

Ecole Centrale de Lille
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Option DAD

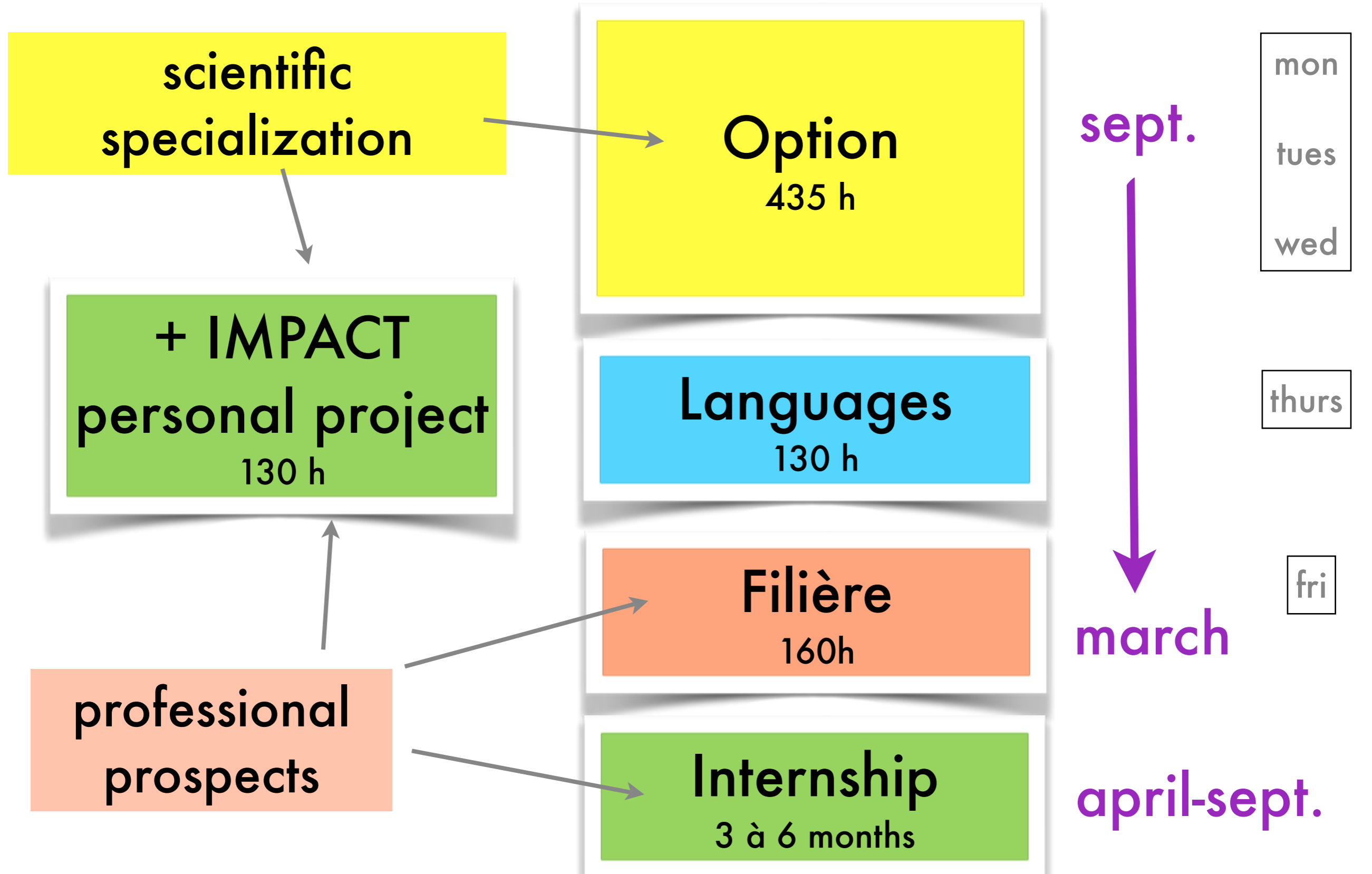
Data Analysis & Decision making

Responsible : Pierre Chainais

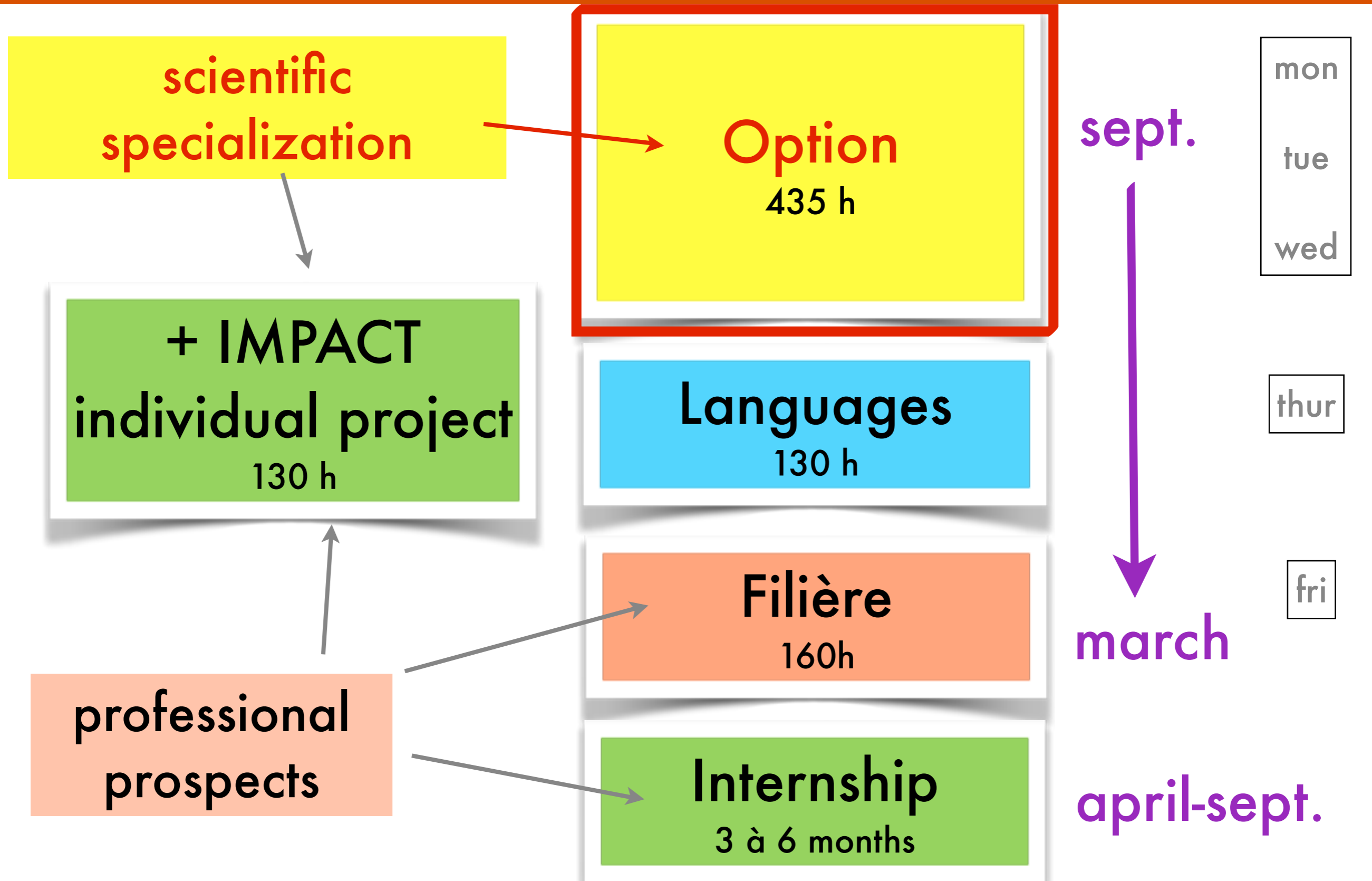
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3rd year at Centrale



3rd year at Centrale



Option DAD

Data Analysis & Decision making

to combine efficiency, performance & uncertainty

- Objectives & stakes :
 - ✓ decide **rationally**
 - ✓ take **controlled risks**
 - ✓ forecast **reliably**
 - ✓ optimise your **strategy**
 - ✓ innovate to **act**

Option DAD

Data Analysis & Decision making

to combine efficiency, performance & uncertainty

- **Areas of activity:**
 - ✓ **flows:** energy, transports, supply chain...
 - ✓ **risks:** biomedical, banque, assurance,...
 - ✓ **forecasting:** ventes, marketing, publicité...
 - ✓ **conception:** algorithms, progiciels...
- **Professions**
 - ✓ **operational, consulting,...**
 - ✓ **Research & Development**

Option DAD

Data Analysis & Decision making

Option : 435 h

★ high level scientific density

- probabilities, statistics, optimization, estimation
- computer science: programming, data bases,...
- modeling, machine learning, classification...

★ complementarity theory / applications

- theoretical courses + tutorials + projects + internship
- *Applications* : finance, banqueroute forecasting, image proc. ...

Program (435h)

Basics in math & computer science (144h)

probabilities, statistics, optimization,
Matlab, R, object oriented prog. (java), data bases (mySQL),...

Probabilistic information processing (92h)

advanced statistical estimation, multi-object filtering, data fusion

Statistical learning (90h)

theory of decision, linear & non linear classification,
reinforcement learning

