

ULUDAĞ UNIVERSITY
INSTITUTE OF NATURAL SCIENCES
2017-2018 ACADEMIC YEAR COURSE PLAN



DEPARTMENT OF

MATHEMATICS

DEPARTMENT / PROGRAM

GRADUATE PROGRAM

COURSE STAGE	I. TERM / FALL								II. TERM / SPRING							
	Code	Course Title	Type	T	U	L	Credit	ECTS	Code	Course Title	Type	T	U	L	Credit	ECTS
	MAT5191	MA THESIS CONSULTING I	Z	0	1	0	0	1	MAT5192	MA THESIS CONSULTING II	Z	0	1	0	0	1
	MAT5181	ADVANCED TOPICS IN MA THESIS I	S	4	0	0	0	5	MAT5172	SEMINAR	Z	0	2	0	0	6
									MAT5000	RESEARCH TECHNIQUES and PUBLICATION ETHICS in MATHEMATICS	Z	2	0	0	2	2
									MAT5182	ADVANCED TOPICS IN MA THESIS II	S	4	0	0	0	5
	MAT5001	REEL ANALYSIS I	S	3	0	0	3	6	MAT 5102	REAL ANALYSIS II	S	3	0	0	3	6
	MAT5319	FUNDAMENTAL CONCEPTS OF GEOMETRY	S	3	0	0	3	6	MAT 5106	COMPLEX ANALYSIS II	S	3	0	0	3	6
	MAT5411	PARTIAL DIFFERENTIAL EQUATIONS I	S	3	0	0	3	6	MAT 5108	ADVANCED ANALYSIS II	S	3	0	0	3	6
	MAT5205	ALGEBRA I	S	3	0	0	3	6	MAT5112	MULTI VARIABLE ANALYSIS II	S	3	0	0	3	6
	MAT5105	COMPLEX ANALYSIS I	S	3	0	0	3	6	MAT5114	ADVANCED FUNCTIONAL ANALYSIS II	S	3	0	0	3	6
	MAT5107	ADVANCED ANALYSIS I	S	3	0	0	3	6	MAT5118	FIELD THEORY II	S	3	0	0	3	6
	MAT5111	MULTI VARIABLE ANALYSIS I	S	3	0	0	3	6	MAT5120	RING THEORY II	S	3	0	0	3	6
	MAT5113	ADVANCED FUNCTIONAL ANALYSIS I	S	3	0	0	3	6	MAT5122	DIOPHANT EQUATIONS II	S	3	0	0	3	6
	MAT5117	FIELD THEORY I	S	3	0	0	3	6	MAT5124	GEOMETRIC FUNCTION THEORY II	S	3	0	0	3	6
	MAT5119	RING THEORY I	S	3	0	0	3	6	MAT5126	ANALYTICAL NUMBER THEORY II	S	3	0	0	3	6
	MAT5121	DIOPHANT EQUATIONS I	S	3	0	0	3	6	MAT5128	ADVANCED QUADRATIC FORMS II	S	3	0	0	3	6
	MAT5123	GEOMETRIC FUNCTION THEORY I	S	3	0	0	3	6	MAT 5204	NUMBER THEORY II	S	3	0	0	3	6
	MAT5125	ANALYTICAL NUMBER THEORY I	S	3	0	0	3	6	MAT 5206	ALGEBRA II	S	3	0	0	3	6
	MAT5127	ADVANCED QUADRATIC FORMS I	S	3	0	0	3	6	MAT 5208	ALGEBRAIC NUMBER THEORY II	S	3	0	0	3	6
	MAT5203	NUMBER THEORY I	S	3	0	0	3	6	MAT 5210	OTOMORF FUNCTIONS II	S	3	0	0	3	6
	MAT5207	ALGEBRAIC NUMBER THEORY I	S	3	0	0	3	6	MAT5212	INTRODUCTIONS TOALGEBRAIC GEOMETRY II	S	3	0	0	3	6
	MAT5209	OTOMORF FUNCTIONS I	S	3	0	0	3	6	MAT5216	MODULAR FORMS II	S	3	0	0	3	6
	MAT5211	INTRODUCTIONS TO ALGEBRAIC GEOMETRY I	S	3	0	0	3	6	MAT5218	GRAPH THEORI II	S	3	0	0	3	6
	MAT5215	MODULAR FORMS I	S	3	0	0	3	6	MAT5220	TOPOLOGICAL GRAPH INDICES II	S	3	0	0	3	6
	MAT5217	GRAPH THEORI I	S	3	0	0	3	6	MAT 5302	ANALYSIS ON MANIFOLDS	S	3	0	0	3	6
	MAT5219	TOPOLOGICAL GRAPH INDICES I	S	3	0	0	3	6	MAT 5306	GEOMETRIC MODELING OF CURVES AND SURFACES II	S	3	0	0	3	6
	MAT5305	GEOMETRIC MODELLING OF CURVES AND SURFACES I	S	3	0	0	3	6	MAT 5310	ADVANCED PROJECTIVE GEOMETRY II	S	3	0	0	3	6

