



BURSA ULUDAĞ ÜNİVERSİTESİ
FEN BİLİMLERİ ENSTİTÜSÜ
2022-2023 EĞİTİM ÖĞRETİM YILI DERS PLANLARI

FR 1.1.1_02

ANABİLİM/ ANASANAT DALI

İNŞAAT MÜHENDİSLİĞİ

BİLİM/ SANAT DALI / PROGRAMI

Bütünleşik Doktora Programı

	I. YARIYIL / GÜZ								II. YARIYIL / BAHAR											
	Kodu	Dersin Adı	Türü	T	U	L	Kredi	AKTS	Kodu	Dersin Adı	Türü	T	U	L	Kredi	AKTS				
DERS AŞAMASI	INS6191	DOKTORA TEZ DANIŞMANLIĞI I	Z	0	1	0	0	1	INS6192	DOKTORA TEZ DANIŞMANLIĞI II	Z	0	1	0	0	1				
	INS6181	DOKTORA UZMANLIK ALAN DERSİ I	Z	4	0	0	0	5	INS6182	DOKTORA UZMANLIK ALAN DERSİ II	Z	4	0	0	0	5				
	INS5043	YAPISAL TASARIM*	Z	3	0	0	3	6	INS5	SEÇMELİ DERS	S	3	0	0	3	6				
	INS5	SEÇMELİ DERS	S	3	0	0	3	6	INS5	SEÇMELİ DERS	S	3	0	0	3	6				
	INS5	SEÇMELİ DERS	S	3	0	0	3	6	INS5	SEÇMELİ DERS	S	3	0	0	3	6				
	INS5	SEÇMELİ DERS	S	3	0	0	3	6	INS5	SEÇMELİ DERS	S	3	0	0	3	6				
	Toplam Kredi/AKTS								12	30	Toplam Kredi/AKTS								12	30
DERS AŞAMASI	III. YARIYIL / GÜZ								IV. YARIYIL / BAHAR											
	INS6193	DOKTORA TEZ DANIŞMANLIĞI III	Z	0	1	0	0	1	INS6174	SEMİNER	Z	0	2	0	0	2				
	INS6183	DOKTORA UZMANLIK ALAN DERSİ III	S	4	0	0	0	5	FEN6002	TEKNOLOJİ TRANSFERİ, AR-GE VE İNOVASYON	Z	2	0	0	2	2				
	INS6011	KATI MEKANİĞİ VE SONLU ELEMAN UYGULAMALARI*	Z	3	0	0	3	5	INS6194	DOKTORA TEZ DANIŞMANLIĞI IV	Z	0	1	0	0	1				
	INS6	SEÇMELİ DERS	S				3	6	INS6184	DOKTORA UZMANLIK ALAN DERSİ IV	S	4	0	0	0	5				
	INS6	SEÇMELİ DERS	S				3	6	INS6	SEÇMELİ DERS	S				3	6				
		SEÇMELİ DERS **	S				3	6	INS6	SEÇMELİ DERS	S				3	6				
Toplam Kredi/AKTS								12	30	Toplam Kredi/AKTS								11	30	
TEZ AŞAMASI	V. YARIYIL / GÜZ								VI. YARIYIL / BAHAR											
	YET6177	DOKTORA YETERLİLİK SINAVI	Z	0	0	0	0	10	INS6186	DOKTORA UZMANLIK ALAN DERSİ VI	Z	4	0	0	0	5				
	INS6185	DOKTORA UZMANLIK ALAN DERSİ V	Z	4	0	0	0	5	INS6196	DOKTORA TEZ DANIŞMANLIĞI VI	Z	0	1	0	0	25				
	INS6195	DOKTORA TEZ DANIŞMANLIĞI V	Z	0	1	0	0	15	Toplam Kredi/AKTS								0	30		
	Toplam Kredi/AKTS								0	30	Toplam Kredi/AKTS								0	30
	VII. YARIYIL / GÜZ								VIII. YARIYIL / BAHAR											
	INS6187	DOKTORA UZMANLIK ALAN DERSİ VII	Z	4	0	0	0	5	INS6188	DOKTORA UZMANLIK ALAN DERSİ VIII	Z	4	0	0	0	5				
INS6197	DOKTORA TEZ DANIŞMANLIĞI VII	Z	0	1	0	0	25	INS6198	DOKTORA TEZ DANIŞMANLIĞI VIII	Z	0	1	0	0	25					
Toplam Kredi/AKTS								0	30	Toplam Kredi/AKTS								0	30	
IX. YARIYIL / GÜZ								X. YARIYIL / BAHAR												
INS6189	DOKTORA UZMANLIK ALAN DERSİ IX	Z	4	0	0	0	5	INS6190	DOKTORA UZMANLIK ALAN DERSİ X	Z	4	0	0	0	5					
INS6199	DOKTORA TEZ DANIŞMANLIĞI IX	Z	0	1	0	0	25	INS6200	DOKTORA TEZ DANIŞMANLIĞI X	Z	0	1	0	0	25					
Toplam Kredi/AKTS								0	30	Toplam Kredi/AKTS								0	30	
TOPLAM KREDİ: 47 - TOPLAM AKTS: 300																				

