



ULUDAĞ ÜNİVERSİTESİ
FEN BİLİMLERİ ENSTİTÜSÜ
2016 - 2017 EĞİTİM ÖĞRETİM YILI DERS PLANLARI

ANABİLİM DALI**Matematik****BİLİM DALI / PROGRAMI****Matematik / Yüksek Lisans Programı****DERS AŞAMASI****I. YARIYIL / GÜZ****II. YARIYIL / BAHAR**

Kodu	Dersin Adı	Türü	T	U	L	Kredi	AKTS	Kodu	Dersin Adı	Türü	T	U	L	Kredi	AKTS
MAT5191	YÜKSEK LİSANS TEZ DANIŞMANLIĞI I	Z	0	1	0	0	1	MAT5192	YÜKSEK LİSANS TEZ DANIŞMANLIĞI II	Z	0	1	0	0	1
MAT5181	YÜKSEK LİSANS UZMANLIK ALAN DERSİ I	S	4	0	0	0	5	MAT5172	SEMİNER	Z	0	2	0	0	6
								MAT5182	YÜKSEK LİSANS UZMANLIK ALAN DERSİ II	S	4	0	0	0	5
MAT5101	REEL ANALİZ I (Analiz ve Fonksiyonlar Teorisi Bilim Dalı)	Z	3	0	0	3	6								
MAT5319	GEOMETRİNİN TEMEL KAVRAMLARI (Geometri Bilim Dalı)	Z	3	0	0	3	6	MAT5102	REEL ANALİZ II	S	3	0	0	3	6
MAT5411	KİSMİ DİFERANSİYEL DENKLEMLER I (Uygulamalı Matematik Bilim Dalı)	Z	3	0	0	3	6	MAT5106	KOMPLEKS ANALİZ II	S	3	0	0	3	6
MAT5205	CEBİR I (Cebir ve Sayılar Teorisi Bilim Dalı)	Z	3	0	0	3	6	MAT5108	İLERİ ANALİZ II	S	3	0	0	3	6
MAT5105	KOMPLEKS ANALİZ I	S	3	0	0	3	6	MAT5112	ÇOK DEĞİŞKENLİ ANALİZ II	S	3	0	0	3	6
MAT5107	İLERİ ANALİZ I	S	3	0	0	3	6	MAT5114	İLERİ FONKSİYONEL ANALİZ II	S	3	0	0	3	6
MAT5111	ÇOK DEĞİŞKENLİ ANALİZ I	S	3	0	0	3	6	MAT5118	CİSİM TEORİSİ II	S	3	0	0	3	6
MAT5113	İLERİ FONKSİYONEL ANALİZ I	S	3	0	0	3	6	MAT5120	HALKA TEORİSİ II	S	3	0	0	3	6
MAT5117	CİSİM TEORİSİ I	S	3	0	0	3	6	MAT5122	DİOPHANT DENKLEMLERİ II	S	3	0	0	3	6
MAT5119	HALKA TEORİSİ I	S	3	0	0	3	6	MAT5124	GEOMETRİK FONKSİYONLAR TEORİSİ II	S	3	0	0	3	6
MAT5121	DİOPHANT DENKLEMLERİ I	S	3	0	0	3	6	MAT5126	ANALİTİK SAYILAR TEORİSİ II	S	3	0	0	3	6
MAT5123	GEOMETRİK FONKSİYONLAR TEORİSİ I	S	3	0	0	3	6	MAT5128	İLERİ KUADRIK FORMLAR II	S	3	0	0	3	6
MAT5125	ANALİTİK SAYILAR TEORİSİ I	S	3	0	0	3	6	MAT5204	SAYILAR TEORİSİ II	S	3	0	0	3	6
MAT5127	İLERİ KUADRIK FORMLAR I	S	3	0	0	3	6	MAT5206	CEBİR II	S	3	0	0	3	6
MAT5203	SAYILAR TEORİSİ I	S	3	0	0	3	6	MAT5208	CEBİRSEL SAYILAR TEORİSİ II	S	3	0	0	3	6
MAT5207	CEBİRSEL SAYILAR TEORİSİ I	S	3	0	0	3	6	MAT5210	OTOMORF FONKSİYONLAR II	S	3	0	0	3	6
MAT5209	OTOMORF FONKSİYONLAR I	S	3	0	0	3	6	MAT5212	CEBİRSEL GEOMETRİYE GİRİŞ II	S	3	0	0	3	6