	MAT5307	BASIC DIFFERENTIAL GEOMETRY	S	3	0	0	3	6	MAT 5312	LINEAR SPACES II	S	3	0	0	3	6				
	MAT5309	ADVANCED PROJECTIVE GEOMETRY I	S	3	0	0	3	6	MAT 5316	THEORY OF SUB-MANIFOLDS II	S	3	0	0	3	6				
	MAT5311	LINEAR SPACES I	S	3	0	0	3	6	MAT 5318	DIFFERENTIABLE MANIFOLDS II	S	3	0	0	3	6				
	MAT5313	TAXICAB GEOMETRY	S	3	0	0	3	6	MAT 5320	REAL PROJECTIVE GEOMETRY	S	3	0	0	3	6				
	MAT5315	THEORY OF SUB-MANIFOLDS I	S	3	0	0	3	6	MAT5324	COORDINAT GEOMETRY II	S	3	0	0	3	6				
	MAT5317	DIFFERENTIABLE MANIFOLDS I	S	3	0	0	3	6	MAT5326	GENERALIZED POLYGONS II	S	3	0	0	3	6				
	MAT5321	MAPLE APPLICATIONS	S	3	0	0	3	6	MAT5328	GLOBAL LORENTZIAN GEOMETRY II	S	3	0	0	3	6				
	MAT5323	COORDINAT GEOMETRY I	S	3	0	0	3	6	MAT 5406	ADVANCED NUMERICAL ANALYSIS II	S	3	0	0	3	6				
	MAT5325	GENERALIZED POLYGONS I	S	3	0	0	3	6	MAT 5410	BOUNDARY VALUE PROBLEMS II	S	3	0	0	3	6				
	MAT5327	GLOBAL LORENTZIAN GEOMETRY I	S	3	0	0	3	6	MAT 5412	PARTIAL DIFFERENTIAL EQUATIONS II	S	3	0	0	3	6				
	MAT5405	ADVANCED NUMERICAL ANALYSIS I	S	3	0	0	3	6	MAT 5414	ELLIPTIC PARTIAL DIFFERENTIAL EQUATIONS	S	3	0	0	3	6				
	MAT5409	BOUNDARY VALUE PROBLEMS I	S	3	0	0	3	6	MAT 5416	TRANSFORMATION GROUPS AND LIE ALGEBRAS II						6				
	MAT5415	TRANSFORMATION GROUPS AND LIE ALGEBRAS I						6	MAT5418	GRAPHS AND LINEAR ALGEBRA	S	3	0	0	3	6				
	MAT5417	GRAPHS AND MATRICES	S	3	0	0	3	6	MAT5420	MODERN GEOMETRIC METHODS AND APPLICATIONS-II	S	3	0	0	3	6				
	MAT5419	MODERN GEOMETRIC METHODS AND APPLICATIONS-I	S	3	0	0	3	6	MAT5422	SINGULARITY THEORY IN DIFFERENTIAL GEOMETRY	S	3	0	0	3	6				
	MAT5421	DIFFERENTIAL FORMS AND APPLICATIONS	S	3	0	0	3	6	MAT5424	APPLICATIONS OF RIEMANNIAN TRANSFORMS	S	3	0	0	3	6				
	Total Credits								12	30	Total Credits								11	30
	III. TERM / FALL								IV. TERM / SPRING											
STAGE THESIS	MAT5183	ADVANCED TOPICS IN MA THESIS III	Z	4	0	0	0	5	MAT5184	ADVANCED TOPICS IN MA THESIS IV	Z	4	0	0	0	5				
	MAT5193	MA THESIS CONSULTING III	Z	0	0	0	0	25	MAT5194	MA THESIS CONSULTING IV	Z	0	0	0	0	25				
	Total Credits								0	30	Total Credits								0	30
TOTAL CREDITS: 23 - TOTAL ECTS: 120																				

Not: The student is expected to take a total of credited selective courses every academic term.
The student have the option of choosing one selective course from another department with the endorsement of the supervisor.



