

Mapping of the courses to the achieved PLOs

DP-Math Study Programme FMNS UGM

No.	Course Code	Course name in curriculum 2022	credits/ person in charge	Status	Programme Learning Outcome (PLO)					
					Mathematics doctor					
					PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
1.1. Compulsory courses of the study programme										
1	MMM 7001	Literature Review and Philosophy of Science	4 credits Mathematics Doctor Study Programme	Compulsory course	√	√	√	√		√
1.2. Elective course in Analysis										
	MMM 7106	Topics in Measure and Integration Theory	3 credits Analysis Laboratory	Elective course	√	√	√			√
	MMM 7107	Topics in Functional Analysis	3 credits Analysis Laboratory	Elective course	√	√	√		√	√
	MMM 7108	Topics in Topology	3 credits Analysis Laboratory	Elective course	√	√	√		√	√
	MMM 7109	Topics in Function Spaces and Sequence Spaces	3 credits Analysis Laboratory	Elective course	√	√	√			√
	MMM 7110	Topics in Riesz Spaces	3 credits Analysis Laboratory	Elective course	√	√	√			√
	MMM 7111	Capita Selecta in Advanced Analysis A	3 credits Analysis Laboratory	Elective course	√	√	√			√
	MMM 7112	Capita Selecta in Advanced Analysis B	3 credits Analysis Laboratory	Elective course	√	√	√			√

No.	Course Code	Course name in curriculum 2022	credits/ person in charge	Status	Programme Learning Outcome (PLO)					
					Mathematics doctor					
					PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
1.3. Elective course in Algebra										
	MMM 7201	Abstract Algebra	3 credits Algebra Laboratory	Elective course	√	√	√	√	√	√
	MMM 7205	Matrix Theory	3 credits Algebra Laboratory	Elective course	√	√	√	√	√	√
	MMM 7206	Advanced Graph Theory and Combinatorics	3 credits Algebra Laboratory	Elective course	√	√	√	√	√	√
	MMM 7207	Advanced Linear System Theory	3 credits Algebra Laboratory	Elective course	√	√	√	√	√	√
	MMM 7208	Advanced Applied Linear Algebra	3 credits Algebra Laboratory	Elective course	√	√	√	√	√	√
	MMM 7209	Topic in Algebra 1: Advanced Abstract Algebra and its Developments	3 credits Algebra Laboratory	Elective course	√	√	√	√	√	√
	MMM 7210	Algebra Topic 2: Advanced Applied Algebra and its Developments	3 credits Algebra Laboratory	Elective course	√	√	√	√	√	√
	MMM 7211	Fundamental Algebra	3 credits Algebra Laboratory	Elective course	√	√	√	√	√	√
	MMM 7212	Capita Selecta in Advanced Algebra A	3 credits Algebra Laboratory	Elective course	√	√	√	√	√	√
	MMM 7213	Capita Selecta in Advanced Algebra B	3 credits Algebra Laboratory	Elective course	√	√	√	√	√	√

No.	Course Code	Course name in curriculum 2022	credits/ person in charge	Status	Programme Learning Outcome (PLO)					
					Mathematics doctor					
					PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
1.4. Elective course in Applied Mathematics										
	MMM 7308	Topics in Applied Mathematics A	3 credits Applied Mathematics Laboratory	Elective course	√	√	√	√	√	√
	MMM 7309	Topics in Applied Mathematics B	3 credits Applied Mathematics Laboratory	Elective course	√	√	√	√	√	√
	MMM 7311	Capita Selecta in Advanced Applied Mathematics A	3 credits Applied Mathematics Laboratory	Elective course	√	√	√	√	√	√
	MMM 7312	Capita Selecta in Advanced Applied Mathematics B	3 credits Applied Mathematics Laboratory	Elective course	√	√	√	√	√	√
	MMM 7313	Capita Selecta in Advanced Applied Mathematics C	3 credits Applied Mathematics Laboratory	Elective course	√	√	√	√	√	√
	MMM 7314	Topics in Control Theory	3 credits Applied Mathematics Laboratory	Elective course	√	√	√	√	√	√
	MMM 7315	Topics in Optimization Theory	3 credits Applied Mathematics Laboratory	Elective course	√	√	√		√	√

