



ULUDAĞ UNIVERSITY
GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
2017-2018 ACADEMIC YEAR COURSE PLAN

DEPARTMENT OF	PHYSICS
DEPARTMENT / PROGRAM	PHYSICS/ Master'sDegree 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
	PHYS 5191	MA THESIS I	Z	0	1	0	0	1	PHYS 5192	MA THESIS II	Z	0	1	0	0	1
	PHYS 5403	ADVANCED QUANTUM MECHANICS I	Z	3	0	0	3	6	PHYS 5172	SEMINAR	Z	0	2	0	0	4
									OTO5000	RESEARCH TECHNIQUES and PUBLICATION ETHICS in PHYSICS	Z	2	0	0	2	2
	PHYS5181	ADVANCED TOPICS IN MATHESIS I	S	4	0	0	0	5	PHYS5182	ADVANCED TOPICS IN MATHESIS II	S	3	0	0	0	5
	PHYS5101	EXPERIMENTAL TECHNIQUES AND MEASUREMENTS IN MR	S	2	2	0	3	6	PHYS 5102	MULTIPLE LAYER STRUCTURE OF RESONANCE LINE IN LIQUIDS	S	3	0	0	3	6
	PHYS5103	SPECTROSCOPIC METHODS	S	3	0	0	3	6	PHYS5104	MAGNETIC RESONANCE IMAGING	S	3	0	0	3	6
	PHYS5105	PHOTODETECTORS	S	3	0	0	3	6	PHYS5106	ELECTRO-OPTIC	S	3	0	0	3	6
	PHYS5107	ADVANCED ATOMIC PHYSICS I	S	3	0	0	3	6	PHYS5108	MOLECULAR PHYSICS II	S	3	0	0	3	6
	PHYS5109	MOLECULAR PHYSICS I	S	3	0	0	3	6	PHYS5110	HIGH ENERGY GAS CHAMBER PHYSICS I	S	3	0	0	3	6
	PHYS5111	DOSEMTRIC MATERIALS	S	3	0	0	3	6	PHYS5112	COMPUTER BASED INSTRUMENTATION II	S	3	0	0	3	6
	PHYS5113	LUMINESCENCE TYPES AND APPLICATION AREAS	S	3	0	0	3	6	PHYS5114	DATA ANALYSIS WITH OBJECT ORIENTED PROGRAMMING I	S	3	0	0	3	6
	PHYS 5201	DIELECTRIC PROPERTIES OF MATERIALS I	S	3	0	0	3	6	PHYS5202	INTERNET PROGRAMMING II	S	2	2	0	3	6
	PHYS 5203	INTERNET PROGRAMMING I	S	2	2	0	3	6	PHYS5204	COMPUTATIONAL TECHNIQUES IN HIGH ENERGY PHYSICS I	S	3	0	0	3	6
	PHYS 5205	OBJECT ORIENTED DATA ANALYSIS TO PYTHON PROGRAMMING	S	3	0	0	3	6	PHYS5206	RELATIVISTIC QUANTUM MECHANICS II	S	3	0	0	3	6
	PHYS 5207	COMPUTER BASED INSTRUMENTATION I	S	3	0	0	3	6	PHYS5302	STRUCTURE OF MAGNETIC MATERIALS	S	3	0	0	3	6
	PHYS 5209	RELATIVISTIC QUANTUM MECHANICS I	S	3	0	0	3	6	PHYS5304	ADVANCED SOLID STATE II	S	3	0	0	3	6
	PHYS 5211	BEYOND THE STANDARD MODEL I	S	3	0	0	3	6	PHYS5306	ADVANCED MAGNETISM I	S	3	0	0	3	6
	PHYS 5213	GAS DETECTORS IN EXPERIMENTAL PARTICLE PHYSICS I	S	3	0	0	3	6	PHYS5308	SURFACE OXIDE FILMS AND THEIR TECHNOLOGIES	S	3	0	0	3	6
	PHYS 5301	MAGNETIC PROPERTIES OF MATERIALS	S	3	0	0	3	6	PHYS5310	SUPERCONDUCTORS I	S	3	0	0	3	6
	PHYS 5303	ADVANCED SOLID STATE PHYSICS I	S	3	0	0	3	6	PHYS5312	PHYSICS OF SEMICONDUCTOR DEVICES I	S	3	0	0	3	6
	PHYS 5307	ADVANCED MAGNETISM II	S	3	0	0	3	6	PHYS5314	PHYSICS OF SEMICONDUCTORS I	S	3	0	0	3	6
