



## *Master 2 MMMEF: presentation*



# I. The tracks

- You are registered in a specific track (Quantitative finance, Optimization and Data science, etc..), fixed during the admission jury.
- The track does not appear in your diploma.
- The track is related to a) your previous background and grades. b) your choice.

# 1) Track Optimization and Data Science (ODS)

## Compulsory courses:

- 1 Combinatorial optimization
- 2 Numerical methods in optimization
- 3 Statistical Learning
- 4 Convex analysis and optimization.

Director of this track: **Michel Grabisch**



## 2) Economics Theory and applications (ETA)

**Compulsory courses:** at least 7.5 ECTS among the following courses:

- 1 General equilibrium theory 1 (2.5 ECTS) and 2 (2.5 ECTS)
- 2 Game theory 1 (2.5 ECTS) and 2 (2.5 ECTS)
- 3 Decision making: foundations (2.5 ECTS)

Director of this track: **Marcus Pivato**.



## 3. Quantitative finance (QF)

### Compulsory courses:

- 1 Stochastic Calculus 1
- 2 Arbitrage theory
- 3 Introductory finance
- 4 Stochastic Calculus 2.

Director of this track: **Christophe Chorro**



## 4) Economics, Finance and games (EFG)

### Compulsory courses:

- 1 Introduction to finance (2.5 ECTS) mandatory.
- 2 (Game theory 1 and 2) OR (General equilibrium theory 1 and 2) mandatory (5 ECTS). Both can be taken also!

Director of this track: **Philippe Bich**



## 5) Internship or Master 2 thesis

**Whatever your track, you will have to choose (for 20 ECTS) either:**

- 1 an internship (with a tutor in the firm of your internship and a tutor in Paris 1, e.g. some teacher related to the area of the internship, or the director of your track).
- 2 or a Master 2 thesis (=research project) (with a tutor in Paris 1, that will help you for your researches).

## II. Important dates

- 4 september: beginning of the first semester
- 22 september: deadline for the choice of the courses (see Curriculum on [mmmef.fr](http://mmmef.fr) to have the rules depending on your track).
- 22 december: end of first semester.
- 8 january: beginning of the second semester
- April: beginning internship (4 months minimum, 6 maximum).
- If you choose a master 2 thesis (and not an internship), can begin sooner. But the total amount of work should correspond to at least 3 months.
- june: limit to begin an internship



### III. Important rules

- 1 **Retake is not automatic in M2**, but for some course whose retake is authorized by the teacher, you will not be allowed to retake in case of a) too many absences without certificates (more than 3 courses) OR b) absence to the first session exam.
- 2 If you has some specific issue now or during the year which implies some absences, please contact me (mmmef-dir@univ-paris1.fr) to discuss about it: I recall that presence (with participation) could be a criterium for the final grading in some courses!
- 3 Internship will no be authorized by the jury for students who are not present, or whose average grade during the first semester is too low.

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## IV. Choice of courses

- Since you have 3 weeks to choose your courses, please try to attend as many courses you can the first weeks!
- You can choose at most 2 "external courses" by semester, i.e. courses outside the official courses of MMMEF by semester (in general among irfa courses: see <http://www.m2irfa.fr> or among PSE courses).
- These external courses should be allowed at the beginning by the corresponding teacher (please provide a written proof, as an email of your teacher, to the director of your track), and should be allowed by the director of the track.
- Be carefull: there is no official additional courses (you should have exactly 60 ECTS at the end!) so if you want to have unofficial extra-courses, see with the corresponding teacher (for authorization of attendency).

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If you are interested by applying to PHD for next year:

- identify some thematics which attract you, follow the corresponding courses.
- Tell the teacher you are interested by a PHD, and try to discuss with her/him.
- In general, you will have to do a master 2 thesis, often with the professor who will be your PHD advisor.
- In general, you apply for a doctoral contract (Paris 1) in may.
- The criteria are 1) academic 2) quality of project 3) Quality of oral presentation. This year, 50 per cent of candidatures selected for oral examination, and 90 per cent of selected candidates got a scholarship at the end.



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## VI. Your academic year

- First semester: **20 ECTS** of theoretical courses.
- Second semester: **20 ECTS** of more specialized courses.
- Each semester approx. 12 weeks, 2.5 ECTS=1.5 H a week on 12 weeks. In average, less than 15 Hours a week.
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## VII. Information, communication

- Look at **mmmef.fr** website regularly. You have still many informations (e.g. examples of previous years' internships reports).
- I will give you a file with contacts of the previous years internship very soon. Looking for an internship mean either: 1) answering to the offer we could transmit you 2) mostly, candidate on internet. Begin the sooner!
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# End of presentation

Nice academic year!

