ANALYTIC NUMBER THEROY									
1	Course Title:	ANALYT	IC NUMBER THEROY						
2	Course Code:	MAT305	2						
3	Type of Course:	Optional							
4	Level of Course:	First Cyc	cle						
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. 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, 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						
		4							
		5							
		6							
		7							
		8							
		9							
		10							
21	Course Content:								
		Co	ourse Content:						
Week	Theoretical		Practice						
1	Prime number theorem								
2	Results of the prime number theorem	n							
3	The analytic proof of prime number the	heorem							
4	Fundamental theorem of arithmetic								

5	Arithmetic functions							
_								
6	Dirichlet Product of Arithmetic function	ons						
7	Mobious inversion Formula							
8	Applications of Mobious inversion Fo	rmula						
9	Relations between aritmetic functions	3						
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 L	EARNING ACTIVITIES	NUMBE R	WEIGHT					
Midtern	n Exam	0	0.00					
Quiz		0	0.00					
Home v	vork-project	2	50.00					
Final Ex	xam	1	50.00					
Total		3	100.00					
Contribution of Term (Year) Learning Activities to Success Grade			50.00					
Contribution of Final Exam to Success Grade			50.00					
Total			100.00					
Measurement and Evaluation Techniques Used in the Course								
24	ECTS / WORK LOAD TABLE							

Theoretical							1	14			3.00	3.00			42.00		
Practicals/Labs								(0			0.00	0.00			0.00	
Self study and preperation							1	14			4.00	4.00			56.00		
Homeworks							2			20.00	20.00			40.00			
Projects								()			0.00	0.00			0.00	
Field Studies								(0			0.00	0.00			0.00	
Midterm exams							(0			0.00	0.00			0.00		
Others							(0			0.00			0.00			
Final Exams								1	1			15.00	15.00			15.00	
Total Work Load																153.00	
Total work load/ 30 hr																5.10	
ECTS Cre	dit of t	he Co	urse													5.00	
25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS																
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ1 0	PQ11	PQ12	PQ1 3	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	
		·	O: L	earr	ning C	bjec	tive	s F	Q: P	rogra	m Qu	alifica	tions	;			

3 Medium

4 High

Number

Activites

1 very low

2 low

Contrib

ution Level: Duration (hour) Total Work Load (hour)

5 Very High