ESOGÜ Mathematics and Computer Sciences Department
COURSE INFORMATION FORM

SEMESTER	Fall

COURSE CODE	821617024	COURSE NAME	Commutative Algebra I

SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Labratory	Credit	ECTS	TYPE	LANGUAGE
8	2	2	0	4	5	COMPULSORY ( ) ELECTIVE (x)	Turkish

COURSE CATAGORY			
Mathematics	Computer		Social Science
x		X	

ASSESSMENT CRITERIA			
	Evaluation Type	Quantity	%
MID-TERM	1st Mid-Term	1	40
	2nd Mid-Term		
	Quiz		
	Homework		
	Project		
	Report		
	Others (……)		
FINAL EXAM		1	60

PREREQUIEITE(S)	None
COURSE DESCRIPTION	Modules,direct sum and product, exact sequences, Tensor product of modules ,Modules over principal ideal domains.
COURSE OBJECTIVES	To give basic knowledge about commutative algebra notion.
ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION	To give background for graduate education on algebra.
COURSE OUTCOMES	Having sufficient knowledge about Commutative Algebra; the ability of modelling and solving the problems by using the theoretical and applied information
TEXTBOOK	Steps in Commutative Algebra (R.Y. Sharp) Introduction to Commutative Algebra (M.F. Atiyah, I.G. Macdonald)
OTHER REFERENCES	Algebra (T. Hungerford) Algebra, An Approach via Module Theory (W. A. Adkins,S. H. Weintraub) Abstract Algebra (D. S. Dummit, R. M. Foote)
TOOLS AND EQUIPMENTS REQUIRED	

COURSE SYLLABUS	
WEEK	**TOPICS**
1	Modules
2	Modules
3	Direct sum and product
4	Direct sum and product
5	Exact sequences
6	Exact sequences
7	Problem solving
8	Midterm
9	Tensor product of modules ,
10	Tensor product of modules ,
11	Tensor product of modules ,
12	Modules over principal ideal domains
13	Modules over principal ideal domains
14	Modules over principal ideal domains
15	Problem solving
16,17	Final

NO	PROGRAM OUTCOMES	3	2	1
1	The ability to apply knowledges of Mathematics and Computer Sciences,		**x**	
2	To have sufficient theoretical and practical knowledge of Mathematics at international level,		**x**	
3	The ability of describing, modelling and solving of mathematical problems at Mathematics and related subjects,	**x**		
4	The skill to solve and design a problem process in accordance with a defined target,	**x**		
5	Skills to analyze data, interpret and apply to other datum and using these data on computer,			**x**
6	The skill to use the modern techniques and computational tools needed for mathematical applications,			**x**
7	The skill to make team work within the discipline and interdisciplinary,		**x**	
8	The ability to improve oneself by following the developments on other modern, scientific and technological subjects as well as Mathematics and Computer Sciences,			**x**
9	The skill to communicate orally and in written way, in a clear and concise manner by having individual work skills and ability to independently decide and analytical thinking,		**x**	
10	The skill to have professional and ethical responsibility,			**x**
11	The skill to have consciousness for quality issues and scientific research,		**x**	
12	The skill to be sensitive to environmental issues related with problems and development of living area and consistent in the social relations,			**x**
13	Ability to solve problems in the working life faced to find an appropriate algoritms via mathematical modeling and to write computer programs,			**x**
14	The skill to developed design of software systems at different complex levels,			**x**
15	The credence of necessity of life-long learning and ability to apply the formation long-life learning.			**x**
1:None. **2**:Partially contribution. **3**: Completely contribution.				

Instructor(s): Doç. Dr. Ummahan Ege Arslan

Signature: **Date:**