ALGEBRA II

1	Course Title:	ALGEBRA II
2	Course Code:	MAT5206
3	Type of Course:	Optional
4	Level of Course:	Second Cycle
5	Year of Study:	1
6	Semester:	2
7	ECTS Credits Allocated:	6.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	none
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. İSMAİL NACİ CANGÜL
15	Course Lecturers:	Prof. Dr. Süleyman ÇİFTÇİ, Doç. Dr. Ahmet TEKCAN, Yrd. Doç. Dr. Musa DEMİRCİ, Yrd. Doç. Dr. Hacer ÖZDEN
16	Contact information of the Course Coordinator:	cangul@uludag.edu.tr, 0224 2941756, Fen-Edebiyat Fakültesi, Matematik Bölümü
17	Website:	
18	Objective of the Course:	The aim of the course is to extend the algebraic notions learned at undergraduate level and give advanced algebra topics.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	Can define algebraic structures.
	2	Can give examples of algebraic structures.
	3	Can give examples of different situations on different algebraic structures.
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	Review of groups	
2	Review of rings, domains and fields	
3	Fundamental notions of Galois theory	
4	Roots of unity and Galois extensions	
5	Galois groups of quadratic, cubic and quartics	
6	Roots, radicals and real numbers	

7	Domains and fields	
8	Structure of finite fields	
9	Classification of finite fields	
10	Solvability of equations with radicals	
11	Norm and trace	
12	Simple extensions	
13	Seperable extensions	
14	Cyclotomic extensions	

22	Textbooks, References and/or Other Materials:	Algebra : A Graduate Course, I. Martin Isaacs, Algebra, Michael Artin
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	0	0.00
Quiz	0	0.00
Home work-project	3	30.00
Final Exam	1	70.00
Total	4	100.00

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	8.00	112.00
Homeworks	3	16.00	48.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	0	0.00	0.00
Others	0	0.00	0.00
Final Exams	1	30.00	30.00
Total Work Load			232.00
Total work load/ 30 hr			7.73
ECTS Credit of the Course			6.00

25 **CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS**

	PQ1	**PQ2**	**PQ3**	**PQ4**	**PQ5**	**PQ6**	**PQ7**	**PQ8**	**PQ9**	**PQ10**	**PQ11**	**PQ12**	**PQ13**	**PQ14**	**PQ15**	**PQ16**
ÖK1	4	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	2	0	0	3	0	0	3	3	0	0	0	0	0	0	0	0
ÖK3	0	4	0	3	5	0	0	4	0	0	0	0	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	1 very low	2 low	3 Medium	4 High	5 Very High