Applications (100h)

stochastic models for finance, banqueroute forecasting,
data compression, security of information, image processing

Conferences by expert professionals (9h)

Program

option DAD + Master 2

★ Additional possibility :

program coordinated with the
Master 2 of Applied Mathematics
of University Lille 1

towards expertise in
maths + R&D

Option DAD

Data Analysis & Decision making

Professional training :

Internship
5-6 months

→ an experience in a company or institution, before the first job

IMPACT

→ Initiative **M**ission Project **A**CTion :
personal project, nov. to march (~ 130h/student)

Conferences

→ introduction to various professions by experts from a variety of small to large companies

DAD and after ?

- **Internships** : 55 SAS, Dataiku, Médiamétrie, eRento (Munich), Nestlé, ERDF, Urbana Champaign (USA), Planisware (Munich), Waterloo Univ. (Canada), L'Oréal, Weizmann Institute (Israël), LIP6, Teleportd Labs(Instagram), Société Générale, Allianz, Euro Information (CMC-CIC), BNP Paribas (Bruxelles), Axiom SL (Londres), Level 5 (monitoring info), Lyxor Asset Management, DCNS (+ Edimburgh)...
- **Alumni** :
 - ✓ Dataiku, Bluestone, Systran, Target2Sell, Planisware, Allianz, EDF (*optimization & forecasting power consumption*), ERDF (*plugging demand forecasting*),...
 - ✓ Mastères : *M2 Probas & Finance* (Paris 6), Finance (HEC, ESSEC), 1 ENSAE...

Data Analysis & Decision making

take home message:

- ✓ engineers with high level scientific knowledge
- ✓ combining efficiency/performance/risks
- ✓ adapted to various professions
- ✓ the '*filière*' completes an original profile
- ✓ prospects : many jobs, PhD...

Option DAD

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Data Analysis & Decision making

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