ULUDAĞ UNIVERSITY
INSTITUTE OF NATURAL SCIENCES
2017-2018 ACADEMIC YEAR COURSE PLAN

DEPARTMENT OF		Mathematics														
DEPARTMENT / PROGRAM		Mathematics / Doctoral Program														
COURSE STAGE	I. TERM / FALL								II. TERM / SPRING							
	Code	Course Title	Type	T	U	L	Credit	ECTS	Code	Course Title	Type	T	U	L	Credit	ECTS
	MAT6191	PHD THESIS CONSULTING I	Z	0	1	0	0	1	MAT6192	PHD THESIS CONSULTING II	Z	0	1	0	0	1
	MAT6181	ADVANCED TOPICS IN PHD THESIS I	S	4	0	0	0	5	FEN6000	RESEARCH TECHNIQUES and PUBLICATION ETHICS	C	2	0	0	2	2
									MAT6172	SEMINAR	Z	0	2	0	0	4
									MAT6182	ADVANCED TOPICS IN PHD THESIS II	S	4	0	0	0	5
	MAT6107	FUNCTIONS OF COMPLEX VARIABLES I	S	3	0	0	3	6	MAT6104	RIEMANN SURFACES II	S	2	2	0	3	6
	MAT6303	ADVANCED DIFFERENTIAL GEOMETRY	S	3	0	0	3	6	MAT6106	UNIVALENT FUNCTIONS II	S	3	0	0	3	6
	MAT6401	GENERALIZED ANALYTIC FUNCTIONS I	S	2	2	0	3	6	MAT6108	COMPLEX FUNCTIONS II	S	3	0	0	3	6
	MAT6103	RIEMANN SURFACES I	S	3	0	0	3	6	MAT6110	HARMONIC MAPPINGS II	S	3	0	0	3	6
	MAT6105	UNIVALENT FUNCTIONS I	S	3	0	0	3	6	MAT6112	THEORY OF ELLIPTIC CURVES AND ITS APPLICATIONS II	S	3	0	0	3	6
	MAT6109	HARMONIC MAPPINGS I	S	3	0	0	3	6	MAT6118	P-ADIC ANALYSIS II	S	2	2	0	3	6
	MAT6111	THEORY OF ELLIPTIC CURVES AND ITS APPLICATIONS I	S	2	2	0	3	6	MAT6202	ABSTRACT ALGEBRA II	S	2	2	0	3	6
	MAT6117	P-ADIC ANALYSIS I	S	3	0	0	3	6	MAT6206	GEOMETRIC NUMBER THEORY II	S	2	2	0	3	6
	MAT6201	ABSTRACT ALGEBRA I	S	3	0	0	3	6	MAT6208	ADVANCED ANALYTIC NUMBER THEORY II	S	3	0	0	3	6
	MAT6205	GEOMETRIC NUMBER THEORY I	S	3	0	0	3	6	MAT6214	APPLIED GRAPH THEORY II	S	3	0	0	3	6
	MAT6207	ADVANCED ANALYTIC NUMBER THEORY I	S	2	2	0	3	6	MAT6216	SPECTRAL GRAPH THEORY II	S	3	0	0	3	6
	MAT6213	APPLIED GRAPH THEORY I	S	3	0	0	3	6	MAT6302	CONTACT MANIFOLDS	S	3	0	0	3	6
	MAT6215	SPECTRAL GRAPH THEORY I	S	3	0	0	3	6	MAT6304	ADVANCED DIFFERENTIAL GEOMETRY II	S	2	2	0	3	6
	MAT6307	ALGEBRAIC GEOMETRY I	S	2	2	0	3	6	MAT6308	ALGEBRAIC GEOMETRY II	S	2	2	0	3	6
	MAT6309	COMBINATORIAL GEOMETRY	S	3	0	0	3	6	MAT6310	DIAGRAM GEOMETRIES AND GEOMETRIC STRUCTURES	S	3	0	0	3	6
	MAT6311	ALGEBRAIC STRUCTURES AND PROJECTIVE GEOMETRIES I	S	3	0	0	3	6	MAT6312	ALGEBRAIC STRUCTURES AND PROJECTIVE GEOMETRY II	S	3	0	0	3	6
	MAT6313	AFFINE AND PROJECTIVE GEOMETRY	S	3	0	0	3	6	MAT6316	RIEMANNIAN GEOMETRY II	S	3	0	0	3	6
	MAT6315	RIEMANNIAN GEOMETRY I	S	3	0	0	3	6	MAT6318	SEMI-RIEMANNIAN GEOMETRY II	S	3	0	0	3	6
	MAT6317	SEMI-RIEMANN GEOMETRY I	S	3	0	0	3	6	MAT6320	VECTORIAL APPROACH METHODS TO GEOMETRY	S	3	0	0	3	6
	MAT6319	THEORY OF TANGENT AND COTANGENT BUNDLES	S	3	0	0	3	6	MAT6322	PROJECTIVE GEOMETRY in NONASSOCIATIVE ALGEBRAS II	S	3	0	0	3	6
	MAT6321	PROJECTIVE GEOMETRY in NONASSOCIATIVE ALGEBRAS I	S	3	0	0	3	6	MAT6324	LOCAL RINGS II	S	3	0	0	3	6
	MAT6323	LOCAL RINGS I	S	3	0	0	3	6	MAT6402	GENERALIZED ANALYTIC FUNCTIONS II	S	3	0	0	3	6

