econometrics 2 or **ECO_52662_EP** – Advanced Econometrics 2
ECO_52068_EP – Advanced Corporate Finance, (*prerequisite: ECO_51054_EP*)

One mandatory course among

ECO_52063_EP – Financial Markets
ECO_52066_EP – Law and finance
ECO_52182_EP – Financial Decisions under Risk 2, (*prerequisite: ECO_51053_EP*)
ECO_52187_EP – Behavioral Finance

One course among

ECO_50P11_EP – Research Project in Applied or Theoretical Economics
ECO_52063_EP – Financial Markets (*if not chosen*)
ECO_52064_EP – Economics of energy sectors
ECO_52066_EP – Law and finance (*if not chosen*)
ECO_52067_EP – Energy Economics with geography focus
ECO_52069_EP – Environmental Economics 2 (*prerequisite ECO_51172_EP*)
ECO_52180_EP – Competition Policy (*prerequisite ECO_51056_EP*)
ECO_52182_EP – Financial Decisions under Risk 2, (*prerequisite ECO_51053_EP*)
ECO_52185_EP – Economics facing nature: history and context
MDC_52060_EP – Modelling of Financial Markets: An Introduction to Econophysics (*if not chosen*)
ECO_52187_EP – Behavioral Finance (*if not chosen*)
ECO_52188_EP – Digital Economics (*prerequisite ECO_51056_EP*)
ECO_52189_EP – Perspectives croisées sur les problématiques environnementales à travers l'étude de territoires
ECO_52184_EP – Machine Learning for Causal Inference in Economics
ECO_52111_EP – Lecture series in Finance and Economics
ECO_52065_EP – Economics of Migration

COMPOSITION DU PROGRAMME

MARKET STRATEGY

First period

Two Mandatory courses

ECO_51052_EP – Applied Econometrics 1 or **ECO_51652_EP** Advanced Econometrics 1

ECO_51056_EP – Industrial Organization

One mandatory course among

ECO_51057_EP – Market Design

ECO_51172_EP – Environmental Economics

One course among

ECO_50P11_EP – Research Project in Applied or Theoretical Economics

ECO_51053_EP – Financial Decisions under risk 1

ECO_51054_EP – Corporate Finance

ECO_51057_EP – Market Design (*if not chosen*)

ECO_51059_EP – Urban Economics and Real Estate

ECO_5MA12_AE – Digital Finance: Cryptocurrencies and Blockchains (ENSAE)

ECO_51172_EP – Environmental Economics (*if not chosen*)

ECO_51179_EP – Case studies in Corporate Finance

ECO_51180_EP – Private Equity

ECO_51152_EP – Valuation of start-ups

ECO_5T019_AE – Dynamic pricing and revenue management (ENSAE)

ECO_5T013_AE – Public Economics & Public Finance (ENSAE)

CSC_51053_EP – Database and Management Systems, (*prerequisite: CSC_41011_EP (strongly recommended) or CSC_41012_EP*)

APM_51057_EP – Operations Research: Mathematical Aspects and Applications

ECO_51060_EP – International Economics

Second period

Two Mandatory courses

ECO_52062_EP – Applied Econometrics 2 or **ECO_52662_EP** – Advanced Econometrics 2

ECO_52183_EP – Business Economics

One mandatory course among

ECO_52180_EP – Competition Policy (*prerequisite: ECO_51056_EP*)

ECO_52188_EP – Digital Economics (*prerequisite: ECO_51056_EP*)

ECO_52184_EP – Machine Learning for Causal Inference in Economics

One course among

ECO_50P11_EP – Research Project in Applied or Theoretical Economics

ECO_52063_EP – Financial Markets

ECO_52064_EP – Economics of energy sectors

ECO_52066_EP – Law and Finance

ECO_52067_EP – Energy Economics with geography focus

ECO_52068_EP – Advanced Corporate Finance, (*Prerequisite: ECO_51054_EP*)

ECO_52069_EP – Environmental Economics 2 (*prerequisite ECO_51172_EP*)

ECO_52180_EP – Competition Policy (*prerequisite ECO_51056_EP (if not chosen)*)

ECO_52180_EP – Economics of Biodiversity

ECO_52182_EP – Financial Decisions under Risk 2, (*prerequisite: ECO_51053_EP*)

