Course content for International Master program „Mathematical modeling, computation and optimization"

Course name	Hilbert space methods
Contents and Objectives	Content: • Hilbert spaces and their geometry • Linear operators • Basics of spectral theory <u>Objectives of the course</u>: In this course, the foundations of Hilbert space theory will be developped and illustrated by applications. Similarities and differences between finite and infinite dimensional analysis are an important issue in in theory and practice.
Teaching	This course consists of lectures (4h/week)
Prerequisites	Basic notions of Analysis, Linear Algebra
Examination	Oral exam (30 minutes)
Credits	6 ECTS points
Frequency	This course is given at least every second year.
Workload	The estimated total working time for this course is 180 hours.
Duration	This course is given during one semester.