	MAT5211	CEBİRSEL GEOMETRİYE GİRİŞ I	S	3	0	0	3	6	MAT5216	MODÜLER FORMLAR II	S	3	0	0	3	6			
	MAT5215	MODÜLER FORMLAR I	S	3	0	0	3	6	MAT5218	GRAF TEORİ II	S	3	0	0	3	6			
	MAT5217	GRAF TEORİ I	S	3	0	0	3	6	MAT5220	TOPOLOJİK GRAF İNDEKSLERİ II	S	3	0	0	3	6			
	MAT5219	TOPOLOJİK GRAF İNDEKSLERİ I	S	3	0	0	3	6	MAT5302	MANİFOLDLAR ÜZERİNE ANALİZ	S	3	0	0	3	6			
	MAT5305	EĞRİLER VE YÜZEYLERİN GEOMETRİK MODELLERİ I	S	3	0	0	3	6	MAT5306	EĞRİLER VE YÜZEYLERİN GEOMETRİK MODELLERİ II	S	3	0	0	3	6			
	MAT5307	TEMEL DİFEREMSİYEL GEOMETRİ I	S	3	0	0	3	6	MAT5310	İLERİ PROJEKTİF GEOMETRİ II	S	3	0	0	3	6			
	MAT5309	İLERİ PROJEKTİF GEOMETRİ I	S	3	0	0	3	6	MAT5312	LİNEER UZAYLAR II	S	3	0	0	3	6			
	MAT5311	LİNEER UZAYLAR I	S	3	0	0	3	6	MAT5316	ALTMANİFOLDLAR TEORİSİ II	S	3	0	0	3	6			
	MAT5313	TAKSİKAP GEOMETRİ	S	3	0	0	3	6	MAT5318	DİFERENSİYELLENEBİLİR MANİFOLDLAR II	S	3	0	0	3	6			
	MAT5315	ALTMANİFOLDLAR TEORİSİ I	S	3	0	0	3	6	MAT5320	REEL PROJEKTİF GEOMETRİ	S	3	0	0	3	6			
	MAT5317	DİFERENSİYELLENEBİLİR MANİFOLDLAR I	S	3	0	0	3	6	MAT5324	KOORDİNAT GEOMETRİSİ II	S	3	0	0	3	6			
	MAT5321	MAPPLE UYGULAMALARI	S	3	0	0	3	6	MAT5326	GENELLEŞTİRİLMİŞ POLİNOMLAR II	S	3	0	0	3	6			
	MAT5323	KOORDİNAT GEOMETRİSİ I	S	3	0	0	3	6	MAT5328	GLOBAL LORENTZİAN GEOMETRİ II	S	3	0	0	3	6			
	MAT5325	GENELLEŞTİRİLMİŞ POLİNOMLAR I	S	3	0	0	3	6	MAT5406	İLERİ NÜMERİK ANALİZ II	S	3	0	0	3	6			
	MAT5327	GLOBAL LORENTZİAN GEOMETRİ I	S	3	0	0	3	6	MAT5410	SINIR DEĞER PROBLEMLERİ II	S	3	0	0	3	6			
	MAT5405	İLERİ NÜMERİK ANALİZ I	S	3	0	0	3	6	MAT5412	KISMİ DİFERANSİYEL DENKLEMLER I	S	3	0	0	3	6			
	MAT5409	SINIR DEĞER PROBLEMLERİ I	S	3	0	0	3	6	MAT5414	ELİPTİK KISMİ DİFERANSİYEL DENKLEMLER	S	3	0	0	3	6			
	MAT5415	DÖNÜŞÜM GRUPLARI VE LİE CEBİRLERİ I	S	3	0	0	3	6	MAT5416	DÖNÜŞÜM GRUPLARI VE LİE CEBİRLERİ II	S	3	0	0	3	6			
		Toplam Kredi							12	30	Toplam Kredi							9	30
	TEZ AŞAMASI	III. YARIYIL / GÜZ								IV. YARIYIL / BAHAR									
MAT5183		YÜKSEK LİSANS UZMANLIK ALAN DERSİ III	Z	4	0	0	0	5	MAT5194	YÜKSEK LİSANS TEZ DANIŞMANLIĞI IV	Z	0	0	0	0	25			
MAT5193		YÜKSEK LİSANS TEZ DANIŞMANLIĞI III	Z	0	0	0	0	25	MAT5184	YÜKSEK LİSANS UZMANLIK ALAN DERSİ IV	Z	4	0	0	0	5			
Toplam Kredi							0	30	Toplam Kredi							0	30		
TOPLAM KREDİ: 21 - TOPLAM AKTS: 120																			

Not: Öğrenci, seçmeli derslerden her yarıyıl toplam kredilik ders seçecektir.
Öğrenci isterse, danışmanının onayı ile her yarıyıl için **1 (bir)** seçmeli dersini alan dışından da alabilir.



ULUDAĞ UNIVERSITY
INSTITUTE OF NATURAL SCIENCES
2016-2017 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	MAT5182	ADVANCED TOPICS IN MA THESIS II	S	4	0	0	0	5
								MAT5172	SEMINAR	Z	0	2	0	0	6
MAT5001	REEL ANALYSIS I	Z	3	0	0	3	6	MAT 5102	REAL ANALYSIS II	S	3	0	0	3	6
MAT5319	FUNDAMENTAL CONCEPTS OF GEOMETRY	Z	3	0	0	3	6	MAT 5106	COMPLEX ANALYSIS II	S	3	0	0	3	6
MAT5411	PARTIAL DIFFERENTIAL EQUATIONS I	Z	3	0	0	3	6	MAT 5108	ADVANCED ANALYSIS II	S	3	0	0	3	6
MAT5205	ALGEBRA I	Z	3	0	0	3	6	MAT5112	MULTI VARIABLE ANALYSIS II	S	3	0	0	3	6
MAT5105	COMPLEX ANALYSIS I	Z	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 TOALGEBRAİC 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	ADVENCED 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	ADVENCED 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	DIFFERANTIABLE 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	ELLIPTIK PARTIAL DIFFERANTIAL 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											
Total Credits								12	30	Total Credits								9	30
STAGE THESIS	III. TERM / FALL								IV. TERM / SPRING										
	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 III	Z	0	0	0	0	25	MAT5194	MA THESIS IV	Z	0	0	0	0	25			
Total Credits								0	30	Total Credits								0	30
TOTAL CREDITS: 21 - 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 ÜNİVERSİTESİ
FEN BİLİMLERİ ENSTİTÜSÜ
2016-2017 EĞİTİM ÖĞRETİM YILI DERS PLANLARI

ANABİLİM DALI**Matematik****BİLİM DALI / PROGRAMI****Matematik / Doktora Programı****DERS AŞAMASI****I. YARIYIL / GÜZ****II. YARIYIL / BAHAR**