No.	Course Code	Course name in curriculum 2022	credits/ person in charge	Status	Programme Learning Outcome (PLO)					
					Mathematics doctor					
					PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
	MMM 7316	Topics in Differential Equations	3 credits Applied Mathematics Laboratory	Elective course	√	√	√	√	√	√
	MMM 7317	Topics in Stochastic Processes	3 credits Applied Mathematics Laboratory	Elective course	√	√	√		√	√
	MMM 7318	Topics in Mathematical Modeling	3 credits Applied Mathematics Laboratory	Elective course	√	√	√		√	√
1.5. Elective course in Statistics										
	MMM 7419	Topics in Advanced Statistical Data Analysis A	3 credits Statistics Laboratory	Elective course	√	√	√		√	√
	MMM 7420	Topics in Advanced Statistical Data Analysis B	3 credits Statistics Laboratory	Elective course	√	√	√		√	√
	MMM 7421	Capita Selecta in Advanced Statistics	3 credits Statistics Laboratory	Elective course	√	√	√	√	√	√
	MMM 7422	Topics in Financial Statistics and Actuarial Science A	3 credits Statistics Laboratory	Elective course	√	√	√		√	√
	MMM 7423	Topics in Financial Statistics and Actuarial Science B	3 credits Statistics Laboratory	Elective course	√	√	√		√	√

No.	Course Code	Course name in curriculum 2022	credits/ person in charge	Status	Programme Learning Outcome (PLO)					
					Mathematics doctor					
					PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
	MMM 7424	Topics in Mathematical Statistics A	3 credits Statistics Laboratory	Elective course	√	√	√		√	√
	MMM 7425	Topics in Mathematical Statistics B	3 credits Statistics Laboratory	Elective course	√	√	√		√	√

1.6. Elective course in Computation of Statistics

	MMM 7504	Topics in Advanced Computation of Statistics A	3 credits Computation of Statistics Laboratory	Elective course	√	√	√		√	√
	MMM 7505	Topics in Advanced Computation of Statistics B	3 credits Computation of Statistics Laboratory	Elective course	√	√	√		√	√
	MMM 7506	Topics in Computation of Mathematical Statistics A	3 credits Computation of Statistics Laboratory	Elective course	√	√	√		√	√
	MMM 7507	Topics in Computation of Mathematical Statistics B	3 credits Computation of Statistics Laboratory	Elective course	√	√	√		√	√
	MMM 7508	Capita Selecta in Advanced Computation of Statistics	3 credits Computation of Statistics Laboratory	Elective course	√	√	√	√	√	√
	MMM 7509	Topics in Computation of Financial Statistics and Actuarial Science A	3 credits Computation of Statistics Laboratory	Elective course	√	√	√		√	√

No.	Course Code	Course name in curriculum 2022	credits/ person in charge	Status	Programme Learning Outcome (PLO)					
					Mathematics doctor					
					PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
	MMM 7510	Topics in Computation of Financial Statistics and Actuarial Science B	3 credits Computation of Statistics Laboratory	Elective course	√	√	√		√	√
1.7. Elective course in Computation in Mathematics										
	MMM 7601	Topics in Boundary Element Methods	3 credits Computation of Mathematics Laboratory	Elective course	√	√	√	√	√	√
	MMM 7602	Topics in Computational Differential Equations	3 credits Computation of Mathematics Laboratory	Elective course	√	√	√		√	√
	MMM 7603	Advanced Computational Mathematics	3 credits Computation of Mathematics Laboratory	Elective course	√	√	√		√	√
	MMM 7604	Capita Selecta in Advanced Computation of Mathematics	3 credits Computation of Mathematics Laboratory	Elective course	√	√	√	√	√	√
	MMM 7605	Topics in Computation of Mathematics	3 credits Computation of Mathematics Laboratory	Elective course	√	√	√		√	√
1.8. Dissertation										
	MMM-9998	Dissertation (by Research)	40 credits All Laboratories	Compulsory	√	√	√	√	√	√
	MMM-9999	Dissertation (Regular)	34 credits All Laboratories	Compulsory	√	√	√	√	√	√