AERODYNAMIC											
1	Course Title:	AEROD	YNAMIC								
2	Course Code:	MAK431	1sil								
3	Type of Course:	Optional									
4	Level of Course:	First Cyc	le								
5	Year of Study:	4									
6	Semester:	7									
7	ECTS Credits Allocated:	4.00									
8	Theoretical (hour/week):	3.00									
9	Practice (hour/week):	0.00									
10	Laboratory (hour/week):	0									
11	Prerequisites:	-									
12	Language:	Turkish									
13	Mode of Delivery:	Face to f	face								
14	Course Coordinator:	Dr. Ögr.	Üyesi ONUR YEMENİCİ								
15	Course Lecturers:	-									
16	Contact information of the Course Coordinator:	oseckin@ Bölümü	⊉uludag.edu.tr / 2242940910 / U.Ü. Müh. Fak. Mak. Müh. BURSA								
17	Website:										
18	Objective of the Course:	To give t solve ba	he fundamentals of incompressible aerodynamics and to sic aerodynamics problems.								
19	Contribution of the Course to Professional Development:										
20	Learning Outcomes:										
	• •	1	Know the basic equations for inviscid incompressible flow								
		2	Find the potential and stream functions for the flow around bosies and calculate the pressure distribution								
		3	Calculate the lift and moment coefficients by using thin airfoil theory								
		4	Calculate the lift and drag for finite wings at different planforms								
		5									
		6									
		7									
		8									
		9									
		10									
21 Course Content:											
		Co	ourse Content:								
Week	Theoretical		Practice								
1	Aerodynamic forces and moments										
2	Medala of the fluids, and similarity										
3	momentum equations, Drag of a 2-D	body									
4	Fundamental equations of flow, path streamlines, streaklines	lines,									

5	Strea fund	am fi ame	unctio ntals (n, velc of invis	ocity p scid in	otentia compr	al, essib	le flow											
6	Berr	noulli's equation, pitot tube																	
7	Lapl dout	ace's olet f	s equa lows, t	ation, u flow ov	uniforr ver a (n flow, circulai	sour r cylin	ce and ider	Ī										
8	Vorte Jouk	ex flo cows	ow, Lif ki theo	ting flo prem	ow ov	er a cy	lindeı	r, Kutta											
9	I. Mi	dterr	n exa	n															
10	Inco conc	ompressible flows over airfoils, Kutta ndition, Kelvin's circulation theorem																	
11	Thin airfo	n airfoil theory, symmetric and cambered oils																	
12	Inco dowr flam theo	Incompressible flow over finite wings, downwash and induced drag,the vortex flament, the Biot-Savart Law and Helmholtz theorems																	
13	Pane distr	nel methods, lifting line theory, elliptical lift tribution																	
14	Gen	eneral lift distribution, effect of aspect ratio																	
Activites								Number				ation (hour)	Total Work Load (hour)					
Theore	Theoretical								3	3. Bertin, J.J and Smith,				3.00 M.L., 2008, Aerodynamics for					
Practic	Practicals/Labs									0					0.00				
Self stu	Self study and preperation									14			4.00			56.00			
Homev	Homeworks									1						14.00			
PERINCL	EAR	NING		VITIES			1	NUMBE	W	WÊIGHT						0.00			
Field S	studie	S								0						0.00			
Midterr	erm exams															4.00			
Others	rs								0			0.00			0.00				
Final E	nal Exams															4 00			
Total V	otal Work Load															120.00			
Tõfäl w	Tötäl work load/ 30 hr															4.00			
ECTS	Credi	t of t	he Co	urse					$ \downarrow $							4.00			
Contribution of Final Exam to Success Grade								50	50.00										
Total								10	100.00										
Measu Course	reme e	nt an	id Eva	luatio	n Tecl	hnique	s Use	ed in th	е										
24	EC	TS /	WO	RK L	OAD	TAB	LE												
25	25 CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS																		
		PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ	B PQ9	PQ1 0	PQ11	PQ12	PQ1 3	PQ14	PQ15	PQ16		
ÖK1	2	2	2	0	0	0	0	4	0	0	0	0	0	0	0	0	0		

ÖK2	4	4	0	2	0	0	4	0	0	0	0	0	0	0	0	0
ÖK3	4	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0
ÖK4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contrib ution Level:	ib 1 very low 1 I:		2 low		3 Medium		4 High		5 Very High							