

Ecole Polytechnique
Présentation des PA
Département d'Economie

Septembre 2024



Le Programme d'Approfondissement en Economie

- ▶ Un PA, quatre parcours.
- ▶ Les principaux champs d'étude sont:
 - ▶ les décisions des acteurs économiques,
 - ▶ la finance,
 - ▶ l'analyse des données.
- ▶ Accent sur les méthodes quantitatives et les méthodes de traitement des données;
- ▶ Tous les cours sont en anglais.
- ▶ Contacts:
 - ▶ CREST.science
 - ▶ Resp. du PA: marie-laure.allain@polytechnique.edu
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PA Eco: parcours et perspectives

▶ Parcours:

▶ Corporate Finance (CF)

- ▶ Corporate finance (banque d'investissement, M&A, services financiers, venture capital, assurance...), entrepreneur;

▶ Marchés et Stratégie d'Entreprise (M)

- ▶ Consulting, stratégie, entrepreneur, agences de régulation, ministères ...

▶ Académique (M1 Master in Economics) - (A - contact: J.B. Michau)

- ▶ M2 recherche, PhD track, organisations internationales

▶ Economie Publique (P)

- ▶ Organisations internationales, secteur public, administrations, banques centrales...

Opportunités de 4A

- ▶ En France:
 - ▶ Corps de l'Etat
 - ▶ Ecoles: ENSAE, Mines, Ponts (Economie, gestion, finance), Télécom, HEC
 - ▶ Master 2 Ecole Polytechnique (M2 Master in Economics; M2 Economics, Data Analytics and Corporate Finance; M2 Economics for Smart Cities and Public Policy); PhD
- ▶ A l'étranger:
 - ▶ PhD, Masters in Economics, Finance, Public Policy, Business Analytics, Public Administration, Technology and Management, International Affairs, Operations Research
 - ▶ Ex: Columbia University, UC Berkeley, MIT, LSE, Imperial College, UCL, ...

Structure du programme

- ▶ S1: 4 cours scientifiques
 - ▶ Cours fondamentaux obligatoires selon le parcours (dont data/ économétrie pour tous les tracks)
 - ▶ Electifs.
- ▶ S2: 4 cours scientifiques
 - ▶ Cours appliqués obligatoires selon le parcours
 - ▶ Electifs.
- ▶ Possibilité de faire un projet (ECO511) sur deux trimestres pour remplacer un ou deux cours (à discuter individuellement avec le directeur du PA + l'enseignant encadrant le projet).
- ▶ Panachage: un seul panachage sur l'année, à faire valider par le directeur du PA.
- ▶ + cours langues, HSS, MIE, sport...

Track Corporate Finance - S1

- ▶ 2 cours obligatoires
 - ▶ ECO552A Applied Econometrics 1 ou ECO 552B Advanced Econometrics 1
 - ▶ ECO554 - Corporate Finance
- ▶ 1 cours obligatoire parmi
 - ▶ ECO553 - Financial Decisions under Risk 1
 - ▶ ECO579 - Case studies in Corporate Finance
 - ▶ ECO652 - Valuation of start-ups
 - ▶ ECO579B - Private Equity
 - ▶ ECO570 - Blockchain 1: bitcoin and smart contracts (ENSAE)

Track Corporate Finance - S1

- ▶ 1 cours au choix parmi les précédents ou:
 - ▶ ECO556 Industrial Organization
 - ▶ ECO557- Market Design
 - ▶ ECO572 - Environmental economics and corporate environmental responsibility
 - ▶ INF553 - Database and Management systems, Prerequisite: INF411 (strongly recommended) or INF412
 - ▶ MAP557 - Operations Research: Mathematical Aspects and Applications
 - ▶ ECO559 - Urban Economics and Real Estate
 - ▶ ECO684 - Public Eco and Public Finance (COURS ENSAE) - prereq. ECO550 ou ECO431
 - ▶ ECO 511 (P1) - projet de recherche
 - ▶ ECO553 , ECO579 , ECO652, ECO579B, ECO570

Track Corporate Finance - S2

- ▶ 2 cours obligatoires parmi:
 - ▶ ECO562A Applied Econometrics 2 ou ECO 562B Advanced Econometrics 2 (prereq. ECO552 A/B)
 - ▶ ECO568 - Advance Corporate Finance (prereq. ECO554)
- ▶ 1 cours obligatoire parmi
 - ▶ ECO563 - Financial Markets
 - ▶ ECO566 - Law and Finance
 - ▶ ECO582 - Financial Decisions under Risk 2 (prereq. ECO553)
 - ▶ ECO587 - Behavioral Finance
 - ▶ ECO586/PHY560C - Modeling of financial markets: an introduction to econophysics