Not: *: Bütünleşik doktora programı yapan bütün öğrenciler için zorunludur.

** : Öğrenci isterse, danışmanının onayı ile her yarıyıl için en fazla 1 (bir) seçmeli dersini aynı AKTS değerinde olmak şartıyla alan dışından da alabilir.

Anabilim/Anasanat Dalı Başkanı
(Unvan, Ad Soyad Tarih, İmza)

Enstitü Müdürü
(Unvan, Ad Soyad Tarih, İmza)



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ANABİLİM/ ANASANAT DALI

İNŞAAT MÜHENDİSLİĞİ

BİLİM/ SANAT DALI / PROGRAMI

Bütünleşik 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
	INS5011	ELASTİSİTE TEORİSİ	S	3	0	0	3	6	INS5014	BİLGİSAYAR DESTEKLİ SONLU ELEMANLAR	S	3	0	0	3	6
	INS5015	İLERİ MÜHENDİSLİK MEKANİĞİ	S	3	0	0	3	6	INS5016	KOMPOZİT MALZEMELER MEKANİĞİ	S	3	0	0	3	6
	INS5023	YAPILARIN STABİLİTESİ	S	3	0	0	3	6	INS5018	DEPREM MÜHENDİSLİĞİNDE İLERİ MATRİS METOTLAR	S	3	0	0	3	6
	INS5031	YAPI DİNAMİĞİ	S	3	0	0	3	6	INS5024	PLAK TEORİSİ	S	3	0	0	3	6
	INS5033	İLERİ BETONARME	S	3	0	0	3	6	INS5032	YAPISAL DEPREM MÜHENDİSLİĞİ	S	3	0	0	3	6
	INS5035	YIĞMA YAPILAR	S	3	0	0	3	6	INS5034	BETONARME YAPILARIN DOĞRUSAL OLMAYAN ANALİZİ	S	3	0	0	3	6
	INS5037	PERFORMANSA DAYALI TASARIM	S	3	0	0	3	6	INS5038	BETONARME KÖPRÜLER	S	3	0	0	3	6
	INS5041	KİMYASAL KATKILAR	S	3	0	0	3	6	INS5042	ÖZEL BETONLAR	S	3	0	0	3	6
	INS5047	İLERİ ÇELİK YAPILAR I	S	3	0	0	3	6	INS5044	ENDÜSTRİYEL ÇELİK YAPILAR	S	3	0	0	3	6
	INS5045	DEPREM YALITIMLI BİNA TASARIMI	S	3	0	0	3	6	INS5056	HİDROLİKTE İLERİ BİLGİSAYAR UYGULAMALARI	S	3	0	0	3	6
	INS5051	YERALTI SUYU HİDROLİĞİ	S	3	0	0	3	6	INS5058	HİDROLOJİDE İLERİ CBS UYGULAMALARI	S	3	0	0	3	6
	INS5053	AÇIK KANAL HİDROLİĞİ	S	3	0	0	3	6	INS5064	KIYI VE LİMAN YAPILARININ TASARIMI	S	3	0	0	3	6
	INS5061	KIYI HİDRODİNAMİĞİ	S	3	0	0	3	6	INS5066	BARAJLARIN PLANLANMASI VE TASARIMI	S	3	0	0	3	6
	INS5063	SU KAYNAKLI ENERJİ ÜRETİMİ	S	3	0	0	3	6	INS5072	İLERİ TEMEL MÜHENDİSLİĞİ	S	3	0	0	3	6
