

<b>Module title</b>		<b>Abbreviation</b>
Introduction to Complex Analysis for Mathematical Physics		10-M-FTHP-152-m01
<b>Module coordinator</b>		<b>Module offered by</b>
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics
<b>ECTS</b>	<b>Method of grading</b>	<b>Only after succ. compl. of module(s)</b>
10	numerical grade	--
<b>Duration</b>	<b>Module level</b>	<b>Other prerequisites</b>
1 semester	undergraduate	--
<b>Contents</b>		
Complex differentiability and Cauchy-Riemann differential equations, path integrals and Cauchy integral theorems, isolated singularities, meromorphic functions and Laurent series, residue theorem and applications, Weierstraß product theorem and theorem of Mittag-Leffler, conformal maps.		
<b>Intended learning outcomes</b>		
The student is acquainted with the fundamental concepts and methods in complex analysis. He/she is able to apply these methods to practical problems.		
<b>Courses</b> (type, number of weekly contact hours, language — if other than German)		
V (4) + Ü (2)		
<b>Method of assessment</b> (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		
<b>Allocation of places</b>		
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<b>Additional information</b>		
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<b>Workload</b>		
300 h		
<b>Teaching cycle</b>		
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<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)		
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<b>Module appears in</b>		
Bachelor' degree (1 major) Mathematical Physics (2015) Bachelor' degree (1 major) Mathematical Physics (2016) Bachelor' degree (1 major) Mathematical Physics (2020) Bachelor' degree (1 major) Mathematical Physics (2024)		