	MAT6405	ADVANCED PARTIAL DIFFERENTIAL EQUATIONS	S	3	0	0	3	6	MAT6406	ADVANCED SPECIAL FUNCTIONS	S	3	0	0	3	6
	MAT6407	GENERAL ANALYTIC FUNCTIONS	S	3	0	0	3	6	MAT6416	LIE GROUPS and CONSERVATION LAWS II	S	3	0	0	3	6
	MAT6413	SELECTED TOPICS IN PARTIAL DIFFERENTIAL EQUATIONS	S	3	0	0	3	6	MAT6418	GRAPHS AND COLORING	S	3	0	0	3	6
	MAT6415	LIE GROUPS and CONSERVATION LAWS I	S	3	0	0	3	6	MAT6420	GRAPH INDICES RESPECT TO DISTANCE	S	3	0	0	3	6
	MAT6417	GRAPHS AND TOPOLOGY	S	3	0	0	3	6								
	MAT6419	GRAPH INDICES RESPECT TO VERTEX DEGREE	S	3	0	0	3	6								
	MAT6421	METRIC STRUCTURES IN DIFFERENTIAL GEOMETRY	S	3	0	0	3	6								
	Toplam Kredi			12				30	Toplam Kredi			11				30
STAGE THESIS	III. TERM / FALL								IV. TERM / SPRING							
	MAT6183	ADVANCED TOPICS IN PHD THESIS III	Z	4	0	0	0	5	MAT6184	ADVANCED TOPICS IN PHD THESIS IV	Z	4	0	0	0	5
	MAT6193	PHD THESIS CONSULTING III	Z	0	0	0	0	15	MAT6194	PHD THESIS CONSULTING IV	Z	0	0	0	0	25
	MAT6177	PHD PROFICIENCY EXAMINATION	Z	0	0	0	0	10								
	Toplam Kredi			0				30	Toplam Kredi			0				30
	V. TERM / FALL								VI. TERM / SPRING							
	MAT6185	ADVANCED TOPICS IN PHD THESIS V	Z	4	0	0	0	5	MAT6186	ADVANCED TOPICS IN PHD THESIS VI	Z	4	0	0	0	5
	MAT6195	PHD THESIS CONSULTING V	Z	0	0	0	0	25	MAT6196	PHD THESIS CONSULTING VI	Z	0	0	0	0	25
	Toplam Kredi			0				30	Toplam Kredi			0				30
	VII. TERM / FALL								VIII. TERM / SPRING							
MAT6187	ADVANCED TOPICS IN PHD THESIS VII	Z	4	0	0	0	5	MAT6188	ADVANCED TOPICS IN PHD THESIS VIII	Z	4	0	0	0	5	
MAT6197	PHD THESIS CONSULTING VIII	Z	0	0	0	0	25	MAT6198	PHD THESIS CONSULTING VIII	Z	0	0	0	0	25	
Toplam Kredi			0				30	Toplam Kredi			0				30	
TOTAL CREDITS: 23 - TOTAL ECTS: 240																

Not: The student is expected to take a total of credited selective courses every academic term.