	PHYS 5309	ELECTROCHEMICAL METHODS	S	3	0	0	3	6	PHYS5316	MAGNETIC THIN FILMS	S	3	0	0	3	6
	PHYS 5311	SUPERCONDUCTIVITY II	S	3	0	0	3	6	PHYS5318	MAGNETIC DOMAINS	S	3	0	0	3	6
	PHYS 5313	PHYSICS OF SEMICONDUCTOR DEVICES II	S	3	0	0	3	6	PHYS5320	SURFACE PHYSICS AND ANALYSIS TECHNIQUES	S	3	0	0	3	6
	PHYS 5315	PHYSICS OF SEMICONDUCTORS II	S	3	0	0	3	6	PHYS5324	NANOTECHNOLOGY	S	3	0	0	3	6
	PHYS 5317	QUANTUM THEORY OF SOLIDS	S	3	0	0	3	6	PHYS5326	X-RAY DIFFRACTIONS	S	3	0	0	3	6



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2017- 2018 ACADEMIC YEAR COURSE PLAN

DEPARTMENT OF		PHYSICS														
DEPARTMENT / PROGRAM		PHYSICS / 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
	PHYS6191	PHD THESIS I	Z	0	1	0	0	1	PHYS6192	PHD THESIS II	Z	0	1	0	0	1
	PHSY6101	NUCLEARMAGNETİCRESONANCE I(ATOM VE MOLEKÜL FİZ.A.B.D. İÇİN)	Z	3	0	0	3	5	PHYS6172	SEMİNAR	Z	0	2	0	0	4
	PHSY6201	ULTRASOUND(GENEL FİZ.A.B.D.İÇİN)	Z	3	0	0	3	5	PHSY6102	NUCLEARMAGNETİCRESONANCE II (ATOM VE MOLEKÜL FİZİĞİ A.B.D.İÇİN)	Z	3	0	0	3	6
	PHSY6303	PROPERTIES OF SOLID MATERIALS I(KATIHALFİZ.A.B.D.İÇİN)	Z	3	0	0	3	5	PHSY6608	QUANTUMFIELDTHEORY I (YÜK.EN.FİZ.A.B.D İÇİN)	Z	3	0	0	3	6
	PHSY6501	ADVANCED NUCLEARPHYSİCS II(NÜKLEER FİZ.A.B.D. İÇİN)	Z	3	0	0	3	5	FEN6000	RESEARCH TECHNIQUES and PUBLICATION ETHICS	Z	2	0	0	2	2
	PHYS6181	ADVANCED TOPİCSINPHDTHESIS I	S	4	0	0	0	5	PHYS6182	ADVANCED TOPİCSINPHDTHESIS II	S	4	0	0	0	5
	PHSY6103	ELECTRON SPİN RESONANCE I	S	3	0	0	3	6	PHSY6104	ELECTRON SPİN RESONANCE II	S	3	0	0	3	6
	PHSY6105	PHYSICAL OPTİCS I	S	3	0	0	3	6	PHSY6106	PHYSICAL OPTİCS II	S	3	0	0	3	6
	PHSY6107	THERMOLÜMINESCENCE AND DATA ANALYSIS I	S	3	0	0	3	6	PHSY6108	THERMOLÜMINESCENCE AND DATA ANALYSIS II	S	3	0	0	3	6
	PHYS6109	HIGH ENERGY GAS CHAMBER PHYSİCS II	S	3	0	0	3	6	PHSY6110	GENERAL RELATİVİTY	S	3	0	0	3	6
	PHYS6111	COMPUTATİONAL TECHNIQUES IN HIGH ENERGY PHYSİCS II	S	3	0	0	3	6	PHSY6112	BEYOND THE STANDARD MODEL II	S	3	0	0	3	6
	PHYS6113	GAS DETECTORS IN EXPERİMENTAL PARTICLE PHYSİCS II	S	3	0	0	3	6	PHSY6202	ELECTRONMİCROSCOPESAND APPLİCATIONS	S	2	2	0	3	6
	PHSY6203	DİELECTRİCPROPERTIES OF MATERIALS II	S	3	0	0	3	6	PHSY6302	ARTİFİCİALNEURAL NETWORK	S	3	0	0	3	6
	PHSY6301	NUMERİCAL ANALYSIS METHODS İN MAGNETİSM	S	3	0	0	3	6	PHSY6304	PROPERTIES OF SOLID MATERIALS II	S	3	0	0	3	6
	PHSY6305	X-RAYSAND APPLİCATIONS	S	2	2	0	3	6	PHSY6308	MİCROMAGNETİSM II	S	3	0	0	3	6
	PHSY6307	MİCROMAGNETİSM I	S	3	0	0	3	6	PHSY6310	ADVANCED MAGNETİCMATERIALS II	S	3	0	0	3	6
