	Course name: MATH327 Difference Equations			**Department:** Mathematics			Semester 5	
	Methods of Education						Credit (ECTS)	
	Lecture	Recitation/ (Etud)	Lab	Exams	Homework/ Quiz	Other	Total	6
	42	0	0	40	0	98	180	

Language	English
Compulsory/Elective	Elective
Prerequisites	None
Course Contents	Fibonacci numbers, homogeneous linear recurrence relations, finite difference equations, theory of linear difference equations, applications of difference equations, nonlinear difference equations

Weekly Detailed Course Contents

Weeks	Subjects
1	Fibonacci numbers
2	Homogeneous linear recurrence relations
3	Homogeneous linear recurrence relations
4	Finite difference equations
5	Finite difference equations
6	Finite difference equations
7	Theory of linear difference equations
8	Theory of linear difference equations
9	Theory of linear difference equations
10	Applications of difference equations
11	Applications of difference equations
12	Applications of difference equations
13	Nonlinear difference equations
14	Nonlinear difference equations

Course Objectives

The purpose of this course is

- to teach the basic concepts of the difference equations.
- to teach the solution techniques for the difference equations.
- to investigate the behavior of solutions.

Learning Outcomes and Competences

Upon completion of this course students

- know the fundamental concepts of linear difference equations.
- know the solution techniques for the linear difference equations.
- are able to apply the linear difference equations to real life problems.

Textbook and /or References

Main texbooks :

- R. E. Mickens, Difference Equations: Theory, Applications and Advanced Topics, CRC Press.
- P. Cull, M. Flahive, R. Robson, Difference Equations: From Rabbits to chaos, Springer.

Assessment Criteria		If any, mark as (X)	Percentage (%)

	Midterm Exams	X	40
	Quizzes		
	Homeworks		
	Projects		
	Term Paper		
	Laboratory work		
	Other		
	Final Exam	X	60
Instructors	???		