Kodu	Dersin Adı	Türü	T	U	L	Kredi	AKTS	Kodu	Dersin Adı	Türü	T	U	L	Kredi	AKTS
MAT6191	DOKTORA TEZ DANIŞMANLIĞI I	Z	0	1	0	0	1	MAT6192	DOKTORA TEZ DANIŞMANLIĞI II	Z	0	1	0	0	1
MAT6181	DOKTORA UZMANLIK ALAN DERSİ I	S	4	0	0	0	5	MAT6182	DOKTORA UZMANLIK ALAN DERSİ II	S	4	0	0	0	5
FEN6001	ARAŞTIRMA YÖNTEMLERİ	Z	2	0	0	2	4	MAT6172	SEMİNER	Z	0	2	0	0	4
MAT6107	KOMPLEKS DEĞİŞKENLİ FONKSİYONLAR I (<i>Analiz ve Fonksiyonlar Teorisi Bilim Dalı</i>)	Z	3	0	0	3	5	MAT6104	RİEMANN YÜZEYLERİ II	S	3	0	0	3	5
MAT6303	İLERİ DİFERANSİYEL GEOMETRİ I (<i>Geometri Bilim Dalı</i>)	Z	3	0	0	3	5	MAT6106	ÜNİVANELT FONKSİYONLAR II	S	3	0	0	3	5
MAT6401	GENELLEŞTİRİLMİŞ ANALİTİK FONKSİYONLAR I (<i>Uygulamalı Matematik Bilim Dalı</i>)	Z	2	2	0	3	5	MAT6108	KOMPLEKS DEĞİŞKENLİ FONKSİYONLAR II	S	3	0	0	3	5
MAT6103	RİEMANN YÜZEYLERİ I	S	3	0	0	3	5	MAT6110	HARMONİK DÖNÜŞÜMLER II	S	3	0	0	3	5
MAT6105	ÜNİVANELT FONKSİYONLAR I	S	3	0	0	3	5	MAT6112	ELİPTİK EĞRİLER TEORİSİ VE UYGULAMALARI II	S	3	0	0	3	5
MAT6109	HARMONİK DÖNÜŞÜMLER I	S	3	0	0	3	5	MAT6118	P-ADIC ANALİZ II	S	3	0	0	3	5
MAT6111	ELİPTİK EĞRİLER TEORİSİ VE UYGULAMALARI I	S	3	0	0	3	5	MAT6202	SOYUT CEBİR II	S	3	0	0	3	5
MAT6117	P-ADIC ANALİZ I	S	3	0	0	3	5	MAT6206	GEOMETRİK SAYILAR TEORİSİ II	S	3	0	0	3	5
MAT6201	SOYUT CEBİR I	S	3	0	0	3	5	MAT6208	İLERİ ANALİTİK SAYILAR TEORİSİ II	S	3	0	0	3	5
MAT6213	UYGULAMALI GRAF TEORİ I	S	3	0	0	3	5	MAT6214	UYGULAMALI GRAF TEORİ II	S	3	0	0	3	5
MAT6215	SPEKTRAL GRAF TEORİ I	S	3	0	0	3	5	MAT6216	SPEKTRAL GRAF TEORİ II	S	3	0	0	3	5
MAT6205	GEOMETRİK SAYILAR TEORİSİ I	S	3	0	0	3	5	MAT6302	DEĞME MANİFOLDLAR	S	3	0	0	3	5
MAT6207	İLERİ ANALİTİK SAYILAR TEORİSİ I	S	3	0	0	3	5	MAT6304	İLERİ DİFERANSİYEL GEOMETRİ II	S	3	0	0	3	5
MAT6307	CEBİRSEL GEOMETRİ I	S	3	0	0	3	5	MAT6308	CEBİRSEL GEOMETRİ II	S	3	0	0	3	5
MAT6309	KOMBİNATORİK GEOMETRİ	S	3	0	0	3	5	MAT6310	DİYAGRAM GEOMETRİLERİ VE GEOMETRİK YAPILAR	S	3	0	0	3	5
MAT6311	CEBİRSEL YAPILAR VE PROJEKTİF GEOMETRİLERİ I	S	3	0	0	3	5	MAT6312	CEBİRSEL YAPILAR VE PROJEKTİF GEOMETRİ II	S	3	0	0	3	5
MAT6313	AFİN PROJEKTİF GEOMETRİ	S	3	0	0	3	5	MAT6316	RİEMANN GEOMETRİSİ II	S	3	0	0	3	5

TEZ AŞAMASI	MAT6315		RIEMANN GEOMETRİSİ I		S	3	0	0	3	5	MAT6318		YARI-RIEMANN GEOMETRİSİ II		S	3	0	0	3	5				
	MAT6317		YARI-RIEMANN GEOMETRİSİ I		S	3	0	0	3	5	MAT6320		GEOMETRİYE VEKTÖREL YAKLAŞIM METOTLARI		S	3	0	0	3	5				
	MAT6329		TANJANT KONTANJANT DEMET GEOMETRİSİ		S	3	0	0	3	5	MAT6322		NON-ASOSYATİF CEBİRLERDE PROJEKTİF GEOMETRİ II		S	3	0	0	3	5				
	MAT6321		NON-ASOSYATİF CEBİRLERDE PROJEKTİF GEOMETRİ I		S	3	0	0	3	5	MAT6324		LOKAL HALKALAR II		S	3	0	0	3	5				
	MAT6323		LOKAL HALKALAR I		S	3	0	0	3	5	MAT6402		GENELLEŞTİRİLMİŞ ANALİTİK FONKSİYONLAR II		S	3	0	0	3	5				
	MAT6405		İLERİ KİSMİ DİFERENSİYEL DENKLEMLER		S	3	0	0	3	5	MAT6406		İLERİ ÖZEL FONKSİYONLAR		S	3	0	0	3	5				
	MAT6407		GENEL ANALİTİK FONKSİYONLAR		S	3	0	0	3	5	MAT6416		LİE GRUPLARI ve KORUNUM KANUNLARI II		S	3	0	0	3	5				
	MAT6413		KİSMİ DİFERENSİYEL DENKLEMLERDE SEÇME KONULAR		S	3	0	0	3	5														
	MAT6415		LİE GRUPLARI ve KORUNUM KANUNLARI I		S	3	0	0	3	5														
	Toplam Kredi										14	30	Toplam Kredi										12	30
	III. YARIYIL / GÜZ											IV. YARIYIL / BAHAR												
	MAT6183		DOKTORA UZMANLIK ALAN DERSİ III		Z	4	0	0	0	5	MAT6184		DOKTORA UZMANLIK ALAN DERSİ IV		Z	4	0	0	0	5				
	MAT6193		DOKTORA TEZ DANIŞMANLIĞI III		Z	0	0	0	0	15	MAT6194		DOKTORA TEZ DANIŞMANLIĞI IV		Z	0	0	0	0	25				
	YET6177		DOKTORA YETERLİLİK SINAVI		Z	0	0	0	0	10														
Toplam Kredi										0	30	Toplam Kredi										0	30	
V. YARIYIL / GÜZ											VI. YARIYIL / BAHAR													
MAT6185		DOKTORA UZMANLIK ALAN DERSİ V		Z	4	0	0	0	5	MAT6186		DOKTORA UZMANLIK ALAN DERSİ VI		Z	4	0	0	0	5					
MAT6195		DOKTORA TEZ DANIŞMANLIĞI V		Z	0	0	0	0	25	MAT6196		DOKTORA TEZ DANIŞMANLIĞI VI		Z	0	0	0	0	25					
Toplam Kredi										0	30	Toplam Kredi										0	30	
VII. YARIYIL / GÜZ											VIII. YARIYIL / BAHAR													
MAT6187		DOKTORA UZMANLIK ALAN DERSİ VII		Z	4	0	0	0	5	MAT6188		DOKTORA UZMANLIK ALAN DERSİ VIII		Z	4	0	0	0	5					
MAT6197		DOKTORA TEZ DANIŞMANLIĞI VII		Z	0	0	0	0	25	MAT6198		DOKTORA TEZ DANIŞMANLIĞI VIII		Z	0	0	0	0	25					
Toplam Kredi										0	30	Toplam Kredi										0	30	
TOPLAM KREDİ: 26 - TOPLAM AKTS: 240																								

