December 3, 2025

ÉCOLE NATIONALE DES PONTS ET CHAUSSÉES

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Sustainable and Green Finance
Paris Applied Maths Semester

Agenda of the webinar

- Presentation of ENPC
- Sustainable and Green Finance + Q/A
- Paris Applied Maths Semester + Q/A
- How to apply ?
- Last Q/A

ÉCOLE NATIONALE DES PONTS ET CHAUSSÉES

IP PARIS

Ecole nationale des ponts et chaussées

Ecole nationale des ponts et chaussées

The Graduate school for Ecological Transition

Top #4 French national Ranking in Engineering Education

1747
Established

RESEARCH EXCELLENCE

- Economics & social sciences
- Environmental sciences and engineering
- Mechanics and physics of materials and structures
- Mathematics and computer science

14 Industrial research chairs

1500 STUDENTS

85% master level
15% PhD level
31% of women

EDUCATION PROGRAMS

- Civil and Structural Engineering
- City, Environment, Transportation
- Industrial Engineering
- Economics, Management, Finance
- Mechanical Engineering and Materials Science
- Applied Mathematics and Computer Science

GLOBAL REACH

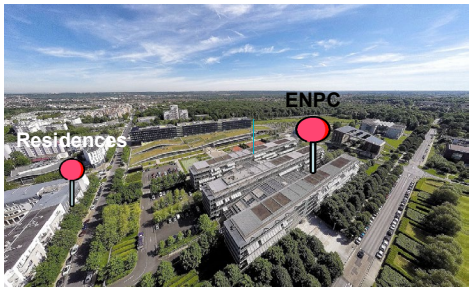
+70 International agreements
40% international students
+20,000 alumni worldwide

https://ecoledesponts.fr/en

Ecole nationale des ponts et chaussées

A vibrant **student life**

More than **40 student associations and clubs** in Arts, Sports, Solidarity, AI, Entrepreneurship, Games, Food & Wine…



16 sports available

Sport facilities on campus : 2 urban foot fields, 3 tennis courts, 1 gym and 1 basket/volley

Near to the campus : Gymnasium, swimming pool, rowing, …

On-Campus accommodation: **320 housings**

All international students get an accommodation

On-going support for your **administrative procedures**

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Sustainable and Green Finance

Sustainable and Green Finance

- **Main objectives**
  - **Qualitative knowledge**
    - Understand the challenges of the ecological transition
    - Master framework and tools of sustainable and green finance
  - **Quantitative knowledge**
    - Identify, measure, and evaluate climate-related risks
    - Analyze various dimensions involved in sustainable projects
- **Target audience**
  - **Prerequisites:** Bachelor's degree in engineering or economics
  - **Interests:** Ecological transition from a financial perspective
- **Duration**
  - **1 semester:** from early September to end of January

Sustainable and Green Finance

- **Courses in engineering sciences** — **5 ECTS**

Environmental impacts
Life cycle assessment (2 ECTS)

Climate change
Climate risk assessment (1,5 ECTS)
Climate change science (1,5 ECTS)

- **Courses in economics and finance** — **16,5 ECTS**

At the policy level
De-risking climate (3 ECTS)
Financial regulation (1,5 ECTS)

At the project level
Cost-benefit analysis (3 ECTS)
Project finance (3 ECTS)

At the firm level
ESG analysis (1,5 ECTS)
Green financing (1,5 ECTS)
Credit risk (3 ECTS)

Sustainable and Green Finance

- **Conference cycle** — **1 ECTS**
- **Capstone projects** — **5 ECTS**

Compass Lexecon
Electricity balancing platforms' impact assessment

Institut Louis Bachelier
Transition risks and climate stress testing for financial assets

Axa Climate
Proposing a methodology to quantify climate adaptation benefits

Banque de France
Natural disasters, real estate investment, and financial stability

- **Remarks**
  - Total ECTS: 27,5
  - Courses and ECTS may slightly change
  - Other courses of ENPC may be added

Sustainable and Green Finance

❑ Faculty profile

❑ Career opportunities

Industry
EDF, Veolia

Investment funds
Omnes Capital, Green Yellow

Consulting
Carbone 4, Accuracy

Banks
BNP, Société Générale

Public organizations
OECD, Banque de France

Insurers
AXA, CA Pacifica

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Sustainable and Green finance
International Student Perspective

Program Selection ?