ECO_52185_EP – Economics facing nature: history and context

ECO_52187_EP – Behavioral Finance

ECO_52188_EP – Digital Economics (*prerequisite: ECO_51056_EP (if not chosen)*)

ECO_52189_EP – Perspectives croisées sur les problématiques environnementales à travers l'étude de territoires

ECO_52111_EP – Lecture Series in Economics and Finance

ECO_54460_EP – New technologies and Sharing Economy

ECO_52184_EP – Machine Learning for Causal Inference in Economics

ECO_52065_EP – Economics of Migration

COMPOSITION DU PROGRAMME

PUBLIC POLICY

First period

One Mandatory course

ECO_51052_EP – Applied Econometrics 1 or **ECO_51652_EP** – Advanced Econometrics 1

Two mandatory course among

ECO_51650_EP – Microeconomics 1 (*compulsory if ECO_41031_EP not passed*)

ECO_51056_EP – Industrial Organization

ECO_51057_EP – Market Design

ECO_51059_EP – Urban Economics and Real Estate

ECO_51172_EP – Environmental Economics

ECO_5T013_AE – Public Economics and Public Finance (ENSAE),

(prerequisite: ECO_41031_EP)

One course among

ECO_50P11_EP – Research Project in Applied or Theoretical Economics

ECO_51650_EP – Microeconomics 1 (*if not chosen*)

ECO_51053_EP – Financial Decisions under Risk 1

ECO_51054_EP – Corporate Finance

ECO_51056_EP – Industrial Organization (*if not chosen*)

ECO_51057_EP – Market Design (*if not chosen*)

ECO_51059_EP – Urban Economics and Real Estate (*if not chosen*)

ECO_5MA12_AE – Digital Finance: Cryptocurrencies and Blockchains

ECO_51172_EP – Environmental Economics (*if not chosen*)

ECO_51179_EP – Case studies in Corporate Finance

ECO_51180_EP – Private Equity

ECO_5T013_AE – Public Economics and Public Finance (ENSAE) (*if not chosen*)

CSC_51053_EP – Database and Management Systems,

(prerequisite: CSC_41011_EP (strongly recommended) or CSC_41012_EP)

APM_51057_EP – Operations Research: Mathematical Aspects and Applications

ECO_51060_EP – International Economics

Second period

One Mandatory course

ECO_52062_EP – Applied Econometrics 2 or **ECO_52662_EP** – Advanced Econometrics 2

One mandatory course among

ECO_52180_EP – Competition Policy

ECO_52661_EP – Macroeconomics 2

Two courses among

ECO_50P11_EP – Research Project in Applied or Theoretical Economics

ECO_52661_EP – Macroeconomics 2 (*if not chosen*)

ECO_52063_EP – Financial Markets

ECO_52064_EP – Economics of energy sectors

ECO_52066_EP – Law and Finance

ECO_52067_EP – Energy Economics with geography focus

ECO_52068_EP – Advanced Corporate Finance, (*prerequisite: ECO_51054_EP*)

ECO_52069_EP – Environmental Economics 2 (*prerequisite: ECO_51172_EP*)

ECO_52180_EP – Competition Policy (*prerequisite: ECO_51056_EP*)

ECO_52181_EP – Economics of Biodiversity

ECO_52182_EP – Financial Decisions under Risk 2, (*prerequisite: ECO_51053_EP*)

ECO_52185_EP – Economics facing nature: history and context

ECO_52187_EP – Behavioral Finance

ECO_52188_EP – Digital Economics (*prerequisite: ECO_51056_EP*)

ECO_52189_EP – Perspectives croisées sur les problématiques environnementales à travers l'étude de territoires

ECO_52111_EP – Lecture Series in Economics and Finance

ECO_52184_EP – Machine Learning for Causal Inference in Economics

ECO_52065_EP – Economics of Migration

COMPOSITION DU PROGRAMME

MASTER IN ECONOMICS

All courses are mandatory

First period

ECO_50P11_EP – Research Project in Applied or Theoretical Economics

ECO_51650_EP – Microeconomics 1

ECO_51651_EP – Macroeconomics 1

ECO_51652_EP – Advanced Econometrics 1

ECO_51658_EP – Time Series Econometrics

All courses are mandatory

Second period

ECO_50P11_EP – Research Project in Applied or Theoretical Economics

ECO_52660_EP – Microeconomics 2

ECO_52661_EP – Macroeconomics 2

ECO_52662_EP – Advanced Econometrics 2