Track Corporate Finance - S2

- ▶ 1 cours au choix parmi les 5 précédents ou:
 - ▶ ECO611A - Lecture Series in Economics and Finance
 - ▶ ECO569 - Environmental Economics 2 (prereq. ECO572)
 - ▶ ECO580 - Competition Policy (prereq. ECO556)
 - ▶ ECO588 - Digital Economics (prereq. ECO556)
 - ▶ ECO564 - Economics of the Energy sector
 - ▶ ECO 567A: Energy Economics with Geography Focus
 - ▶ ECO680B - Big Data
 - ▶ ECO585 - Economics facing nature: history and context
 - ▶ ECO589 : Perspectives croisées sur les problématiques environnementales à travers l'étude de territoires
 - ▶ Eco 511 (P2) - Research project in applied or theoretical economics

Track Market Strategy - S1

- ▶ 2 cours obligatoires
 - ▶ ECO552A Applied Econometrics 1 ou ECO 552B Advanced Econometrics 1
 - ▶ ECO556 Industrial Organization
- ▶ 1 cours obligatoire parmi
 - ▶ ECO557- Market Design
 - ▶ ECO572 - Environmental economics and corporate environmental responsibility (prereq. ECO431)

Track Market Strategy - S1

- ▶ Un cours au choix parmi les précédents ou:
 - ▶ ECO559 - Urban Economics and Real Estate
 - ▶ ECO554 - Corporate Finance
 - ▶ ECO553 - Financial Decisions under Risk 1
 - ▶ ECO579 - Case studies in Corporate Finance
 - ▶ ECO652 - Valuation of start-ups
 - ▶ ECO579B - Private Equity
 - ▶ ECO570 Blockchain 1: Bitcoin and Smart-contract
 - ▶ ECO 655 : Dynamic pricing and revenue management (ENSAE)
 - ▶ ECO684 - Public Eco and Public Finance (COURS ENSAE) - prereq. ECO550 ou ECO431
 - ▶ INF553 - Database and Management systems, Prerequisite: INF411 (strongly recommended) or INF412
 - ▶ MAP557 - Operations Research: Mathematical Aspects and Applications
 - ▶ ECO 511 (P1) - projet de recherche

Track Market Strategy - S2

- ▶ 2 cours obligatoires:
 - ▶ ECO562A Applied Econometrics 2 ou ECO 562B Advanced Econometrics 2 (prereq. ECO552)
 - ▶ ECO583 - Business Economics (prereq. ECO556)
- ▶ 1 cours obligatoire parmi
 - ▶ ECO580 - Competition Policy (prereq. ECO556)
 - ▶ ECO588 - Digital Economics (prereq. ECO556)
 - ▶ ECO680 B- Big Data

Track Market Strategy - S2

- ▶ Un cours au choix parmi les précédents ou:
 - ▶ ECO660 - New technologies and sharing economy
 - ▶ ECO611A - Lecture Series in Economics and Finance
 - ▶ ECO568 - Advanced Corporate Finance (prereq. ECO554)
 - ▶ ECO582 - Financial Decisions under Risk 2 (prereq. ECO553)
 - ▶ ECO566 - Law and Finance
 - ▶ ECO563 - Financial Markets
 - ▶ ECO587 - Behavioral Finance
 - ▶ ECO569 - Environmental economics 2 (prereq. ECO572)
 - ▶ ECO581 - Economics of biodiversity
 - ▶ ECO585 - Economics facing nature : history and context
 - ▶ ECO564 - Economics of the Energy sector
 - ▶ ECO 567A - Energy Economics with Geography Focus
 - ▶ ECO589 : Perspectives croisées sur les problématiques environnementales à travers l'étude de territoires
 - ▶ ECO 511 (P2) - Projet de recherche

Track Public Policy - S1

Prereq. pour le track: ECO431 - ou ECO550

- ▶ 1 cours obligatoire
 - ▶ ECO552A - Applied Econometrics 1 ou ECO 552B - Advanced Econometrics 1
- ▶ 2 cours obligatoires parmi
 - ▶ ECO556 - Industrial Organization
 - ▶ ECO557- Market Design
 - ▶ ECO559 - Urban Economics and Real Estate
 - ▶ ECO550 - Microeconomics 1 (obligatoire si ECO431 non validé)
 - ▶ ECO572 - Environmental Economics
 - ▶ ECO684 - Public Eco and Public Finance (COURS ENSAE) - prereq. ECO550 ou ECO431

