ANALYTIC NUMBER THEROY

1	Course Title:	ANALYTIC NUMBER THEROY
2	Course Code:	MAT3052
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	3
6	Semester:	6
7	ECTS Credits Allocated:	5.00
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:	Doç. Dr. Gökhan Soydan, Doç. Dr. Musa DEMİRCİ, Doç. Dr. Ahmet TEKCAN, Yrd. Doç. Dr. Hacer ÖZDEN
16	Contact information of the Course Coordinator:	cangul@uludag.edu.tr, 0224 2941756, Fen-Edebiyat Fakültesi, Matematik Bölümü, 16059, Görükle / Bursa
17	Website:	http://www.ismailnacicangul.com/
18	Objective of the Course:	To obtain results concerning the distribution of prime numbers and to make an introduction to analytic numbers
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

		1	Can define prime numbers and state the known results on their distribution
		2	Can establish relations between aritmetic functions
		3	Can apply the theorems on the distribution of prime numbers
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21	Course Content:	

Course Content:

Week	Theoretical	Practice
1	Prime number theorem	
2	Results of the prime number theorem	
3	The analytic proof of prime number theorem	
4	Fundamental theorem of arithmetic	

5	Arithmetic functions	
6	Dirichlet Product of Arithmetic functions	
7	Mobious inversion Formula	
8	Applications of Mobious inversion Formula	
9	Relations between aritmetic functions	
10	Primitive roots	
11	Quadratic reciprocity law	
12	Legendre symbol	
13	Quadratic congruences	
14	Riemann-Zeta function	

22	Textbooks, References and/or Other Materials:	1. Tom M. Apostol, Introduction to Analytic Number Theory, Springer, 2000 2. Kiran Sridhara Kedlaya, Analytic Number Theory, (Ders notları) MIT, 2006 3. Paul T. Bateman and Harold G. Diamond, Analytic Number Theory an Introductory Course, world Scientific, 2009
23	Assesment	

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Theoretical	14	50.00
Final Exam	1	50.00
Total		100.00
Contribution of Term Working to Success Grade		50.00
Contribution of Final Exam to Success Grade		50.00
Total		100.00

Activites	Number	Duration (hour)	Total Work Load (hour)
Home work-project	2	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	4.00	56.00
Homeworks	2	20.00	40.00
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	15.00	15.00

24 ECTS / WORK LOAD TABLE

Total Work Load			153.00
Total work load/ 30 hr			5.10
ECTS Credit of the Course			5.00

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	5	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
ÖK2	0	4	0	0	5	0	0	3	0	0	0	0	0	0	0	0
ÖK3	0	4	0	0	5	0	3	3	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

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