- **Academically Rigorous & Diverse**

Looked for a learning environment that combined academic depth with an internationally diverse perspective.

- **Theory Meets Real-World**

The SEGF program uniquely balances theoretical knowledge with practical, real-world application in sustainable and green finance.

- **Strong Network**

Beyond the curriculum, the program offers a robust international network, connecting students and professionals worldwide.

First weeks & Integration.

Arriving in a new country presents its challenges . A new culture, new expectations and a different academic style.

Welcoming atmosphere made this transition much smoother.

- Supportive orientation sessions
- Engaging group assignments
- Open-door policy from staff

Experience and SO FAR ?

- **Academic Experience.**
  - **Hands-On & Relevant Courses.**
    - The coursework is applied directly tackling current sustainability challenges. Encouraging critical thinking and innovative solutions.
  - **Engaging Classroom Discussions.**
    - Discussions with students from diverse cultural and professional backgrounds provided unique, global views.
  - **Robust Career Resources.**
    - Access to industry insights and tailored guidance helped me understand and navigate career paths.

- **What I have Gained**
  - Broader global perspective
  - Strong academic and professional growth
  - Meaningful friendships and connections
  - Confidence in navigating a sustainability focused career

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Paris Applied Maths Semester

Paris Applied Maths Semester

- **Main objective**
  - **Study advanced topics in ``applied mathematics''** (Analysis, probabilities, statistics, optimization).
  - **Acquire skills** in modeling, calculation, and design tools.
- **Target audience**
  - **Prerequisites:** Senior Bachelor Students (last year) in mathematics or engineering.
  - **Interests:** mathematics, practical implementation.
- **Duration**
  - **1 semester:** from early September to end of January.

Paris Applied Maths Semester

❑ Specific features

- ➢ **Balance** between theoretical and practical aspects (understanding and coding various algorithms)
  - ✓ Each course complemented with a (theoretical or more practical) project.
- ➢ **Teaching staff:** researchers at CERMICS (applied math department at ENPC, in Applied Probability, Modeling, Analysis and Simulation or Optimization), committed in academic research and industrial transfer.

❑ Career opportunities

- ➢ Master studies in applied mathematics/engineering.
- ➢ Long-term: PhD thesis, academic, industry, banks, insurers.

Paris Applied Maths Semester

- **Advanced Undergraduate courses**

Calculus and Modeling of PDEs
Mathematical techniques in analysis, ODEs, PDEs and their discretizations
(8 ECTS)

Analysis and Applications
Topology, integration, Fourier theory, Distribution theory, applications
(7 ECTS)

Introduction to Probability
Random variables, standard distributions, Convergence Theorems, simulation
(4 ECTS)

Introduction to Optimization
KKT conditions, simplex algorithm, decision problem modeling, applications
(4 ECTS)

Paris Applied Maths Semester

- **Basic graduate courses**

Stochastic Processes and Applications
Markov chains, brownian motion, martingales, applications
(7 ECTS)

Numerical Statistics and Data Analysis
Confidence intervals, statistical tests, practical tools
(4 ECTS)

Operations Research
Decision modeling, core algorithms, industrial applications
(4 ECTS)

Paris Applied Maths Semester

- **Other courses**

Advanced project (mandatory)
Mentored by a senior and yound researcher. Any topic present at CERMICS: Mathematical/numerical analysis; quantum physics; dynamical systems control; Monte Carlo; stochastic modeling; uncertainty quantification; applied optimization; etc.
(8 ECTS)

French classes

Sport

- **All courses and material in english.**
- **Customized training.**

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How to apply

How to apply

1. Pre-selection by your university
   - Contact your Mobility Officer

2. Nomination : Your university inform ENPC about your application.
   - Deadline : March 24th, 2026

3. Application, on our dedicated platform.
   - Deadline March 31st, 2026

4. Selection based on :
   - Your academic records
   - Your motivation
   - Your level in English :
     - B2 certificate sent before June 7th, 2026
     - TOEIC, TOEFL, IELTS, Cambridge

Any question ?

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Information on the programs

Information on ENPC

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Q/A session

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Thanks for your attention !