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| <b>Module title</b>  |                          | <b>Abbreviation</b>                         |
| <b>Didactics of Mathematics - Arithmetics and Application of Mathematics (German Grundschule)</b>  |                          | 10-M-DGGS2-152-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> |
| 7  | numerical grade          | --  |
| <b>Duration</b>  | <b>Module level</b>      | <b>Other prerequisites</b>                  |
| 2 semester   | undergraduate            | --  |
| <b>Contents</b>  |                          |   |
| <p>In-depth discussion of topics in teaching arithmetics and application-oriented mathematics in Grundschule, taking didactic aspects into account (aims of teaching arithmetics, didactic principles, sets, numbers, positional notations, arithmetic models, elementary arithmetic, mental calculation, half-written and written calculations, aims of teaching applications of mathematics, treatment of quantities, representation of data, possibilities of teaching application-oriented mathematics, heuristic principles, strategies and tools, modelling, mappings, typical difficulties in solving text problems, possibilities of promoting competences in applied calculation). Possibilities of implementation in the classroom and employment of materials and media, including modern technologies.</p> |                          |   |
| <b>Intended learning outcomes</b>  |                          |   |
| <p>The student knows about the objectives of teaching mathematics in elementary school, basics in developmental psychology and didactics of mathematics, fundamentals in elementary school mathematics, as well as important models, presentations and media which can be employed in elementary school teaching of mathematics. She/he knows about common difficulties and problems of pupils in the acquisition of mathematical skills, and can employ and assess didactical principles and teaching and learning strategies.</p>  |                          |   |
| <b>Courses</b> (type, number of weekly contact hours, language — if other than German)   |                          |   |
| V (2) + Ü (1) + V (2) + 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 (approx. 30 minutes) or b) oral examination in groups (groups of 2 candidates, approx. 15 minutes per candidate) or c) written examination (approx. 60 to 120 minutes)   |                          |   |
| <b>Allocation of places</b>  |                          |   |
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| <b>Additional information</b>  |                          |   |
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| <b>Workload</b>  |                          |   |
| 210 h  |                          |   |
| <b>Teaching cycle</b>  |                          |   |
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| <b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)   |                          |   |
| § 51 I Nr. 4   |                          |   |
| <b>Module appears in</b>   |                          |   |
| First state examination for the teaching degree Grundschule Mathematics (2015)<br>exchange program Mathematics (2023)  |                          |   |