

# Course title: Quantitative Risk Management

Course Basic Information	
Academic Unit: (University/Department)	ETH Zürich, Department of Mathematics
Course title:	Quantitative Risk Management
Level:	Master of Science UZH ETH in Quantitative Finance
Course Status:	Core MF
Year of Study:	<b>Spring Semester</b>
Number of Classes per Week:	2h (lectures) + 1h (exercises)
ECTS Credits:	<b>4 ECTS</b>
Time /Location:	According to the timetable in the ETH course catalogue
Lecturer:	Prof. Dr. Patrick Cheridito
Content	
Content of the course	Basel Accords; Solvency II; Swiss Solvency Test; analytic, empirical and simulated loss distributions; value-at-risk; expected shortfall; stress tests; sensitivities; stylized facts of financial data; ARCH and GARCH models; extreme value theory; multivariate distributions; linear correlation; Spearman's rank correlation; Kendall's rank correlation; tail dependence; copulas; operational risk
Course's objectives:	The course introduces methods from probability theory and statistics that can be used to model financial risks. Topics addressed include loss distributions, risk measures, extreme value theory, multivariate models, copulas, dependence structures and operational risk.
The expected outcomes:	On successful completion of this module, students know the most important methods from probability theory and statistics used in financial risk management.