The student have the option of choosing one selective course from another department with the endorsement of the supervisor. *Success in Ph.D. qualifying exam is a prerequisite.



ULUDAĞ UNIVERSITY
INSTITUTE OF NATURAL SCIENCES
2017-2018 ACADEMIC YEAR COURSE PLAN

DEPARTMENT OF

Mathematics

DEPARTMENT / PROGRAM

Mathematics / Unified Doctoral Program

COURSE STAGE	I. TERM / FALL								II. TERM / SPRING							
	Code	Course Title	Type	T	U	L	Credit	ECTS	Code	Course Title	Type	T	U	L	Credit	ECTS
		MAT6191	PHD THESIS CONSULTING I	Z	0	1	0	0	1	MAT6192	PHD THESIS CONSULTING II	Z	0	1	0	0
	MAT6181	ADVANCED TOPICS IN PHD THESIS I	S	4	0	0	0	5	MAT6182	ADVANCED TOPICS IN PHD THESIS II	S	4	0	0	0	5
	MAT5001	REEL ANALYSIS I	S	3	0	0	3	6	MAT 5102	REAL ANALYSIS II	S	3	0	0	3	6
	MAT5319	FUNDAMENTAL CONCEPTS OF GEOMETRY	S	3	0	0	3	6	MAT 5106	COMPLEX ANALYSIS II	S	3	0	0	3	6
	MAT5411	PARTIAL DIFFERENTIAL EQUATIONS I	S	3	0	0	3	6	MAT 5108	ADVANCED ANALYSIS II	S	3	0	0	3	6
	MAT5205	ALGEBRA I	S	3	0	0	3	6	MAT5112	MULTI VARIABLE ANALYSIS II	S	3	0	0	3	6
	MAT5105	COMPLEX ANALYSIS I	S	3	0	0	3	6	MAT5114	ADVANCED FUNCTIONAL ANALYSIS II	S	3	0	0	3	6
	MAT5107	ADVANCED ANALYSIS I	S	3	0	0	3	6	MAT5118	FIELD THEORY II	S	3	0	0	3	6
	MAT5111	MULTI VARIABLE ANALYSIS I	S	3	0	0	3	6	MAT5120	RING THEORY II	S	3	0	0	3	6
	MAT5113	ADVANCED FUNCTIONAL ANALYSIS I	S	3	0	0	3	6	MAT5122	DIOPHANT EQUATIONS II	S	3	0	0	3	6
	MAT5117	FIELD THEORY I	S	3	0	0	3	6	MAT5124	GEOMETRIC FUNCTION THEORY II	S	3	0	0	3	6
	MAT5119	RING THEORY I	S	3	0	0	3	6	MAT5126	ANALYTICAL NUMBER THEORY II	S	3	0	0	3	6
	MAT5121	DIOPHANT EQUATIONS I	S	3	0	0	3	6	MAT5128	ADVANCED QUADRATIC FORMS II	S	3	0	0	3	6
	MAT5123	GEOMETRIC FUNCTION THEORY I	S	3	0	0	3	6	MAT 5204	NUMBER THEORY II	S	3	0	0	3	6