	INS5065	KURAKLIK VE TAŞKIN HİDROLOJİSİ	S	3	0	0	3	6	INS5076	ARAZİ DENEYLERİ VE GEOTEKNİK TASARIM	S	3	0	0	3	6
	INS5071	YAPI-ZEMİN ETKİLEŞİMİ	S	3	0	0	3	6	INS5086	KAPLAMA TASARIMI VE ANALİZİ	S	3	0	0	3	6
	INS5075	DERİN KAZILAR VE DAYANMA YAPILARI	S	3	0	0	3	6	INS5046	BETON DURABİLİTESİ	S	3	0	0	3	6
	INS5077	GEOTEKNİK DEPREM MÜHENDİSLİĞİ	S	3	0	0	3	6								
	INS5081	MOTORSUZ ULAŞIM PLANLAMA VE İŞLETİMİ	S	3	0	0	3	6								
	INS5087	KENTSEL ULAŞIM SİSTEMLERİ VE PLANLAMASI	S	3	0	0	3	6								
	INS5043	İLERİ BETON TEKNOLOJİSİ	S	3	0	0	3	6								
	III. YARIYIL / GÜZ								IV. YARIYIL / BAHAR							
	INS6031	YAPI-ZEMİN ETKİLEŞİMİNDE ANALİTİK YAKLAŞIMLAR	S	3	0	0	3	6	INS6016	MEKANİKTE ENERJİ VE VARYASYONEL YÖNTEMLER	S	3	0	0	3	6

INS6033	DEPREME DAYANIKLI YAPI TASARIMI	S	3	0	0	3	6	INS6022	BAŞLANGIÇ VE SINIR DEĞER PROBLEMLERİ	S	3	0	0	3	6
INS6035	TARİHİ YAPILARIN DEPREM DAVRANIŞLARI	S	3	0	0	3	6	INS6032	SIVI DEPOLARIN TASARIMI	S	3	0	0	3	6
INS6037	SIVI YAPI ETKİLEŞİMİ	S	3	0	0	3	6	INS6034	YAPILARIN ONARIM VE GÜÇLENDİRİLMESİ	S	3	0	0	3	6
INS6039	SÜNEK ÇELİK YAPI SİSTEMLERİNİN TASARIMI	S	3	0	0	3	6	INS6036	PREFABRİKE YAPILAR	S	3	0	0	3	6
INS6051	İLERİ YERALTI SUYU HİDROLOJİSİ	S	3	0	0	3	6	INS6038	MAKİNE TEMELLERİ	S	3	0	0	3	6
INS6053	HESAPLAMALI AKIŞKANLAR DİNAMİĞİ	S	3	0	0	3	6	INS6042	BETONUN BOYUTSAL KARARLILIĞI	S	3	0	0	3	6
INS6061	RÜZGAR/DALGA İKLİMİ VE İSTATİSTİĞİ	S	3	0	0	3	6	INS6052	İLERİ AKIŞKANLAR MEKANİĞİ	S	3	0	0	3	6
INS6077	ZEMİN DİNAMİĞİ VE TEMEL TASARIMI	S	3	0	0	3	6	INS6062	HİDROLOJİDE İSTATİSTİK YÖNTEMLER	S	3	0	0	3	6
INS6087	TRAFİK AKIM TEORİSİ	S	3	0	0	3	6	INS6064	AKARSU MÜHENDİSLİĞİ ESASLARI	S	3	0	0	3	6
INS6041	ÇİMENTOLU SİSTEMLERİN REOLOJİK ÖZELLİKLERİ	S	3	0	0	3	6	INS6074	İLERİ ZEMİN MEKANİĞİ	S	3	0	0	3	6
								INS6088	TOPLU TAŞIMA	S	3	0	0	3	6
								INS6066	YAKIN KİYİ DALGA-AKIM MODELLEMESİ	S	3	0	0	3	6
								INS6044	ÇİMENTOLU SİSTEMLERİN MİKRO YAPISI	S	3	0	0	3	6