* Yeterlik Sınavından başarılı olmak ön koşuldur; III. yarıyıl da belirtilen dersleri alabilmek için yeterlik sınavına girip başarılı olmak gerekir. ** Mesleki Eğitim Dersi olarak tez aşamasında alınacaktır.



ULUDAĞ UNIVERSITY
INSTITUTE OF NATURAL SCIENCES
2016-2017 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	MAT6182	ADVANCED TOPICS IN PHD THESIS II	S	4	0	0	0	5
	FEN6001	RESEARCH METHODS	Z	2	0	0	2	4	MAT6172	SEMINAR	Z	0	2	0	0	4
	MAT6107	FUNCTIONS OF COMPLEX VARIABLES I	Z	3	0	0	3	5	MAT6104	RIEMANN SURFACES II	S	2	2	0	3	5
	MAT6303	ADVANCED DIFFERENTIAL GEOMETRY	Z	3	0	0	3	5	MAT6106	UNIVALENT FUNCTIONS II	S	3	0	0	3	5
	MAT6401	GENERALIZED ANALYTIC FUNCTIONS I	Z	2	2	0	3	5	MAT6108	COMPLEX FUNCTIONS II	S	3	0	0	3	5
	MAT6103	RIEMANN SURFACES I	S	3	0	0	3	5	MAT6110	HARMONIC MAPPINGS II	S	3	0	0	3	5
	MAT6105	UNIVALENT FUNCTIONS I	S	3	0	0	3	5	MAT6112	THEORY OF ELLIPTIC CURVES AND ITS APPLICATIONS II	S	3	0	0	3	5
	MAT6109	HARMONIC MAPPINGS I	S	3	0	0	3	5	MAT6118	P-ADIC ANALYSIS II	S	2	2	0	3	5
	MAT6111	THEORY OF ELLIPTIC CURVES AND ITS APPLICATIONS I	S	2	2	0	3	5	MAT6202	ABSTRACT ALGEBRA II	S	2	2	0	3	5
	MAT6117	P-ADIC ANALYSIS I	S	3	0	0	3	5	MAT6206	GEOMETRIC NUMBER THEORY II	S	2	2	0	3	5
	MAT6201	ABSTRACT ALGEBRA I	S	3	0	0	3	5	MAT6208	ADVANCED ANALYTIC NUMBER THEORY II	S	3	0	0	3	5
	MAT6205	GEOMETRIC NUMBER THEORY I	S	3	0	0	3	5	MAT6214	APPLIED GRAPH THEORY II	S	3	0	0	3	5
	MAT6207	ADVANCED ANALYTIC NUMBER THEORY I	S	2	2	0	3	5	MAT6216	SPECTRAL GRAPH THEORY II	S	3	0	0	3	5
	MAT6213	APPLIED GRAPH THEORY I	S	3	0	0	3	5	MAT6302	CONTACT MANIFOLDS	S	3	0	0	3	5
	MAT6215	SPECTRAL GRAPH THEORY I	S	3	0	0	3	5	MAT6304	ADVANCED DIFFERENTIAL GEOMETRY II	S	2	2	0	3	5
	MAT6307	ALGEBRAIC GEOMETRY I	S	2	2	0	3	5	MAT6308	ALGEBRAIC GEOMETRY II	S	2	2	0	3	5
	MAT6309	COMBINATORIAL GEOMETRY	S	3	0	0	3	5	MAT6310	DIAGRAM GEOMETRIES AND GEOMETRIC STRUCTURES	S	3	0	0	3	5
	MAT6311	ALGEBRAIC STRUCTURES AND PROJECTIVE GEOMETRIES I	S	3	0	0	3	5	MAT6312	ALGEBRAIC STRUCTURES AND PROJECTIVE GEOMETRY II	S	3	0	0	3	5
	MAT6313	AFFINE AND PROJECTIVE GEOMETRY	S	3	0	0	3	5	MAT6316	RIEMANNIAN GEOMETRY II	S	3	0	0	3	5
	MAT6315	RIEMANNIAN GEOMETRY I	S	3	0	0	3	5	MAT6318	SEMI-RIEMANNIAN GEOMETRY II	S	3	0	0	3	5

	MAT6317	SEMI-RIEMANN GEOMETRY I	S	3	0	0	3	5	MAT6320	VECTORIAL APPROACH METHODS TO GEOMETRY	S	3	0	0	3	5				
	MAT6319	THEORY OF TANGENT AND COTANGENT BUNDLES	S	3	0	0	3	5	MAT6322	PROJECTIVE GEOMETRI in NONASSOCIATIVE ALGEBRAS II	S	3	0	0	3	5				
	MAT6321	PROJECTIVE GEOMETRI in NONASSOCIATIVE ALGEBRAS I	S	3	0	0	3	5	MAT6324	LOCAL RİNGS II	S	3	0	0	3	5				
	MAT6323	LOCAL RİNGS I	S	3	0	0	3	5	MAT6402	GENERALIZED ANALYTIC FUNCTIONS II	S	3	0	0	3	5				
	MAT6405	ADVANCED PARTIAL DIFFERANTIAL EQUATIONS	S	3	0	0	3	5	MAT6406	ADVANCED SPECIAL FUNCTIONS	S	3	0	0	3	5				
	MAT6407	GENERAL ANALYTIC FUNCTIONS	S	3	0	0	3	5	MAT6416	LIE GROUPS and CONSEVATION LAWS II	S	3	0	0	3	5				
	MAT6413	SLECTED TOPICS IN PARTIAL DIFFERANTIAL EQUATIONS	S	3	0	0	3	5												
	MAT6415	LIE GROUPS and CONSEVATION LAWS I	S	3	0	0	3	5												
	Toplam Kredi								14	30	Toplam Kredi								12	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 III	Z	0	0	0	0	15	MAT6194	PHD THESIS 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 V	Z	0	0	0	0	25	MAT6196	PHD THESIS 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 VII	Z	0	0	0	0	25	MAT6198	PHD THESIS VIII	Z	0	0	0	0	25				
Toplam Kredi								0	30	Toplam Kredi								0	30	
TOTAL CREDITS: 26 - 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 ÜNİVERSİTESİ
FEN BİLİMLERİ ENSTİTÜSÜ
2016-2017 EĞİTİM ÖĞRETİM YILI DERS PLANLARI