	MAT5125	ANALYTICAL NUMBER THEORY I	S	3	0	0	3	6	MAT 5206	ALGEBRA II	S	3	0	0	3	6
	MAT5127	ADVANCED QUADRATIC FORMS I	S	3	0	0	3	6	MAT 5208	ALGEBRAIC NUMBER THEORY II	S	3	0	0	3	6
	MAT5203	NUMBER THEORY I	S	3	0	0	3	6	MAT 5210	OTOMORF FUNCTIONS II	S	3	0	0	3	6
	MAT5207	ALGEBRAIC NUMBER THEORY I	S	3	0	0	3	6	MAT5212	INTRODUCTIONS TO ALGEBRAIC GEOMETRY II	S	3	0	0	3	6
	MAT5209	OTOMORF FUNCTIONS I	S	3	0	0	3	6	MAT5216	MODULAR FORMS II	S	3	0	0	3	6
	MAT5211	INTRODUCTIONS TO ALGEBRAIC GEOMETRY I	S	3	0	0	3	6	MAT5218	GRAPH THEORI II	S	3	0	0	3	6
	MAT5215	MODULAR FORMS I	S	3	0	0	3	6	MAT5220	TOPOLOGICAL GRAPH INDICES II	S	3	0	0	3	6
	MAT5217	GRAPH THEORI I	S	3	0	0	3	6	MAT 5302	ANALYSIS ON MANIFOLDS	S	3	0	0	3	6
	MAT5219	TOPOLOGICAL GRAPH INDICES I	S	3	0	0	3	6	MAT 5306	GEOMETRIC MODELING OF CURVES AND SURFACES II	S	3	0	0	3	6
	MAT5305	GEOMETRIC MODELLING OF CURVES AND SURFACES I	S	3	0	0	3	6	MAT 5310	ADVANCED PROJECTIVE GEOMETRY II	S	3	0	0	3	6
	MAT5307	BASIC DIFFERENTIAL GEOMETRY	S	3	0	0	3	6	MAT 5312	LINEAR SPACES II	S	3	0	0	3	6
	MAT5309	ADVANCED PROJECTIVE GEOMETRY I	S	3	0	0	3	6	MAT 5316	THEORY OF SUB-MANIFOLDS II	S	3	0	0	3	6
	MAT5311	LINEAR SPACES I	S	3	0	0	3	6	MAT 5318	DIFFERENTIABLE MANIFOLDS II	S	3	0	0	3	6
	MAT5313	TAXICAB GEOMETRY	S	3	0	0	3	6	MAT 5320	REAL PROJECTIVE GEOMETRY	S	3	0	0	3	6
	MAT5315	THEORY OF SUB-MANIFOLDS I	S	3	0	0	3	6	MAT5324	COORDINAT GEOMETRY II	S	3	0	0	3	6
	MAT5317	DIFFERENTIABLE MANIFOLDS I	S	3	0	0	3	6	MAT5326	GENERALIZED POLYGONS II	S	3	0	0	3	6
	MAT5321	MAPLE APPLICATIONS	S	3	0	0	3	6	MAT5328	GLOBAL LORENTZIAN GEOMETRY II	S	3	0	0	3	6
	MAT5323	COORDINAT GEOMETRY I	S	3	0	0	3	6	MAT 5406	ADVANCED NUMERICAL ANALYSIS II	S	3	0	0	3	6