	PHSY6309	ADVANCED MAGNETİCMATERIAL I	S	3	0	0	3	6	PHSY6312	NANOPHYSİCSANDNANOSCIENCE	S	3	0	0	3	6
	PHSY6311	HETEROJUNCTİONSAND METAL-SEMİKONDUKTORJUNCTİONS	S	3	0	0	3	6	PHSY6314	OPTİCAL PROPERTIES OF SEMİCONDUCTORS	S	3	0	0	3	6
	PHSY6315	MAGNETİCCORESANDPROPERTIES I	S	3	0	0	3	6	PHSY6316	MAGNETİCCORESANDPROPERTIES II	S	3	0	0	3	6
	PHSY6317	DİODELASERS I	S	3	0	0	3	6	PHSY6318	DİODELASERS II	S	3	0	0	3	6
	PHSY6319	PHOTONİCSANDLASERS	S	3	0	0	3	6	PHSY6402	ADVANCED QUANTUM MECHANİCS II	S	3	0	0	3	6
	PHSY6401	MATHEMATİCAL METHODS İN PHYSİCS II	S	3	0	0	3	6	PHSY6502	NUCLEAR SHELL MODEL	S	3	0	0	3	6
	PHSY6503	ADVANCED RADİATİONPHYSİCS II	S	3	0	0	3	6	PHSY6504	NUMERİCAL APPLİCATIONS FORNUCLEAREVENTS I	S	2	2	0	3	6

PHSY6505	NUMERICAL APPLICATIONS FOR NUCLEAR EVENTS II	S	3	0	0	3	6	PHSY6602	ELEMENTARY PARTICLES PHYSICS II	S	3	0	0	3	6				
PHSY6601	ELECTROWEAK INTERACTIONS	S	3	0	0	3	6	PHSY6604	GAUGE THEORIES	S	3	0	0	3	6				
PHSY6603	LIE ALGEBRA IN PARTICLE PHYSICS	S	3	0	0	3	6	PHSY6606	QUANTUM CHROMODYNAMICS	S	3	0	0	3	6				
PHSY6605	QUANTUM ELECTRODYNAMICS	S	3	0	0	3	6	PHSY6610	HIGH ENERGY DETECTORS II	S	3	0	0	3	6				
PHSY6607	HADRON PHYSICS AND QUARK MODEL	S	3	0	0	3	6	PHSY6612	HIGH ENERGY SIMULATION TECHNIQUES II	S	3	0	0	3	6				
PHSY6609	QUANTUM FIELD THEORY II	S	3	0	0	3	6	PHSY6614	ORGANIC ELECTRONIC	S	3	0	0	3	6				
PHSY6613	ADVANCED SOLIDIFICATION TECHNIQUES	S	3	0	0	3	6												
Toplam Kredi								14	30	Toplam Kredi								11	30
III. TERM / FALL								IV. TERM / SPRING											
PHYS6183	ADVANCED TOPICS IN PHD THESIS III	Z	4	0	0	0	5	PHYS6184	ADVANCED TOPICS IN PHD THESIS IV	Z	4	0	0	0	5				
PHYS6193	PHD THESIS III	Z	0	1	0	0	20	PHYS6194	PHD THESIS IV	Z	0	1	0	0	25				
PHYS6177	PHD PROFICIENCY EXAMINATION	Z	0	0	0	0	5												
Toplam Kredi								0	30	Toplam Kredi								0	30
V. TERM / FALL								VI. TERM / SPRING											
PHYS6185	ADVANCED TOPICS IN PHD THESIS V	Z	4	0	0	0	5	PHYS6186	ADVANCED TOPICS IN PHD THESIS VI	Z	4	0	0	0	5				
PHYS6195	PHD THESIS V	Z	0	1	0	0	25	PHYS6196	PHD THESIS VI	Z	0	1	0	0	25				
Toplam Kredi								0	30	Toplam Kredi								0	30
VII. TERM / FALL								VIII. TERM / SPRING											
PHYS6187	ADVANCED TOPICS IN PHD THESIS VII	Z	4	0	0	0	5	PHYS6188	ADVANCED TOPICS IN PHD THESIS VIII	Z	4	0	0	0	5				
PHYS6197	PHD THESIS VII	Z	0	1	0	0	25	PHYS6198	PHD THESIS VIII	Z	0	1	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 has 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.