BURSA ULUDAĞ UNIVERSITY
GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
2022-2023 ACADEMIC YEAR COURSE PLAN

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DEPARTMENT OF

CIVIL ENGINEERING

DEPARTMENT / PROGRAM

Integrated 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				
COURSE STAGE	INS6191	PHD THESIS CONSULTING I	C	0	1	0	0	1	INS6192	PHD THESIS CONSULTING II	C	0	1	0	0	1				
	INS6181	SPECIAL TOPICS IN PHD THESIS I	C	4	0	0	0	5	INS6182	SPECIAL TOPICS IN PHD THESIS II	C	4	0	0	0	5				
	INS5043	STRUCTURAL DESIGN*	R	3	0	0	3	6	INS5	ELECTIVE COURSE	E	3	0	0	3	6				
	INS5	ELECTIVE COURSE	E	3	0	0	3	6	INS5	ELECTIVE COURSE	E	3	0	0	3	6				
	INS5	ELECTIVE COURSE	E	3	0	0	3	6	INS5	ELECTIVE COURSE	E	3	0	0	3	6				
	INS5	ELECTIVE COURSE	E	3	0	0	3	6	INS5	ELECTIVE COURSE	E	3	0	0	3	6				
	Toplam Kredi/AKTS								12	30	Toplam Kredi/AKTS								12	30
	III. TERM / FALL								IV. TERM / SPRING											
	INS6183	SPECIAL TOPICS IN PHD THESIS III	C	4	0	0	0	5	INS6174	SEMINAR	C	0	2	0	0	0	2			
	INS6193	PHD THESIS CONSULTING III	C	0	1	0	0	1	INS6194	PHD THESIS CONSULTING IV	C	0	1	0	0	0	1			
INS6011	SOLID MECHANIC WITH FINITE ELEMENT APPLICATIONS*	R	3	0	0	3	5	FEN6002	TECHNOLOGY TRANSFER, R&D AND INNOVATION	C	2	0	0	2	2					
INS6	ELECTIVE COURSE	E					6	INS6184	SPECIAL TOPICS IN PHD THESIS IV	C	4	0	0	0	5					
INS6	ELECTIVE COURSE	E					6	INS6	ELECTIVE COURSE	E	3	0	0	3	6					
	ELECTIVE COURSE **	E					6	INS6	ELECTIVE COURSE	E	3	0	0	3	6					
								INS6	ELECTIVE COURSE **	E	3	0	0	3	6					
								FEN5000	RESEARCH TECHNIQUES and PUBLICATION ETHICS	C	2	0	0	2	2					
Toplam Kredi/AKTS								12	30	Toplam Kredi/AKTS								11	30	
THESIS STAGE	V. TERM / FALL								VI. TERM / SPRING											
	YET6177	PHD PROFICIENCY	C	0	0	0	0	5	INS6186	SPECIAL TOPICS IN PHD THESIS VI	C	4	0	0	0	5				
	INS6185	SPECIAL TOPICS IN PHD THESIS V	C	4	0	0	0	5	INS6196	PHD THESIS CONSULTING VI	C	0	1	0	0	25				
	INS6195	PHD THESIS CONSULTING V	C	0	1	0	0	20	Toplam Kredi/AKTS								0	30		
	Toplam Kredi/AKTS								0	30	Toplam Kredi/AKTS								0	30
	VII. TERM / FALL								VIII. TERM / SPRING											
	INS6187	SPECIAL TOPICS IN PHD THESIS VII	C	4	0	0	0	5	INS6188	SPECIAL TOPICS IN PHD THESIS VIII	C	4	0	0	0	5				
	INS6197	PHD THESIS CONSULTING VII	C	0	1	0	0	25	INS6198	PHD THESIS CONSULTING VIII	C	0	1	0	0	25				
	Total Credits								0	30	Total Credits								0	30
	IX. TERM / FALL								X. TERM / SPRING											
INS6189	SPECIAL TOPICS IN PHD THESIS IX	C	4	0	0	0	7	INS6190	SPECIAL TOPICS IN PHD THESIS X	C	4	0	0	0	5					
INS6199	PHD THESIS CONSULTING IX	C	0	1	0	0	23	INS6200	PHD THESIS CONSULTING X	C	0	1	0	0	25					
Total Credits								0	30	Total Credits								0	30	
TOTAL CREDITS: 47 - TOTAL ECTS: 300																				