ANABİLİM DALI**Matematik****BİLİM DALI / PROGRAMI****Matematik / Birleştirilmiş Doktora Programı****DERS AŞAMASI****I. YARIYIL / GÜZ****II. YARIYIL / BAHAR**

Kodu	Dersin Adı	Türü	T	U	L	Kredi	AKTS	Kodu	Dersin Adı	Türü	T	U	L	Kredi	AKTS
MAT6191	DOKTORA TEZ DANIŞMANLIĞI I	Z	0	1	0	0	1	MAT6192	DOKTORA TEZ DANIŞMANLIĞI II	Z	0	1	0	0	1
MAT6181	DOKTORA UZMANLIK ALAN DERSİ I	S	4	0	0	0	5	MAT6182	DOKTORA UZMANLIK ALAN DERSİ II	S	4	0	0	0	5
MAT5101	REEL ANALİZ I (<i>Analiz ve Fonksiyonlar Teorisi Bilim Dalı</i>)	Z	3	0	0	3	6	MAT5102	REEL ANALİZ II	S	3	0	0	3	6
MAT5205	CEBİR I (<i>Cebir ve Sayılar Teorisi Bilim Dalı</i>)	Z	3	0	0	3	6	MAT5106	KOMPLEKS ANALİZ II	S	3	0	0	3	6
MAT5319	GEOMETRİNİN TEMEL KAVRAMLARI (<i>Geometri Bilim Dalı</i>)	Z	3	0	0	3	6	MAT5108	İLERİ ANALİZ II	S	3	0	0	3	6
MAT5411	KİSMİ DİFERANSİYEL DENKLEMLER I (<i>Uygulamalı Matematik Bilim Dalı</i>)	Z	3	0	0	3	6	MAT5112	ÇOK DEĞİŞKENLİ ANALİZ II	S	3	0	0	3	6
MAT5105	KOMPLEKS ANALİZ I	S	3	0	0	3	6	MAT5114	İLERİ FONKSİYONEL ANALİZ II	S	3	0	0	3	6
MAT5107	İLERİ ANALİZ I	S	3	0	0	3	6	MAT5118	CİSİM TEORİSİ II	S	3	0	0	3	6
MAT5111	ÇOK DEĞİŞKENLİ ANALİZ I	S	3	0	0	3	6	MAT5120	HALKA TEORİSİ II	S	3	0	0	3	6
MAT5113	İLERİ FONKSİYONEL ANALİZ I	S	3	0	0	3	6	MAT5122	DİOPHANT DENKLEMLERİ II	S	3	0	0	3	6
MAT5117	CİSİM TEORİSİ I	S	3	0	0	3	6	MAT5124	GEOMETRİK FONKSİYONLAR TEORİSİ II	S	3	0	0	3	6
MAT5119	HALKA TEORİSİ I	S	3	0	0	3	6	MAT5126	ANALİTİK SAYILAR TEORİSİ II	S	3	0	0	3	6
MAT5121	DİOPHANT DENKLEMLERİ I	S	3	0	0	3	6	MAT5128	İLERİ KUADRİK FORMLAR II	S	3	0	0	3	6
MAT5123	GEOMETRİK FONKSİYONLAR TEORİSİ I	S	3	0	0	3	6	MAT5204	SAYILAR TEORİSİ II	S	3	0	0	3	6
MAT5125	ANALİTİK SAYILAR TEORİSİ I	S	3	0	0	3	6	MAT5206	CEBİR II	S	3	0	0	3	6
MAT5127	İLERİ KUADRİK FORMLAR I	S	3	0	0	3	6	MAT5208	CEBİRSEL SAYILAR TEORİSİ II	S	3	0	0	3	6
MAT5203	SAYILAR TEORİSİ I	S	3	0	0	3	6	MAT5210	OTOMORF FONKSİYONLAR II	S	3	0	0	3	6
MAT5207	CEBİRSEL SAYILAR TEORİSİ I	S	3	0	0	3	6	MAT5212	CEBİRSEL GEOMETRİYE GİRİŞ II	S	3	0	0	3	6
MAT5209	OTOMORF FONKSİYONLAR I	S	3	0	0	3	6	MAT5216	MODÜLER FORMLAR II	S	3	0	0	3	6
MAT5211	CEBİRSEL GEOMETRİYE GİRİŞ I	S	3	0	0	3	6	MAT5302	MANİFOLDLAR ÜZERİNE ANALİZ	S	3	0	0	3	6
MAT5215	MODÜLER FORMLAR I	S	3	0	0	3	6	MAT5306	EĞRİLER VE YÜZEYLERİN GEOMETRİK MODELLERİ II	S	3	0	0	3	6
MAT5217	GRAF TEORİ I	S	3	0	0	3	6	MAT5218	GRAF TEORİ II	S	3	0	0	3	6