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INSTITUTE OF NATURAL SCIENCES
2017-2018 ACADEMIC YEAR COURSE PLAN

DEPARTMENT OF	PHYSICS
DEPARTMENT / PROGRAM	PHYSICS / 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
FZK6191	PHD THESIS CONSULTING I	Z	0	1	0	0	1	FZK6192	PHD THESIS CONSULTING II	Z	0	1	0	0	1
FZK6181	ADVANCED TOPICS IN PHD THESIS I	S	4	0	0	0	5	FZK6182	ADVANCED TOPICS IN PHD THESIS II	S	4	0	0	0	5
PHYS5403	ADVANCED QUANTUM MECHANICS I	Z	3	0	0	3	6	PHYS 5102	MULTIPLE LAYER STRUCTURE OF RESONANCE LINE IN LIQUIDS	S	3	0	0	3	6
PHYS5101	EXPERIMENTAL TECHNIQUES AND MEASUREMENTS IN MR	S	2	2	0	3	6	PHYS5104	MAGNETIC RESONANCE IMAGING	S	3	0	0	3	6
PHYS5103	SPECTROSCOPIC METHODS	S	3	0	0	3	6	PHYS5106	ELECTRO-OPTIC	S	3	0	0	3	6
PHYS5105	PHOTODETECTORS	S	3	0	0	3	6	PHYS5108	MOLECULAR PHYSICS II	S	3	0	0	3	6
PHYS5107	ADVANCED ATOMIC PHYSICS I	S	3	0	0	3	6	PHYS5110	HIGH ENERGY GAS CHAMBER PHYSICS I	S	3	0	0	3	6
PHYS5109	MOLECULAR PHYSICS I	S	3	0	0	3	6	PHYS5112	COMPUTER BASED INSTRUMENTATION II	S	3	0	0	3	6
PHYS5111	DOSEMETRIC MATERIALS	S	3	0	0	3	6	PHYS5114	DATA ANALYSIS WITH OBJECT ORIENTED PROGRAMMING I	S	3	0	0	3	6
PHYS5113	LUMINESCENCE TYPES AND APPLICATION AREAS	S	3	0	0	3	6	PHYS5202	INTERNET PROGRAMMING II	S	2	2	0	3	6
PHYS 5201	DIELECTRIC PROPERTIES OF MATERIALS I	S	3	0	0	3	6	PHYS5204	COMPUTATIONAL TECHNIQUES IN HIGH ENERGY PHYSICS I	S	3	0	0	3	6
PHYS 5203	INTERNET PROGRAMMING I	S	2	2	0	3	6	PHYS5206	RELATIVISTIC QUANTUM MECHANICS II	S	3	0	0	3	6
PHYS 5205	OBJECT ORIENTED DATA ANALYSIS TO PYTHON PROGRAMMING	S	3	0	0	3	6	PHYS5302	STRUCTURE OF MAGNETIC MATERIALS	S	3	0	0	3	6
PHYS 5207	COMPUTER BASED INSTRUMENTATION I	S	3	0	0	3	6	PHYS5304	ADVANCED SOLID STATE II	S	3	0	0	3	6
PHYS 5209	RELATIVISTIC QUANTUM MECHANICS I	S	3	0	0	3	6	PHYS5306	ADVANCED MAGNETISM I	S	3	0	0	3	6
PHYS 5211	BEYOND THE STANDARD MODEL I	S	3	0	0	3	6	PHYS5308	SURFACE OXIDE FILMS AND THEIR TECHNOLOGIES	S	3	0	0	3	6
PHYS 5213	GAS DETECTORS IN EXPERIMENTAL PARTICLE PHYSICS I	S	3	0	0	3	6	PHYS5310	SUPERCONDUCTORS I	S	3	0	0	3	6
PHYS 5301	MAGNETIC PROPERTIES OF MATERIALS	S	3	0	0	3	6	PHYS5312	PHYSICS OF SEMICONDUCTOR DEVICES I	S	3	0	0	3	6
PHYS 5303	ADVANCED SOLID STATE PHYSICS I	S	3	0	0	3	6	PHYS5314	PHYSICS OF SEMICONDUCTORS I	S	3	0	0	3	6