Not: *: Required course for Integrated doctoral program students.

** : The student have the option of choosing one selective course from another department with the endorsement of the supervisor.

Head of Department
(Title, Name and Surname, Date, Signature)

Director of Institute
(Title, Name and Surname, Date, Signature)



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FEN BİLİMLERİ ENSTİTÜSÜ
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DEPARTMENT OF CIVIL ENGINEERING
DEPARTMENT / PROGRAM Integrated 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
	INS5011	ELASTICITY THEORY	E	3	0	0	3	6	INS5014	COMPUTER AIDED FINITE ELEMENT ANALYSIS	E	3	0	0	3	6
	INS5015	ADVANCED ENGINEERING MECHANICS	E	3	0	0	3	6	INS5016	MECHANICS OF COMPOSITE MATERIALS	E	3	0	0	3	6
	INS5023	STABILITY OF STRUCTURES	E	3	0	0	3	6	INS5018	ADVANCED MATRIX METHODS IN EARTHQUAKE ENGINEERING	E	3	0	0	3	6
	INS5031	STRUCTURAL DYNAMICS	E	3	0	0	3	6	INS5024	THEORY OF PLATES	E	3	0	0	3	6
	INS5033	ADVANCED REINFORCED CONCRETE	E	3	0	0	3	6	INS5032	STRUCTURAL EARTHQUAKE ENGINEERING	E	3	0	0	3	6
	INS5035	MASONRY STRUCTURES	E	3	0	0	3	6	INS5034	NON-LINEAR ANALYSIS OF REINFORCED CONCRETE STRUCTURES	E	3	0	0	3	6
	INS5037	PERFORMANCED BASED DESIGN	E	3	0	0	3	6	INS5038	REINFORCED CONCRETE BRIDGE DESIGN	E	3	0	0	3	6
	INS5041	CHEMICAL ADMIXTURE	E	3	0	0	3	6	INS5042	SPECIAL CONCRETE	E	3	0	0	3	6
	INS5047	ADVANCED STEEL DESIGN I	E	3	0	0	3	6	INS5044	INDUSTRIAL STEEL STRUCTURES	E	3	0	0	3	6
	INS5045	SEISMIC ISOLATED BUILDING DESIGN	E	3	0	0	3	6	INS5056	ADVANCED COMPUTER APPLICATIONS IN HYDRAULICS	E	3	0	0	3	6
	INS5051	GROUNDWATER HYDRAULICS	E	3	0	0	3	6	INS5058	ADVANCED GIS APPLICATIONS IN HYDROLOGY	E	3	0	0	3	6
	INS5053	OPEN CHANNEL HYDRAULICS	E	3	0	0	3	6	INS5064	DESIGN OF PORTS AND COASTAL STRUCTURES	E	3	0	0	3	6
	INS5061	COASTAL HYDRODYNAMICS	E	3	0	0	3	6	INS5066	PLANNING AND DESIGN OF DAMS	E	3	0	0	3	6
	INS5063	WATER BASED ENERGY GENERATION	E	3	0	0	3	6	INS5072	ADVANCED FOUNDATION ENGINEERING	E	3	0	0	3	6
	INS5065	HYDROLOGY OF DROUGHTS AND FLOODS	E	3	0	0	3	6	INS5076	IN-SITU TESTS AND GEOTECHNICAL DESIGN	E	3	0	0	3	6
	INS5071	SOIL-STRUCTURE INTERACTION	E	3	0	0	3	6	INS5086	PAVEMENT DESING AND ANALYSIS	E	3	0	0	3	6
	INS5075	DEEP EXCAVATIONS AND RETAINING STRUCTURES	E	3	0	0	3	6	INS5046	DURABILITY OF CONCRETE	E	3	0	0	3	6
	INS5077	GEOTECHNICAL EARTHQUAKE ENGINEERING	E	3	0	0	3	6								
	INS5081	NON-MOTORIZED TRANSPORTATION PLANNING AND OPERATION	E	3	0	0	3	6								
	INS5087	URBAN TRANSPORTATION SYSTEMS AND PLANNING	E	3	0	0	3	6								
	INS5043	ADVANCED CONCRETE TECHNOLOGY	E	3	0	0	3	6								
	III. TERM / FALL								IV. TERM / SPRING							
	INS6031	SIMPLIFIED METHODS IN SOIL STRUCTURE INTERACTION	E	3	0	0	3	6	INS6016	ENERGY AND VARIATIONAL METHODS IN MECHANICS	E	3	0	0	3	6

