

## **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 must be greater than or equal to 7/20 and the unweighted average of the marks must be greater than or equal to 12/20.

Finally, they will have to defend their Master's thesis with members of the French Institute of actuaries on their committee.