MAT5219	TOPOLOJİK GRAF İNDEKSLERİ I	S	3	0	0	3	6	MAT5220	TOPOLOJİK GRAF İNDEKSLERİ II	S	3	0	0	3	6		
MAT5305	EĞRİLER VE YÜZEYLERİN GEOMETRİK MODELLERİ I	S	3	0	0	3	6	MAT5310	İLERİ PROJEKTİF GEOMETRİ II	S	3	0	0	3	6		
MAT5307	TEMEL DİFERENSİYEL GEOMETRİ I	S	3	0	0	3	6	MAT5312	LİNEER UZAYLAR II	S	3	0	0	3	6		
MAT5309	İLERİ PROJEKTİF GEOMETRİ I	S	3	0	0	3	6	MAT5316	ALTMANİFOLDLAR TEORİSİ II	S	3	0	0	3	6		
MAT5311	LİNEER UZAYLAR I	S	3	0	0	3	6	MAT5318	DİFERENSİYELLENEBİLİR MANİFOLDLAR II	S	3	0	0	3	6		
MAT5313	TAKSİKAP GEOMETRİ	S	3	0	0	3	6	MAT5320	REEL PROJEKTİF GEOMETRİ	S	3	0	0	3	6		
MAT5315	ALTMANİFOLDLAR TEORİSİ I	S	3	0	0	3	6	MAT5324	KOORDİNAT GEOMETRİSİ II	S	3	0	0	3	6		
MAT5317	DİFERENSİYELLENEBİLİR MANİFOLDLAR I	S	3	0	0	3	6	MAT5326	GENELLEŞTİRİLMİŞ POLİNOMLAR II	S	3	0	0	3	6		
MAT5321	MAPPLE UYGULAMALARI	S	3	0	0	3	6	MAT5328	GLOBAL LORENTZİAN GEOMETRİ II	S	3	0	0	3	6		
MAT5323	KOORDİNAT GEOMETRİSİ I	S	3	0	0	3	6	MAT5406	İLERİ NÜMERİK ANALİZ II	S	3	0	0	3	6		
MAT5325	GENELLEŞTİRİLMİŞ POLİNOMLAR I	S	3	0	0	3	6	MAT5410	SINIR DEĞER PROBLEMLERİ II	S	3	0	0	3	6		
MAT5327	GLOBAL LORENTZİAN GEOMETRİ I	S	3	0	0	3	6	MAT5412	KISMİ DİFERANSİYEL DENKLEMLER I	S	3	0	0	3	6		
MAT5405	İLERİ NÜMERİK ANALİZ I	S	3	0	0	3	6	MAT5414	ELİPTİK KISMİ DİFERENSİYEL DENKLEMLER	S	3	0	0	3	6		
MAT5409	SINIR DEĞER PROBLEMLERİ I	S	3	0	0	3	6	MAT5416	DÖNÜŞÜM GRUPLARI VE LİE CEBİRLERİ II	S	3	0	0	3	6		
MAT5415	DÖNÜŞÜM GRUPLARI VE LİE CEBİRLERİ I	S	3	0	0	3	6										
Toplam Kredi							14	30	Toplam Kredi							12	30
III. YARIYIL / GÜZ								IV. YARIYIL / BAHAR									
MAT6193	DOKTORA TEZ DANIŞMANLIĞI III	Z	0	1	0	0	1	MAT6194	DOKTORA TEZ DANIŞMANLIĞI IV	Z	0	1	0	0	1		
MAT6183	DOKTORA UZMANLIK ALAN DERSİ III	S	4	0	0	0	5	MAT6184	DOKTORA UZMANLIK ALAN DERSİ IV	S	4	0	0	0	5		
FEN6001	ARAŞTIRMA YÖNTEMLERİ	Z	2	0	0	2	4	MAT6172	SEMİNER	Z	0	2	0	0	4		
MAT6107	KOMPLEKS DEĞİŞKENLİ FONKSİYONLAR I (Analiz ve Fonksiyonlar Teorisi Bilim Dalı)	Z	3	0	0	3	5	MAT6104	RİEMANN YÜZEYLERİ II	S	3	0	0	3	5		
MAT6303	İLERİ DİFERANSİYEL GEOMETRİ I (Geometri Bilim Dalı)	Z	3	0	0	3	5	MAT6106	ÜNİVANELT FONKSİYONLAR II	S	3	0	0	3	5		
MAT6401	GENELLEŞTİRİLMİŞ ANALİTİK FONKSİYONLAR I (Uygulamalı Matematik Bilim Dalı)	Z	3	0	0	3	5	MAT6108	KOMPLEKS DEĞİŞKENLİ FONKSİYONLAR II	S	3	0	0	3	5		
MAT6103	RİEMANN YÜZEYLERİ I	S	3	0	0	3	5	MAT6110	HARMONİK DÖNÜŞÜMLER II	S	3	0	0	3	5		
MAT6105	ÜNİVANELT FONKSİYONLAR I	S	3	0	0	3	5	MAT6112	ELİPTİK EĞRİLER TEORİSİ VE UYGULAMALARI II	S	3	0	0	3	5		
MAT6109	HARMONİK DÖNÜŞÜMLER I	S	3	0	0	3	5	MAT6118	P-ADIC ANALİZ II	S	3	0	0	3	5		

