

Course Name	Complex geometry
Contents and Objectives	<p><u>Content:</u></p> <ul style="list-style-type: none"> • Basics of complex analysis in several variables • Riemann surfaces • Holomorphic differential forms • Complex, holomorphic and Hermitian vector bundles • Kähler manifolds • Basics of Hodge theory <p><u>Objectives of the course:</u> This course starts with a discussion of basic complex analysis in several variables. Then Riemann surfaces are studied. Holomorphic differential forms and de Rham complexes as well as more generally different types of vector bundles on complex manifolds are the core topic of this course. Finally, basics of Hodge theory of compact Kähler manifolds are introduced.</p>
Teaching	<p>This course consists of lectures and exercise classes.</p> <ul style="list-style-type: none"> • Lecture: Complex geometry (4h/week) • Exercise class: Complex geometry (2h/week) <p>This class can be taught remotely.</p>
Prerequisites	Basic notions of Analysis and Linear Algebra
Verwendbarkeit des Moduls	-
Examination	Oral exam (30 minutes)
Credits	8 ECTS points
Frequency	This course is given at least every second year.
Workload	The estimated total working time for this course is 240 hours.
Duration	This course is given during one semester.