Track Public Policy - S1

- ▶ Un cours au choix parmi les précédents ou:
 - ▶ INF553 - Database and Management systems, Prerequisite: INF411 (strongly recommended) or INF412
 - ▶ MAP557 - Operations Research
 - ▶ ECO554 - Corporate Finance
 - ▶ ECO553 - Financial Decisions under Risk 1
 - ▶ ECO579 - Case studies in Corporate Finance
 - ▶ ECO579B - Private Equity
 - ▶ ECO570 - Blockchain 1: bitcoin and smart-contracts
 - ▶ ECO511 (P1) - Projet de recherche

Track Public Policy - S2

- ▶ 1 cours obligatoire:
 - ▶ ECO562A Applied Econometrics 2 ou ECO 562B Advanced Econometrics 2 (prereq. ECO552)
- ▶ 1 cours obligatoire parmi
 - ▶ ECO580 - Competition Policy (prereq. ECO556)
 - ▶ ECO561 - Macroeconomics 2 (prereq. ECO 431)

Track Public Policy - S2

- ▶ Deux cours au choix parmi les précédents ou:
 - ▶ ECO611A - Lecture Series in Economics and Finance
 - ▶ ECO568 - Advanced Corporate Finance (prereq. ECO554)
 - ▶ ECO582 - Financial Decisions under Risk 2 (prereq. ECO553)
 - ▶ ECO569 - Environmental economics 2 (prereq. ECO572)
 - ▶ ECO588 - Digital Economics (prereq. ECO556)
 - ▶ ECO563 - Financial Markets
 - ▶ ECO566 - Law and Finance
 - ▶ ECO587 - Behavioral Finance
 - ▶ ECO564 - Economics of the Energy sector
 - ▶ ECO 567A: Energy Economics with Geography Focus
 - ▶ ECO680 B - Big Data
 - ▶ ECO581 - Economics of biodiversity
 - ▶ ECO585 - Economics facing nature : history and context
 - ▶ ECO589 : Perspectives croisées sur les problématiques environnementales à travers l'étude de territoires
 - ▶ ECO 511 (P2) - Projet de recherche

Track Master In Economics - contact: JB Michau

Tous les cours sont obligatoires

- ▶ S1 - 4 cours obligatoires
 - ▶ ECO550 - Microeconomics 1
 - ▶ ECO551 - Macroeconomics 1
 - ▶ ECO552B - Advanced Econometrics 1
 - ▶ ECO558 - Time Series Econometrics
 - ▶ ECO511P1- Economics Project
- ▶ S2 - 4 cours obligatoires
 - ▶ ECO560 - Microeconomics 2
 - ▶ ECO561 - Macroeconomics 2
 - ▶ ECO562B - Advanced Econometrics 2
 - ▶ ECO511P2 - Economics Project

Projet et stages

- ▶ ECO511: Applied Economics Project
- ▶ Stages

Projet ECO511

- ▶ Pour compléter les apprentissages théoriques, ECO511 permet de travailler sur un sujet d'économie appliquée par groupes de deux ou trois ;
- ▶ Remise du mémoire et soutenance en mars.
- ▶ Le tuteur propose un sujet, par exemple:
 - ▶ L'impact des récessions sur le marché du travail
 - ▶ On the political economy forces in income tax systems
 - ▶ An analysis of the impact of a demand shock for coca on economic conditions in Colombia
 - ▶ Evaluation d'un dispositif de lycées d'élite en Tunisie
 - ▶ Spreads on European sovereign debt since 1999: the impact of the Greek crisis
 - ▶ Measuring the stance of monetary policy using expectations of interest rates, inflation and economic activity
 - ▶ etc.

Projet ECO511

- ▶ Déroulement du projet
 - ▶ Septembre: le Dept propose des sujets
 - ▶ Octobre: inscription et début du travail
 - ▶ Décembre: remise du rapport intermédiaire
 - ▶ Fin février / début mars: remise du rapport final
 - ▶ Mars: soutenance

Stage de Recherche

- ▶ L'objet du stage de recherche est de donner l'opportunité aux élèves d'appliquer les connaissances théoriques acquises en PA.
- ▶ Stage dans une institution publique ou privée ou dans un labo académique.
- ▶ 16 semaines minimum (Mars - Aout)
- ▶ Trois options:
 - ▶ ECO591 - Economie d'entreprise et microéconomie
contact: Thierry Kamionka
 - ▶ ECO592 - Economie internationale et politique économique
contact: Alessandro Riboni
 - ▶ ECO593 - Banque - finance
contact: Olivier Gossner