TEZ AŞAMASI	MAT6111	ELİPTİK EĞRİLER TEORİSİ VE UYGULAMALARI I	S	3	0	0	3	5	MAT6202	SOYUT CEBİR II	S	3	0	0	3	5			
	MAT6117	P-ADIC ANALİZ I	S	3	0	0	3	5	MAT6206	GEOMETRİK SAYILAR TEORİSİ II	S	3	0	0	3	5			
	MAT6201	SOYUT CEBİR I	S	3	0	0	3	5	MAT6208	İLERİ ANALİTİK SAYILAR TEORİSİ II	S	3	0	0	3	5			
	MAT6205	GEOMETRİK SAYILAR TEORİSİ I	S	3	0	0	3	5	MAT6214	UYGULAMALI GRAF TEORİ II	S	3	0	0	3	5			
	MAT6207	İLERİ ANALİTİK SAYILAR TEORİSİ I	S	3	0	0	3	5	MAT6216	SPEKTRAL GRAF TEORİ II	S	3	0	0	3	5			
	MAT6213	UYGULAMALI GRAF TEORİ I	S	3	0	0	3	5	MAT6302	DEĞME MANİFOLDLAR	S	3	0	0	3	5			
	MAT6215	SPEKTRAL GRAF TEORİ I	S	3	0	0	3	5	MAT6304	İLERİ DİFERANSİYEL GEOMETRİ II	S	3	0	0	3	5			
	MAT6307	CEBİRSEL GEOMETRİ I	S	3	0	0	3	5	MAT6308	CEBİRSEL GEOMETRİ II	S	3	0	0	3	5			
	MAT6309	KOMBİNATORİK GEOMETRİ	S	3	0	0	3	5	MAT6310	DİYAGRAM GEOMETRİLERİ VE GEOMETRİK YAPILAR	S	3	0	0	3	5			
	MAT6311	CEBİRSEL YAPILAR VE PROJEKTİF GEOMETRİLERİ I	S	3	0	0	3	5	MAT6312	CEBİRSEL YAPILAR VE PROJEKTİF GEOMETRİ II	S	3	0	0	3	5			
	MAT6313	AFİN PROJEKTİF GEOMETRİ	S	3	0	0	3	5	MAT6316	RIEMANN GEOMETRİSİ II	S	3	0	0	3	5			
	MAT6315	RIEMANN GEOMETRİSİ I	S	3	0	0	3	5	MAT6318	YARI-RIEMANN GEOMETRİSİ II	S	3	0	0	3	5			
	MAT6317	YARI-RIEMANN GEOMETRİSİ I	S	3	0	0	3	5	MAT6320	GEOMETRİYE VEKTÖREL YAKLAŞIM METOTLARI	S	3	0	0	3	5			
	MAT6321	NON-ASOSYATİF CEBİRLERDE PROJEKTİF GEOMETRİ I	S	3	0	0	3	5	MAT6322	NON-ASOSYATİF CEBİRLERDE PROJEKTİF GEOMETRİ II	S	3	0	0	3	5			
	MAT6323	LOKAL HALKALAR I	S	3	0	0	3	5	MAT6324	LOKAL HALKALAR II	S	3	0	0	3	5			
	MAT6329	TANJANT KONTANJANT DEMET GEOMETRİSİ	S	3	0	0	3	5	MAT6402	GENELLEŞTİRİLMİŞ ANALİTİK FONKSİYONLAR II	S	3	0	0	3	5			
	MAT6405	İLERİ KİSMİ DİFERENSİYEL DENKLEMLER	S	3	0	0	3	5	MAT6406	İLERİ ÖZEL FONKSİYONLAR	S	3	0	0	3	5			
	MAT6407	GENEL ANALİTİK FONKSİYONLAR	S	3	0	0	3	5	MAT6416	LİE GRUPLARI ve KORUNUM KANUNLARI II	S	3	0	0	3	5			
	MAT6413	KİSMİ DİFERENSİYEL DENKLEMLERDE SEÇME KONULAR	S	3	0	0	3	5											
	MAT6415	LİE GRUPLARI ve KORUNUM KANUNLARI I	S	3	0	0	3	5											
Toplam Kredi								12	30	Toplam Kredi								12	30
V. YARIYIL / GÜZ									VI. YARIYIL / BAHAR										
MAT6185	DOKTORA UZMANLIK ALAN DERSİ V	Z	4	0	0	0	5	MAT6186	DOKTORA UZMANLIK ALAN DERSİ VI	Z	4	0	0	0	5				
MAT6195	DOKTORA TEZ DANIŞMANLIĞI V	Z	0	0	0	0	15	MAT6196	DOKTORA TEZ DANIŞMANLIĞI VI	Z	0	0	0	0	25				
YET6177	DOKTORA YETERLİLİK SINAVI	Z	0	0	0	0	10												
Toplam Kredi								0	30	Toplam Kredi								0	30
VII. YARIYIL / GÜZ									VIII. YARIYIL / BAHAR										
MAT6187	DOKTORA UZMANLIK ALAN DERSİ VII	Z	4	0	0	0	5	MAT6188	DOKTORA UZMANLIK ALAN DERSİ VIII	Z	4	0	0	0	5				
MAT6197	DOKTORA TEZ DANIŞMANLIĞI VII	Z	0	0	0	0	25	MAT6198	DOKTORA TEZ DANIŞMANLIĞI VIII	Z	0	0	0	0	25				
Toplam Kredi								0	30	Toplam Kredi								0	30

IX. YARIYIL / GÜZ								X. YARIYIL / BAHAR							
MAT6189	DOKTORA UZMANLIK ALAN DERSİ IX	Z	4	0	0	0	5	MAT6190	DOKTORA UZMANLIK ALAN DERSİ X	Z	4	0	0	0	5
MAT6199	DOKTORA TEZ DANIŞMANLIĞI IX	Z	0	0	0	0	25	MAT6290	DOKTORA TEZ DANIŞMANLIĞI X	Z	0	0	0	0	25
Toplam Kredi						0	30	Toplam Kredi						0	30
TOPLAM KREDİ:50 - TOPLAM AKTS: 300															

Not: Öğrenci, seçmeli derslerden her yarıyıl toplam kredilik ders seçecektir. Öğrenci isterse, danışmanının onayı ile her yarıyıl için 1 (bir) seçmeli dersini alan dışından da alabilir.

* Yeterlik Sınavından başarılı olmak ön koşuldur; III. yarıyıl da belirtilen dersleri alabilmek için yeterlik sınavına girip başarılı olmak gerekir. ** Mesleki Eğitim Dersi olarak tez aşamasında alınacaktır.