MAT5325	GENERALIZED POLYGONS I	S	3	0	0	3	6	MAT 5410	BOUNDARY VALUE PROBLEMS II	S	3	0	0	3	6				
MAT5327	GLOBAL LORENTZIAN GEOMETRY I	S	3	0	0	3	6	MAT 5412	PARTIAL DIFFERENTIAL EQUATIONS II	S	3	0	0	3	6				
MAT5405	ADVANCED NUMERICAL ANALYSIS I	S	3	0	0	3	6	MAT 5414	ELLIPTIC PARTIAL DIFFERENTIAL EQUATIONS	S	3	0	0	3	6				
MAT5409	BOUNDARY VALUE PRABLEMS I	S	3	0	0	3	6	MAT 5416	TRANSFORMATION GROUPS AND LIE ALGEBRAS II						6				
MAT5415	TRANSFORMATION GROUPS AND LIE ALGEBRAS I						6	MAT5418	GRAFS AND LINEAR ALGEBRA	S	3	0	0	3	6				
MAT5417	GRAFS AND MATRICES	S	3	0	0	3	6	MAT5420	MODERN GEOMETRIC METHODS AND APPLICATOUNS-II	S	3	0	0	3	6				
MAT5419	MODERN GEOMETRIC METHODS AND APPLICATOUNS-I	S	3	0	0	3	6	MAT5422	SINGULARITY THEORY IN DIFRERANTIAL GEOMETRY	S	3	0	0	3	6				
MAT5421	DIFFERANTIAL FORMS AND APPLICATIONS	S	3	0	0	3	6	MAT5424	APPLICATIONS OF RIEMANIAN TRANSFORMS	S	3	0	0	3	6				
Toplam Kredi								12	30	Toplam Kredi								12	30
III. TERM / FALL								IV. TERM / SPRING											
MAT6193	PHD THESIS CONSULTING III	Z	0	1	0	0	1	MAT6194	PHD THESIS CONSULTING IV	Z	0	1	0	0	1				
MAT6183	ADVANCED TOPICS IN PHD THESIS III	S	4	0	0	0	5	FEN6000	RESEARCH TECHNIQUES and PUBLICATION ETHICS	C	2	0	0	2	2				
								MAT6172	SEMINAR	Z	0	2	0	0	4				
								MAT6184	ADVANCED TOPICS IN PHD THESIS IV	S	4	0	0	0	5				
MAT6107	FUNETIONS OF COMPLEX VARIABLES I	S	3	0	0	3	6	MAT6104	RIEMANN SURFACES II	S	2	2	0	3	6				
MAT6303	ADVENCED DIFFERANTIAL GEOMETRY	S	3	0	0	3	6	MAT6106	UNIVALENT FUNCTIONS II	S	3	0	0	3	6				
MAT6401	GENERALIZED ANALYTIC FUNCTIONS I	S	2	2	0	3	6	MAT6108	FUNETIONS OF COMPLEX VARIABLES II	S	3	0	0	3	6				
MAT6103	RIEMANN SURFACES I	S	3	0	0	3	6	MAT6110	HARMONIC MAPPINGS II	S	3	0	0	3	6				
MAT6105	UNIVALENT FUNCTIONS I	S	3	0	0	3	6	MAT6112	THEORY OF ELLIPTIC CURVES AND ITS APPLICATIONS II	S	3	0	0	3	6				
MAT6109	HARMONIC MAPPINGS I	S	3	0	0	3	6	MAT6118	P-ADIC ANALYSIS II	S	2	2	0	3	6				
MAT6111	THEORY OF ELLIPTIC CURVES AND ITS APPLICALTIONS I	S	2	2	0	3	6	MAT6202	ABSTRACT ALGEBRA II	S	2	2	0	3	6				
MAT6117	P-ADIC ANALYSIS I	S	3	0	0	3	6	MAT6206	GEOMETRIC NUMBER THEORY II	S	2	2	0	3	6				
MAT6201	ABSTRACT ALGEBRA I	S	3	0	0	3	6	MAT6208	ADVANCED ANALYTIC NUMBER THEORY II	S	3	0	0	3	6				
MAT6205	GEOMETRIC NUMBER THEORY I	S	3	0	0	3	6	MAT6214	APPLIED GRAPH THEORI II	S	3	0	0	3	6				
MAT6207	ADVANCED ANALYTIC NUMBER THEORY I	S	2	2	0	3	6	MAT6216	SPECTRAL GRAPH THEORI II	S	3	0	0	3	6				
MAT6213	APPLIED GRAPH THEORI I	S	3	0	0	3	6	MAT6302	CONTACT MANIFOLDS	S	3	0	0	3	6				
MAT6215	SPECTRAL GRAPH THEORI I	S	3	0	0	3	6	MAT6304	ADVANCED DIFFERENTIAL GEOMETRY II	S	2	2	0	3	6				
MAT6307	ALGEBRAIC GEOMETRY I	S	2	2	0	3	6	MAT6308	ALGEBRAIC GEOMETRY II	S	2	2	0	3	6				
MAT6309	COMBINATORIAL GEOMETRY	S	3	0	0	3	6	MAT6310	DIAGRAM GEOMETRIES AND GEOMETRIC STRUCTURES	S	3	0	0	3	6				
MAT6311	ALGEBRAIC STRUCTURES AND PROJECTIVE GEOMETRIES I	S	3	0	0	3	6	MAT6312	ALGEBRAIC STRUCTURES AND PROJECTIVE GEOMETRY II	S	3	0	0	3	6				
MAT6313	AFFINE AND PROJECTIVE GEOMETRY	S	3	0	0	3	6	MAT6316	RIEMANIAN GEOMETRY II	S	3	0	0	3	6				
MAT6315	RIEMANNIAN GEOMETRY I	S	3	0	0	3	6	MAT6318	SEMI-RIEMANIAN GEOMETRY II	S	3	0	0	3	6				
MAT6317	SEMI-RIEMANN GEOMETRY I	S	3	0	0	3	6	MAT6320	VECTORIAL APPROACH METHODS TO GEOMETRY	S	3	0	0	3	6				
MAT6319	THEORY OF TANGENT AND COTANGENT BUNDLES	S	3	0	0	3	6	MAT6322	PROJECTIVE GEOMETRI in NONASSOCIATIVE ALGEBRAS II	S	3	0	0	3	6				

