

**İTÜ**  
**LİSANSÜSTÜ DERS KATALOG FORMU**  
**(GRADUATE COURSE CATALOGUE FORM)**

Dersin Adı		Course Name		
Homoloji Cebiri		Homological Algebra		
Kodu (Code)	Yarıyılı (Semester)	Kredisi (Local Credits)	AKTS Kredisi (ECTS Credits)	Ders Türü (Course Type)
MAT632E	Bahar/Spring	3.0	7.5	Doktora/Ph.D.
Enstitü/ABD/Program (Institute/ Department/Program)	Matematik Mühendisliği (Mathematics Engineering)			
Dersin Türü (Course Type)	Seçmeli (Elective)	Dersin Dili (Course Language)	İngilizce (English)	
Dersin İçeriği (Course Description)	Projective, injective, ve flat modüller. Snake lemma, homoloji, uzun tam seriler. Kategori ve fonktor kavramları. Hom fonktor ve tensor fonktor. Tor and Ext, homoloji boyutu, group homolojisi ve kohomolojisi.			
	Projective, injective, and flat modules and resolutions. Snake lemma, homology, long exact sequence in homology. Categories and functors, abelian categories, chain complexes, Hom and tensor, derived functors, Tor and Ext, homological dimension, group homology and cohomology.			