INS6033	EARTHQUAKE RESISTANT STRUCTURAL DESIGN	E	3	0	0	3	6	INS6022	INITIAL AND BOUNDARY VALUE PROBLEMS	E	3	0	0	3	6
INS6035	SEISMIC BEHAVIOUR OF HISTORICAL BUILDINGS	E	3	0	0	3	6	INS6032	LIQUID TANKS DESIGN	E	3	0	0	3	6
INS6037	FLUID STRUCTURE INTERACTION	E	3	0	0	3	6	INS6034	REPAIRING AND STRENGTHENING OF STRUCTURES	E	3	0	0	3	6
INS6039	DESIGN OF DUCTILE STEEL STRUCTURES	E	3	0	0	3	6	INS6036	PREFABRICATED STRUCTURES	E	3	0	0	3	6
INS6051	ADVANCED GROUNDWATER HYDROLOGY	E	3	0	0	3	6	INS6038	MACHINE FOUNDATIONS	E	3	0	0	3	6
INS6053	COMPUTATIONAL FLUID DYNAMICS	E	3	0	0	3	6	INS6042	DIMENSIONAL STABILITY OF CONCRETE	E	3	0	0	3	6
INS6061	WIND/WAVE CLIMATE AND STATISTICS	E	3	0	0	3	6	INS6052	ADVANCED FLUID MECHANICS	E	3	0	0	3	6
INS6077	SOIL DYNAMICS AND FOUNDATION DESIGN	E	3	0	0	3	6	INS6062	STATISTICAL METHODS IN HYDROLOGY	E	3	0	0	3	6
INS6087	TRAFFIC FLOW THEORY	E	3	0	0	3	6	INS6064	FUNDAMENTALS OF RIVER ENGINEERING	E	3	0	0	3	6
INS6041	RHEOLOGICAL PROPERTIES OF CEMENTED SYSTEMS	E	3	0	0	3	6	INS6074	ADVANCED SOIL MECHANICS	E	3	0	0	3	6
								INS6088	PUBLIC TRANSPORTATION	E	3	0	0	3	6
								INS6066	NEARSHORE WAVE-FLOW MODELLING	E	3	0	0	3	6
								INS6044	MICROSTRUCTURE OF CEMENTITIOUS SYSTEMS	E	3	0	0	3	6