

Master "Statistics, Finance and Actuarial Science" Validation rules to obtain the accreditation as an actuary by the French Institute of actuaries

Students enrolled in Master's degree (M2) "Statistics, Finance and Actuarial Science" who want to become an actuary recognized by the French Institute of actuaries must choose the following courses

Core courses

- Pricing and hedging of financial derivatives (P. Tankov) 4 ECTS (Sem1)
- Introduction to Risk Management (J.-D. Fermanian) 3 ECTS (Sem1)
- Extreme-value theory (C.-Y. Robert) 3 ECTS (Sem2)

Group "Actuarial Science"

- Actuarial study of non-life insurance (C. Dutang) 4 ECTS (Sem1)
- Actuarial study of life insurance (S. Loisel, M. Chauvigny, and A. Boumezoued) 4 ECTS (Sem1)
- Microeconomic theory of insurance (P. Picard) 3 ECTS (Sem1)
- Actuarial study of pensions (N. Gautron) 2 ECTS (Sem2)
- Regulation and insurance (F. le Vallois) 2 ECTS (Sem2)
- Risk management and reinsurance (P. Lacoste) 3 ECTS (Sem2)

Group "Mathematical Finance"

- Portfolio Management (F. Violante) 3 ECTS (Sem2)

Group "Risks in finance and insurance"

- Duration models (O. Lopez) 3 ECTS (Sem1)
- Risk theory (C.Y. Robert) 2 ECTS (Sem1)

In addition, they will have to choose the following course of the second year INGENIEUR ENSAE PROGRAM "Financial Instruments" (I. Toder) without being able to count the credits of this course for their Master's degree.

The mark for each course (after the second exam session) must be greater than or equal to 6/20. Only three marks (after the first exam session) can be smaller than 6/20. The unweighted average of the marks must be greater than or equal to 12/20.

After the first exam session of the first semester, it is possible to sign up for the exams of second session only for the courses for which the mark is smaller than $12/20$ and if the unweighted average of the marks for courses of the first semester is less than $13/20$. If this average is higher than $13/20$ but some of the marks are less than $6/20$, it is compulsory to sign up for the exams of second session for these specific courses, but not for the others. The same rule applies for the second semester.

They have to take part of six conferences that will be organized and animated by some professionals who work in diverse institutions in finance and insurance.

Finally, they will have to defend their Master's thesis with members of the French Institute of actuaries on their committee. This Master's thesis will be prepared during a six month internship.