Module title			Abbreviation
Geometric Analysis for Mathematical Physics			10-M-GANP-152-m01
Module coordinator		**Module offered by**	
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
10	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

Fundamentals in analysis on manifolds, submanifolds, calculus of differential forms, Stoke's theorem and applications in vector analysis and topology.

Intended learning outcomes

The student is acquainted with the fundamental concepts and methods in geometric analysis. He/she is able to apply these methods to practical problems.

Courses (type, number of weekly contact hours, language — if other than German)

V (4) + Ü (2)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) oral examination of one candidate each (15 to 30 minutes) or
b) oral examination in groups of 2 candidates (10 to 15 minutes each)
Assessment will have reference to a topic in pure mathematics as agreed upon with the examiner. Each topic may only be selected as the subject of one examination in the sub-field Gesamtüberblick Mathematische Methoden (Overview Mathematical Methods) or in module group Ergänzung Mathematik (Supplementary Topics in Mathematics).
Language of assessment: German and/or English
creditable for bonus

Allocation of places

--

Additional information

--

Workload

300 h

Teaching cycle

--

Referred to in LPO I (examination regulations for teaching-degree programmes)

--

Module appears in

Bachelor's degree (1 major) Mathematical Physics (2015)
Bachelor's degree (1 major) Mathematical Physics (2016)
Bachelor's degree (1 major) Mathematical Physics (2020)
Bachelor's degree (1 major) Mathematical Physics (2024)
Bachelor's degree (1 major) Mathematical Physics (2026)