WELCOME TO ECOLE POLYTECHNIQUE!
MSc&T Data Science for Business

Joint Degree X- HEC Year
Year 1
Team

**Polytechnique:**

Julie Josse: Faculty - pedagogical director

Anne Chretien: Head of the Graduate Degree Program

Maelle Couvin: Coordinator of the Master Data Science for Business

QUESTIONS: MAELLE.COUVIN@POLYTECHNIQUE.EDU

**HEC:**

Vincent Fraitot: Scientific Director of the Master DSB

Marion Guiral: Program Manager of the Master DSB
Program

44 students:
12 HEC
24 International
8 X

Two World Leading Academic Institutions

• Year 1: Focus on Learning Machine Learning Methods (Theory+Application) and Internship

• Year 2: Focus on Case Studies (Learning Expeditions, Data Challenges, Hackathons) + Research Paper
TRAIN DUAL PROFILE MANAGER AND DATA SCIENTISTS TO BECOME EITHER

• THE ENTREPRENEURS WHO WILL CREATE THE FUTURE SUCCESSFUL AND IMPACTFUL STARTUPS

• THE INTRAPRENEURS WHO WILL DISRUPT BUSINESS MODELS IN EXISTING COMPANIES

• THE DATA MANAGERS WHO WILL HELP COMPANIES TO MANAGE INNOVATION

• DOUBLE SKILLS NEEDED NO MATTER THE REGION, THE SECTOR, THE COMPANY SIZE, IN OPERATION AND CONSULTING
# REFRESHERS COURSES

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<tr>
<th>Monday, September 9th</th>
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<th>Thursday, September 12th</th>
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<td>MAP536 PYTHON (besoin salle cablée)</td>
<td>MAP531 Stats - Cours - Latouche</td>
<td>MAP531 Stats - PC - Jourdain/Thin</td>
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<td>MAP530 Cours 9h-12h</td>
<td>MAP534 ML - PC – Lecorff/Kerdreux</td>
<td>MAP531 Stats - Cours - Latouche</td>
<td>MAP545 Optim/DL - Cours - Dieuleveut/Scornet</td>
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Only valid today 5 of September

Agenda on Synapse
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<td>MAP530 PC 14h-17h</td>
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YEAR 1

PERIOD 1

**MAP531** Statistics with R (4ECTS)
**MAP534** Machine Learning 1 (4ECTS)
**MAP535** Regression (4ECTS)
**MAP536** Python for Data Science (3ECTS)

PERIOD 1&2

**MAP543** Database Management (4ECTS)
**MAP547** Data Science for Business Seminars (3ECTS)

PERIOD 2

**2 Mandatory Courses**
**MAP541** Machine Learning 2 (4ECTS)
**MAP545** Optimization / Deep Learning (4ECTS)

**1 Elective Course to be chosen among** (4ECTS)
**MAP540** Capgemini Data Camp
**MAP546** Statistical Models for Health
**MAP544** Causal Inference / Reinforcement Learning
YEAR 1
First Period

MAP531 - Statistics
Pierre Latouche
Agenda: Inference, Max Likelihood, Tests

MAP535 - Regression
Karim Lounici

MAP534 - Machine Learning
Sylvain Lecorff
Agenda: Non supervised: PCA, clustering, mixture models Supervised: logistic regression, LDA

3 hours of lecture/ 3 hours of Lab

MAP536 - Python for Data Science
Scikitlearn team

Tuesday afternoon

MAP534 - Data Science for Business Seminars
Magali Payan
Dataiku, Nvidia, Criteo, Natixis (Partner of the master), etc.

Time to work and for interviews for internship
YEAR 1

INTERNSHIPS

EXAMPLES OF SUBJECTS:
- Ubisoft: fraud detection
- Dreem: testing new intervention (number of pink noise, when?) to improve sleep

Information:
- Maelle Couvin: email early/mid October
- Starts looking for an internship end of November

6 of September - Public defenses
YEAR 1
Second Period

P1 & P2 MAP543 - Database Management
Dario Colazzo

MAP531 - Deep Learning/Optimization
Erwan Scornet/Aymeric Dieuleveut

MAP541 - Machine Learning 2
Stephane Canu
Boosting/ STSNE/ Interpretable ML/ SVM,..

1 Elective Course to be chosen among

MAP540 Capgemini DataCamp Project
Real case study from data manipulation, exploration to analysis with statistical models, synthesis and communication - NLP
Example: Detect fraud in public transport via tweet/m mobile phone satisfaction with textmining

MAP546 - Marc Lavielle Statistical Models for Health

MAP544 - Julie Josse Causal Inference

Information: mail by julie josse early november
YEAR 1
Information/ Code of conduct

- Classes are mandatory. 3 unjustified absences = Grade C max. at the exam
  A: >=16
  B: >=13 and <16
  C: >=10 and <13
  D: >=7 and <10
  E: <7
  F: 0

- Compensation rule

- Respect, behave well, be considerate in speech and actions

- Benevolent environment for all, french-speaking and non french speaking

- Contact us if there is any issues
Exams:
- December 16th-20th (Period 1)
- March 16th-20th (Period 2)

Breaks:
- October 27th-November 4th
- December 22nd-January 6th
- February 23rd-March 3rd

Beginning of the internship:
March 25th
TRANSVERSE COURSES

+ Sport
+ Languages
+ Humanities and French Culture
IMPORTANT MEETINGS

- September 10th: Kick-off Seminar, eXplore your future, 9:00am Amphi Faurre
- September 19th: Presentation of the language courses, 2:30pm Amphi Faurre
- September 30th: Presentation of the sport courses, 1:00pm, Amphi Gay Lussac
- Meeting with the second year (ask Maelle Couvin)
MAIN EVENTS AT L’X

- October 7th-8th: X-Forum. Meet companies and build your professional network
- October 17th: Coupe de l’X. Sport tournament
- January 18th→20th: JSP. Ski trip
- March 15th: TSGED. Sport tournament
- More to come!
SOME BASIC RULES AND TIPS

- Check your Zimbra inbox everyday.
- Schedules might change, check SynapseS regularly.
- The academic team is here for you! Do not hesitate to come to them for any problem.
- Study regulation has to be pick up at Maëlle’s office
Questions?