	MAT6321	PROJECTIVE GEOMETRI in NONASSOCIATIVE ALGEBRAS I	S	3	0	0	3	6	MAT6324	LOCAL RINGS II	S	3	0	0	3	6
	MAT6323	LOCAL RINGS I	S	3	0	0	3	6	MAT6402	GENERALIZED ANALYTIC FUNCTIONS II	S	3	0	0	3	6
	MAT6405	ADVANCED PARTIAL DIFFERANTIAL EQUATIONS	S	3	0	0	3	6	MAT6406	ADVANCED SPECIAL FUNCTIONS	S	3	0	0	3	6
	MAT6407	GENERAL ANALYTIC FUNCTIONS	S	3	0	0	3	6	MAT6416	LIE GROUPS and CONSEVATION LAWS II	S	3	0	0	3	6
	MAT6413	SLECTED TOPICS IN PARTIAL DIFFERANTIAL EQUATIONS	S	3	0	0	3	6	MAT6418	GRAFS AND COLORING	S	3	0	0	3	6
	MAT6415	LIE GROUPS and CONSEVATION LAWS I	S	3	0	0	3	6	MAT6420	GRAPH INDICES RESPECT TO DISTANCE	S	3	0	0	3	6
	MAT6417	GRAFS AND TOPOLOGY	S	3	0	0	3	6								
	MAT6419	GRAPH INDICES RESPECT TO VERTEX DEGREE	S	3	0	0	3	6								
	MAT6421	METRIC STRUCTURES IN DIFFERENTIAL GEOMETRY	S	3	0	0	3	6								
	Toplam Kredi			12				30	Toplam Kredi			11				30
STAGE THESIS	V. TERM / FALL								VI. TERM / SPRING							
	MAT6185	ADVANCED TOPICS IN PHD THESIS V	Z	4	0	0	0	5	MAT6186	ADVANCED TOPICS IN PHD THESIS VI	Z	4	0	0	0	5
	MAT6195	PHD THESIS CONSULTING V	Z	0	0	0	0	15	MAT6196	PHD THESIS CONSULTING VI	Z	0	0	0	0	25
	MAT6177	PHD PROFICIENCY EXAMINATION	Z	0	0	0	0	10								
	Toplam Kredi			0				30	Toplam Kredi			0				30
	VII. TERM / FALL								VIII. TERM / SPRING							
	MAT6187	ADVANCED TOPICS IN PHD THESIS VII	Z	4	0	0	0	5	MAT6188	ADVANCED TOPICS IN PHD THESIS VIII	Z	3	0	0	0	5
	MAT6197	PHD THESIS CONSUTING VII	Z	0	0	0	0	25	MAT6198	PHD THESIS CONSULTING VIII	Z	0	0	0	0	25
	Toplam Kredi			0				30	Toplam Kredi			0				30
	IX. TERM / FALL								X. TERM / SPRING							
MAT6189	ADVANCED TOPICS IN PHD THESIS	Z	4	0	0	0	5	MAT6190	ADVANCED TOPICS IN PHD THESIS	Z	3	0	0	0	5	
MAT6199	PHD THESIS CONSSULTING	Z	0	0	0	0	25	MAT6200	PHD THESIS CONSULTING	Z	0	0	0	0	25	
Toplam Kredi			0				30	Toplam Kredi								
TOTAL CREDITS:47 - TOTAL ECTS: 300																

Not: The student is expected to take a total of credited selective courses every academic term.

The student have the option of choosing one selective course from another department with the endorsement of the supervisor. *Success in Ph.D. qualifying exam is a prerequisite.