Course Name	Stochastic Analysis
Contents and Objectives	Content: • Martingales in continuous time • Properties of Brownian motion • Ito-integral and Ito's formula • Stochastic differential equations Objectives of the course: Deep understanding of martingale theory and why a stochastic calculus is necessary. Skills in use of Ito's formula and its application in solving SDEs.
Teaching	This course consists of lectures and exercise classes. • Lecture: (Stochastic Analysis) (4h/week) • Exercise class: (Stochastic Analysis) (2h/week) This class can be taught remotely.
Prerequisites	Stochastics, stochastic processes
Verwendbarkeit des Moduls	
Examination	Oral exam (30 minutes)
Credits	8 ECTS points
Frequency	This course is given at least once in 2 years.
Workload	The estimated total working time for this course in 240 hours.
Duration	This course is given during one semester.