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Module title					Abbreviation
Algebra, Geometry and Number Theory 10-M-AGZ-072-m01					
Module coordinator				Module offered by	
Dean of Studies Mathematik (Mathema		atics) Institute of Mathematics			
ECTS	Metho	od of grading	Only after succ. compl. of module(s)		
22 numerical grade					
Duration Modula lovel		Other prover visites			
Duration Module lev		Module level			
3 semester und		undergraduate	assessments.		
Contents					
tic properties of integers and rational numbers (as well as algebraic extensions) relating to their algebraic struc- tures (residue class rings and finite fields) and their geometry (quadratic forms); axiomatic introduction of pro- jective spaces, coordinates, fundamental theorems, relations to linear algebra and algebra, curves and hypersur- faces in Euclidean spaces, curvature.					
Intended learning outcomes					
The student is acquainted with the fundamental concepts and methods in algebra, geometry and number theo- ry.He/She is able to relate these concepts with one another, and realises the advantages of thinking across the borders of different branches in mathematics.					
Courses (type, number of weekly contact hours, language — if other than German)					
10-M-AGZ-P-072: M (no information on language and number of weekly contact hours available) Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)					
This module has the following 4 assessment components. Unless stated otherwise, students must pass all of these assessment components to pass the module as a whole.					
 Assessment in module component 10-M-AGZ-1-072: Einführung in die Algebra (Introduction to Algebra) 7 ECTS credits, pass / fail a) written examination (approx. 90 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups of 2 candidates (approx. 30 minutes) Language of assessment: German; English if agreed upon with examiner(s) Additional prerequisites: Module 10-M-LNA recommended. 					
 Assessment in module component 10-M-AGZ-2-072: Einführung in die Geometrie (Introduction to Geometry) 8 ECTS credits, pass / fail a) written examination (approx. 90 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups of 2 candidates (approx. 30 minutes) Language of assessment: German; English if agreed upon with examiner(s) Additional prerequisites: Module 10-M-LNA recommended. 					
Assess 5 a (L Assess Algebra	ment in ECTS c) writte approx. anguag Additior ment in a, Geon	n module component 10-1 credits, pass / fail n examination (approx. 9 . 20 minutes) or c) oral ex ge of assessment: Germa nal prerequisites: Module n module component 10-1 netry and Number Theory credits, numerical grading	M-AGZ-3-072: Elemen o minutes, usually ch kamination in groups n; English if agreed u e 10-M-LNA recommen M-AGZ-P-072: Prüfun) g	ntare Zahlentheorie nosen) or b) oral exam of 2 candidates (app upon with examiner(s nded. ng Algebra, Geometric	(Elementary Number Theory) nination of one candidate each prox. 30 minutes) 5) e und Zahlentheorie (Assessmen ⁴

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Module description

- oral examination of one candidate each (approx. 30 minutes)
- Language of assessment: German; English if agreed upon with examiner(s)
- Only after successful completion of module components: Two out of the following three module components: 10-M-AGZ-1, 10-M-AGZ-2, 10-M-AGZ-3.
- Additional prerequisites: Module 10-M-LNA recommended.

Allocation of places

Additional information

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Workload

Teaching cycle

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

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Module appears in

Bachelor's degree (1 major) Mathematics (2007)

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