	INDUSTRIAL CONTR	OL SY	STEMS AND MEASUREMENT					
1	Course Title:	INDUST	RIAL CONTROL SYSTEMS AND MEASUREMENT					
2	Course Code:	MAK403	0					
3	Type of Course:	Optional						
4	Level of Course:	First Cyc	le					
5	Year of Study:	4						
6	Semester:	8						
7	ECTS Credits Allocated:	3.00						
8	Theoretical (hour/week):	2.00						
9	Practice (hour/week):	0.00						
10	Laboratory (hour/week):	0						
11	Prerequisites:	None						
12	Language:	Turkish						
13	Mode of Delivery:	Face to f	ace					
14	Course Coordinator:	Dr. Ögr.	Üyesi GÜRSEL ŞEFKAT					
15	Course Lecturers:	Yok						
16	Contact information of the Course Coordinator:	E-Posta: sefkat@uludag.edu.tr Tel: 0 224 294 19 86 Posta Adresi: U.Ü., Müh.–Mim. Fakültesi, Makine Müh. Bölümü, 16150 Görükle/Bursa						
17	Website:	http://www20.uludag.edu.tr/~mtd/Mak4030.htm						
18	Objective of the Course:	To give information theoretical and practical about Industrial Control Systems and measurement which used in engineering field and to prepare at profession in this field.						
19	Contribution of the Course to Professional Development:							
20	Learning Outcomes:							
		1	Understanding of industrial control systems.					
		2	To design and analysis control system on time domain					
		3	To apply the state-space approach to the design of the control system.					
		4	To design and analysis control system on frequency domain					
		5	Recognize measurement tools used in engineering.					
		6	To understand the working principles of measurement systems and instruments					
		7	Choose the measuring instrument to be used in experimental studies.					
		8						
		9						
		10						
21	Course Content:							
		Co	ourse Content:					
Week	Theoretical		Practice					
1								
2	Conventional Control Methods							
3	Industrial Control Systems							

4	Indust workir	trial	Cont	rol Sys ole	stems	Comp	onent	s and												
5	Mode	ling	meth	ods of	Cont	rol Sys	stem													
6	The d	esię	gn an	d anal	ysis C	ontrol	syster	ns.												
7	Meas	urei	ment	Syster	ns															
8	Size r meas	nea urei	surer ment	nent te of the	echnic size.	lues ar	nd the													
9	Senso	ors	and th	ne eler	nents	of the	transo	ducer.												
10	Repea	atin	g cou	rses a	nd mi	dterm	exam													
11	Capao applic	citiv atic	re and on exa	l induc amples	tive tr	ansdu	cer an	d												
12	The m shaft	nea: pow	suren /er.	nent of	the fo	orce, to	orque	and												
13	The measurement of the surface roughness.																			
14	Introduction to microprocessor controlled measuring and control mechanisms.																			
22	Textbooks, References and/or Other Materials:										1.Yüksel I., Automatic Control, System Dynamic and Control Systems, (In Turkish), U.Ü. Vipaş AŞ, 2001 2.Ogata K., Modern Control Engineering, Second E., Prentice-Hall Inc., 1990 3.Kutman H., H., Industrial Electronic, Birsen Publish. Ltd. Şti., Istanbul, 1998									
23	Asses	me	nt										-		I.					
Activit	ctivites								ľ	Numb	er		Dura	ition (	Load (hour)					
Qhéore	Theoretical 1									ØO			2.00	2.00			28.00			
Practica	Practicals/Labs								- (	)			0.00	0.00			0.00			
SielásEu	<b>icay</b> man o	d pr	epera	tion			1		501	50100				1.00			14.00			
Homew	omeworks									2				6.00			12.00			
Ecojerita	sution o	of To	erm (`	Year) l	earn	ing Act	ivities	to	500	5000				0.00			0.00			
Field St	tudies								(	0				0.00			0.00			
Nontrila	พานย่างหน่องอากุร Final Exam to Success Grade									5400				10.00			10.00			
Others	hers									5			2.00			10.00				
Meastr	astranent and Evaluation Techniques Used in the										1				·	15.00				
Total W	tal Work Load														8	89.00				
Total w														2.97						
ECTS (	S Credit of the Course										3.00									
25	25 CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS																			
	P	Q1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ1 0	PQ11	PQ12	PQ1 3	PQ14	PQ15	PQ16			
ÖK1	4		2	0	0	1	0	0	0	0	0	0	0	0	0	0	0			
ÖK2	0		3	3	0	1	0	0	0	0	0	0	0	0	0	0	0			
ÖK3	0		3	3	0	1	0	0	0	0	0	0	0	0	0	0	0			
-				-				-								-				

ÖK5	0	0	0	3	4	0	0	0	0	0	0	0	0	0	0	0
ÖK6	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
ÖK7	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contrib ution Level:	ib 1 very low :		2 low		3 Medium		4 High		5 Very High							