ULUDAĞ UNIVERSITY
INSTITUTE OF NATURAL SCIENCES
2016-2017 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	1
	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	Z	3	0	0	3	6	MAT 5102	REAL ANALYSIS II	S	3	0	0	3	6
	MAT5319	FUNDAMENTAL CONCEPTS OF GEOMETRY	Z	3	0	0	3	6	MAT 5106	COMPLEX ANALYSIS II	S	3	0	0	3	6
	MAT5411	PARTIAL DIFFERENTIAL EQUATIONS I	Z	3	0	0	3	6	MAT 5108	ADVANCED ANALYSIS II	S	3	0	0	3	6
	MAT5205	ALGEBRA I	Z	3	0	0	3	6	MAT5112	MULTI VARIABLE ANALYSIS II	S	3	0	0	3	6
	MAT5105	COMPLEX ANALYSIS I	Z	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	ADVENCED 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	ADVENCED 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	DIFFERANTIABLE 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	ELLIPTIK PARTIAL DIFFERANTIAL 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										
Toplam Kredi							14	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 III	Z	0	1	0	0	1		
MAT6183	ADVANCED TOPICS IN PHD THESIS III	S	4	0	0	0	5	MAT6184	ADVANCED TOPICS IN PHD THESIS III	S	4	0	0	0	5		
FEN6001	RESEARCH METHODS	Z	2	0	0	2	4	MAT6172	SEMINAR	Z	0	2	0	0	4		
MAT6107	FUNETIONS OF COMPLEX VARIABLES I	Z	3	0	0	3	5	MAT6104	RIEMANN SURFACES II	S	2	2	0	3	5		
MAT6303	ADVENCED DIFFERANTIAL GEOMETRY	Z	3	0	0	3	5	MAT6106	UNIVALENT FUNCTIONS II	S	3	0	0	3	5		
MAT6401	GENERALIZED ANALYTIC FUNCTIONS I	Z	2	2	0	3	5	MAT6108	FUNETIONS OF COMPLEX VARIABLES II	S	3	0	0	3	5		
MAT6103	RIEMANN SURFACES I	S	3	0	0	3	5	MAT6110	HARMONIC MAPPINGS II	S	3	0	0	3	5		
MAT6105	UNIVALENT FUNCTIONS I	S	3	0	0	3	5	MAT6112	THEORY OF ELLIPTIC CURVES AND ITS APPLICATIONS II	S	3	0	0	3	5		
MAT6109	HARMONIC MAPPINGS I	S	3	0	0	3	5	MAT6118	P-ADIC ANALYSIS II	S	2	2	0	3	5		
MAT6111	THEORY OF ELLIPTIC CURVES AND ITS APPLICALTIONS I	S	2	2	0	3	5	MAT6202	ABSTRACT ALGEBRA II	S	2	2	0	3	5		
MAT6117	P-ADIC ANALYSIS I	S	3	0	0	3	5	MAT6206	GEOMETRIC NUMBER THEORY II	S	2	2	0	3	5		
MAT6201	ABSTRACT ALGEBRA I	S	3	0	0	3	5	MAT6208	ADVANCED ANALYTIC NUMBER THEORY II	S	3	0	0	3	5		
MAT6205	GEOMETRIC NUMBER THEORY I	S	3	0	0	3	5	MAT6214	APPLIED GRAPH THEORI II	S	3	0	0	3	5		
MAT6207	ADVANCED ANALYTIC NUMBER THEORY I	S	2	2	0	3	5	MAT6216	SPECTRAL GRAPH THEORI II	S	3	0	0	3	5		
MAT6213	APPLIED GRAPH THEORI I	S	3	0	0	3	5	MAT6302	CONTACT MANIFOLDS	S	3	0	0	3	5		
MAT6215	SPECTRAL GRAPH THEORI I	S	3	0	0	3	5	MAT6304	ADVANCED DIFFERENTIAL GEOMETRY II	S	2	2	0	3	5		

	MAT6307	ALGEBRAIC GEOMETRY I	S	2	2	0	3	5	MAT6308	ALGEBRAIC GEOMETRY II	S	2	2	0	3	5					
	MAT6309	COMBINATORIAL GEOMETRY	S	3	0	0	3	5	MAT6310	DIAGRAM GEOMETRIES AND GEOMETRIC STRUCTURES	S	3	0	0	3	5					
	MAT6311	ALGEBRAIC STRUCTURES AND PROJECTIVE GEOMETRIES I	S	3	0	0	3	5	MAT6312	ALGEBRAIC STRUCTURES AND PROJECTIVE GEOMETRY II	S	3	0	0	3	5					
	MAT6313	AFFINE AND PROJECTIVE GEOMETRY	S	3	0	0	3	5	MAT6316	RIEMANIAN GEOMETRY II	S	3	0	0	3	5					
	MAT6315	RIEMANNIAN GEOMETRY I	S	3	0	0	3	5	MAT6318	SEMI-RIEMANIAN GEOMETRY II	S	3	0	0	3	5					
	MAT6317	SEMI-RIEMANN GEOMETRY I	S	3	0	0	3	5	MAT6320	VECTORIAL APPROACH METHODS TO GEOMETRY	S	3	0	0	3	5					
	MAT6319	THEORY OF TANGENT AND COTANGENT BUNDLES	S	3	0	0	3	5	MAT6322	PROJECTIVE GEOMETRI in NONASSOCIATIVE ALGEBRAS II	S	3	0	0	3	5					
	MAT6321	PROJECTIVE GEOMETRI in NONASSOCIATIVE ALGEBRAS I	S	3	0	0	3	5	MAT6324	LOCAL RINGS II	S	3	0	0	3	5					
	MAT6323	LOCAL RINGS I	S	3	0	0	3	5	MAT6402	GENERALIZED ANALYTIC FUNCTIONS II	S	3	0	0	3	5					
	MAT6405	ADVANCED PARTIAL DIFFERENTIAL EQUATIONS	S	3	0	0	3	5	MAT6406	ADVANCED SPECIAL FUNCTIONS	S	3	0	0	3	5					
	MAT6407	GENERAL ANALYTIC FUNCTIONS	S	3	0	0	3	5	MAT6416	LIE GROUPS and CONSEVATION LAWS II	S	3	0	0	3	5					
	MAT6413	SLECTED TOPICS IN PARTIAL DIFFERENTIAL EQUATIONS	S	3	0	0	3	5													
	MAT6415	LIE GROUPS and CONSEVATION LAWS I	S	3	0	0	3	5													
	Toplam Kredi									12	30	Toplam Kredi									12

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 V	Z	0	0	0	0	15	MAT6196	PHD THESIS 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	Z	4	0	0	0	5	MAT6188	ADVANCED TOPICS IN PHD THESIS	Z	3	0	0	0	5						
	MAT6197	PHD THESIS	Z	0	0	0	0	25	MAT6198	PHD THESIS	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	Z	0	0	0	0	25	MAT6290	PHD THESIS	Z	0	0	0	0	25						
	Toplam Kredi									0	30	Toplam Kredi										

TOTAL CREDITS:50 - TOTAL ECTS: 300																	
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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.