PHYS 5307	ADVANCED MAGNETISM II	S	3	0	0	3	6	PHYS5316	MAGNETIC THIN FILMS	S	3	0	0	3	6
PHYS 5309	ELECTROCHEMICAL METHODS	S	3	0	0	3	6	PHYS5318	MAGNETIC DOMAINS	S	3	0	0	3	6
PHYS 5311	SUPERCONDUCTIVITY II	S	3	0	0	3	6	PHYS5320	SURFACE PHYSICS AND ANALYSIS TECHNIQUES	S	3	0	0	3	6
PHYS 5313	PHYSICS OF SEMICONDUCTOR DEVICES II	S	3	0	0	3	6	PHYS5324	NANOTECHNOLOGY	S	3	0	0	3	6
PHYS 5315	PHYSICS OF SEMICONDUCTORS II	S	3	0	0	3	6	PHYS5326	X-RAY DIFFRACTIONS	S	3	0	0	3	6
PHYS 5317	QUANTUM THEORY OF SOLIDS	S	3	0	0	3	6	PHYS5402	ELECTROMAGNETIC THEORY	S	3	0	0	3	6
PHYS 5319	MAGNETIC LOSSES	S	3	0	0	3	6	PHYS5404	NUMERICAL ANALYSIS METHODS IN	S	2	2	0	3	6

PHYS 5321	MEASUREMENTTECHNIQUES IN PHYSİCS	S	3	0	0	3	6	PHYS5502	ADVANCED NUCLEARSPECTROSCOPY II	S	3	0	0	3	6				
PHYS 5401	MATHEMATİCAL METHODS IN PHYSİCS I	S	3	0	0	3	6	PHYS5504	NUCLEARRADIATIONDETECTION	S	3	0	0	3	6				
PHYS 5405	ADVANCED THEORETİCALMECHANİCS	S	3	0	0	3	6	PHYS5506	ADVANCED NEUTRONPHYSİCS I	S	3	0	0	3	6				
PHYS 5501	ADVANCED NUCLEARSPECTROSCOPY I	S	3	0	0	3	6	PHYS5508	NUCLEARAFFECTIONS	S	3	0	0	3	6				
PHYS 5503	ADVANCED NUCLEARPHYSİCS I	S	3	0	0	3	6	PHYS5512	SAMPLİNGTECHNIQUES IN NUCLEARPHYSİCS II	S	3	0	0	3	6				
PHYS 5505	NUCLEARMODELS	S	3	0	0	3	6	PHYS5514	APLİCATION OF ADVANCED MİCROSCOPY	S	3	0	0	3	6				
PHYS 5507	ADVANCED NEUTRONPHYSİCS II	S	3	0	0	3	6	PHYS5602	GRAND UNİFİEDTHEORIES	S	3	0	0	3	6				
PHYS 5509	ADVANCED RADIATIONPHYSİCS I	S	3	0	0	3	6	PHYS5604	CHARGEDPARTİCLESPHYSİCS	S	3	0	0	3	6				
PHYS 5511	SAMPLİNGTECHNIQUES IN NUCLEARPHYSİCS I	S	3	0	0	3	6	PHYS5606	HİGH ENERGYDETECTORS I	S	3	0	0	3	6				
PHYS 5513	ADVANCED MİCROSCOPY	S	3	0	0	3	6	PHYS5608	HİGH ENERGYSİMULATIONTECHNIQUES I	S	3	0	0	3	6				
PHYS 5601	ELEMENTARYSCATTERİNGTHEORY	S	3	0	0	3	6	PHYS5612	ADVANCED OPTİCS II	S	3	0	0	3	6				
PHYS 5603	ELEMENTARYPARTİCLESPHYSİCS I	S	3	0	0	3	6	PHYS5614	PHYSİCS OF THİN FİLM	S	3	0	0	3	6				
PHYS 5605	SYMMETRIESANDCLASSİFICATION OF PARTİCLES	S	3	0	0	3	6												
PHYS 5607	İNTRODUCTIONTO ACCELERATOR PHYSİCS	S	3	0	0	3	6												
PHYS5609	ADVANCED OPTİCS I	S	3	0	0	3	6												
PHYS5611	SOLAR ENERGY	S	3	0	0	3	6												
PHYS5613	COATINGTECHNİGUES	S	3	0	0	3	6												
Toplam Kredi								12	30	Toplam Kredi								12	30
