Module title			Abbreviation
Analytic Number Theory			10-M=AAZTin-222-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	graduate	--	

Contents

Riemannian Zeta-function, Euler products and Dirichlet L-series, prime number theorem in arithmetic progression, sums of two squares, exponential sums.

Recommended previous knowledge:
Basic knowledge of number theory and complex analysis is assumed, such as can be acquired in the modules "Introduction to Number Theory" and "Introduction to Complex Analysis".

Intended learning outcomes

The students are fasmiliar with classical methods in analytic number theory. They are able to apply them to related questions.

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

V (4) + Ü (2)
Module taught in: English

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) written examination (approx. 90 to 120 minutes, usually chosen) or
b) oral examination of one candidate each (approx. 20 minutes) or
c) oral examination in groups (groups of 2, 15 minutes per candidate)
Language of assessment: English
Assessment offered: In the semester in which the course is offered and in the subsequent semester 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

Master's degree (1 major) Mathematics International (2022)
Master's degree (1 major) Mathematics International (2025)