III. TERM / FALL								IV. TERM / SPRING											
FZK6193	PHD THESIS CONSULTING III	Z	0	1	0	0	1	FZK6194	PHD THESIS CONSULTING IV	Z	0	1	0	0	1				
FZK6183	ADVANCED TOPICS IN PHD THESIS III	S	4	0	0	0	5	FZK6184	ADVANCED TOPICS IN PHD THESIS IV	S	4	0	0	0	5				
PHSY6101	NUCLEARMAGNETİCRESONANCE I(ATOM VE MOLEKÜL FİZ.A.B.D. İÇİN)	Z	3	0	0	3	6	FZK6172	SEMINAR	Z	0	2	0	0	4				
PHSY6201	ULTRASOUND(GENEL FİZ.A.B.D.İÇİN)	Z	3	0	0	3	6	PHSY6102	NUCLEARMAGNETİCRESONANCE II (ATOM VE MOLEKÜL FİZİĞİ A.B.D.İÇİN)	Z	3	0	0	3	6				
PHSY6303	PROPERTIES OF SOLID MATERIALS I(KATIHALFİZ.A.B.D.İÇİN)	Z	3	0	0	3	6	PHSY6608	QUANTUMFIELDTHEORY I (YÜK.EN.FİZ.A.B.D İÇİN)	Z	3	0	0	3	6				
PHSY6501	ADVANCED NUCLEARPHYSİCS II(NÜKLEER FİZ.A.B.D. İÇİN)	Z	3	0	0	3	6	FEN6000	RESEARCH TECHNIQUES and PUBLICATION ETHICS	C	2	0	0	2	2				
								PHYS6182	ADVANCED TOPİCSINPHDTHESIS II	S	4	0	0	0	5				
								PHSY6104	ELECTRON SPİN RESONANCE II	S	3	0	0	3	6				
PHSY6103	ELECTRON SPİN RESONANCE I	S	3	0	0	3	6	PHSY6106	PHYSİCAL OPTİCS II	S	3	0	0	3	6				
PHSY6105	PHYSİCAL OPTİCS I	S	3	0	0	3	6	PHSY6108	THERMOLÜMİNESCENT AND DATA ANALYSİS II	S	3	0	0	3	6				
PHSY6107	THERMOLÜMİNESCENT AND DATA ANALYSİS I	S	3	0	0	3	6	PHSY6110	GENERAL RELATİVİTY	S	3	0	0	3	6				

	PHYS6109	HIGH ENERGY GAS CHAMBER PHYSICS II	S	3	0	0	3	6	PHYSY6112	BEYOND THE STANDARD MODEL II	S	3	0	0	3	6				
	PHYS6111	COMPUTATIONAL TECHNIQUES IN HIGH ENERGY PHYSICS II	S	3	0	0	3	6	PHYSY6202	ELECTRONMICROSCOPESAND APPLICATIONS	S	2	2	0	3	6				
	PHYS6113	GAS DETECTORS IN EXPERIMENTAL PARTICLE PHYSICS II	S	3	0	0	3	6	PHYSY6302	ARTIFICIALNEURAL NETWORK	S	3	0	0	3	6				
	PHYSY6203	DIELECTRICPROPERTIES OF MATERIALS II	S	3	0	0	3	6	PHYSY6304	PROPERTIES OF SOLID MATERIALS II	S	3	0	0	3	6				
	PHYSY6301	NUMERICAL ANALYSIS METHODS IN MAGNETISM	S	3	0	0	3	6	PHYSY6308	MICROMAGNETISM II	S	3	0	0	3	6				
	PHYSY6305	X-RAYSAND APPLICATIONS	S	2	2	0	3	6	PHYSY6310	ADVANCED MAGNETICMATERIALS II	S	3	0	0	3	6				
	PHYSY6307	MICROMAGNETISM I	S	3	0	0	3	6	PHYSY6312	NANOPHYSICSANDNANOSCIENCE	S	3	0	0	3	6				
	PHYSY6309	ADVANCED MAGNETICMATERIAL I	S	3	0	0	3	6	PHYSY6314	OPTICAL PROPERTIES OF SEMICONDUCTORS	S	3	0	0	3	6				
	PHYSY6311	HETEROJUNCTIONSAND METAL-SEMICONDUKTORJUNCTIONS	S	3	0	0	3	6	PHYSY6316	MAGNETICCORESANDPROPERTIES II	S	3	0	0	3	6				
	PHYSY6315	MAGNETICCORESANDPROPERTIES I	S	3	0	0	3	6	PHYSY6318	DIODELASERS II	S	3	0	0	3	6				
	PHYSY6317	DIODELASERS I	S	3	0	0	3	6	PHYSY6402	ADVANCED QUANTUM MECHANICS II	S	3	0	0	3	6				
	PHYSY6319	PHOTONICSANDLASERS	S	3	0	0	3	6	PHYSY6502	NUCLEAR SHELL MODEL	S	3	0	0	3	6				
	PHYSY6401	MATHEMATICAL METHODS IN PHYSICS II	S	3	0	0	3	6	PHYSY6504	NUMERICAL APPLICATIONS FORNUCLEAREVENTS I	S	2	2	0	3	6				
	PHYSY6503	ADVANCED RADIATIONPHYSICS II	S	3	0	0	3	6	PHYSY6602	ELEMENTARYPARTICLES PHYSICS II	S	3	0	0	3	6				
	PHYSY6505	NUMERICAL APPLICATIONS FORNUCLEAREVENTS II	S	3	0	0	3	6	PHYSY6604	GAUGETHEORIES	S	3	0	0	3	6				
	PHYSY6601	ELECTROWEAKINTERACTIONS	S	3	0	0	3	6	PHYSY6606	QUANTUM CHROMODYNAMICS	S	3	0	0	3	6				
	PHYSY6603	LIEALGEBRA IN PARTICLEPHYSICS	S	3	0	0	3	6	PHYSY6610	HIGH ENERGYDETECTORS II	S	3	0	0	3	6				
	PHYSY6605	QUANTUM ELECTRODYNAMICS	S	3	0	0	3	6	PHYSY6612	HIGH ENERGYSIMULATIONTECHNIQUES II	S	3	0	0	3	6				
	PHYSY6607	HADRONPHYSICSANDQUARK MODEL	S	3	0	0	3	6	PHYSY6614	ORGANIC ELECTRONIC	S	3	0	0	3	6				
	PHYSY6609	QUANTUM FIELDTHEORY II	S	3	0	0	3	6												
	PHYSY6613	ADVANCED SOLIDIFICATION TECHNIQUES	S	3	0	0	3	6												
Toplam Kredi								12	30	Toplam Kredi								11	30	
STAGE THESIS	V. TERM / FALL								VI. TERM / SPRING											
	FZK6185	ADVANCED TOPICS IN PHD THESIS V	Z	4	0	0	0	5	FZK6186	ADVANCED TOPICS IN PHD THESIS VI	Z	4	0	0	0	5				
	FZK6195	PHD THESIS CONSULTING V	Z	0	0	0	0	15	FZK6196	PHD THESIS CONSULTING VI	Z	0	0	0	0	25				
	FZK6177	PHD PROFICIENCY EXAMINATION	Z	0	0	0	0	10												
	Toplam Kredi								0	30	Toplam Kredi								0	30
	VII. TERM / FALL								VIII. TERM / SPRING											
	FZK6187	ADVANCED TOPICS IN PHD THESIS VII	Z	4	0	0	0	5	FZK6188	ADVANCED TOPICS IN PHD THESIS VIII	Z	3	0	0	0	5				
	FZK6197	PHD THESIS CONSUTING VII	Z	0	0	0	0	25	FZK6198	PHD THESIS CONSULTING VIII	Z	0	0	0	0	25				
	Toplam Kredi								0	30	Toplam Kredi								0	30
	IX. TERM / FALL								X. TERM / SPRING											
FZK6189	ADVANCED TOPICS IN PHD THESIS	Z	4	0	0	0	5	FZK6190	ADVANCED TOPICS IN PHD THESIS	Z	3	0	0	0	5					

FZK6199	PHD THESIS CONSSULTING	Z	0	0	0	0	25	FZK6290	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.

