

T.C.
ALANYA ALAADDIN KEYKUBAT UNIVERSITY
RAFET KAYIS FACULTY OF ENGINEERING
DEPARTMENT OF MECHANICAL ENGINEERING
MECHANICAL ENGINEERING BACHELOR DEGREE

SYLLABUS

I.YEAR – I. SEMESTER								
COURSE CODE	COURSE NAME	COURSE TIME			COURSE TYPE	CREDIT	AKTS	COURSE LANGUAGE
		THEORIC	APPLIED	LAB				
MAK 101E	Introduction to Mechanical Engineering	2	0	0	Z	2	2	E
BIL 101E	Int. to Comp. and Info Sys.	1	1	0	Z	1.5	2	E
FIZ 101E	Physics I	3	0	0	Z	3	4	E
FIZ 101EL	Physics I Lab	0	0	2	Z	1	1	E
KIM 101E	Chemistry	3	0	0	Z	3	4	E
KIM 101EL	Chemistry Lab	0	0	2	Z	1	1	E
MAK 103E	Technical Drawing	2	2	0	Z	3	5	E
MAT 101E	Mathematics I	3	2	0	Z	4	5	E
TDB 101	Türk Dili I	2	0	0	Z	2	2	T
YDE 170	Academic Language Skills	3	0	0	Z	3	4	E
TOTAL		18	7	4		23.5	30	

I.YEAR – II. SEMESTER								
COURSE CODE	COURSE NAME	COURSE TIME			COURSE TYPE	CREDIT	AKTS	COURSE LANGUAGE
		THEORIC	APPLIED	LAB				
MAK 100E	Machine Shop Practice	0	0	8	Z	0	0	E
BIL 106E	Introduction to Programming C	2	0	2	Z	3	5	E
FIZ 102E	Physics II	3	0	0	Z	3	4	E
FIZ 102EL	Physics II Lab	0	0	2	Z	1	1	E
MAK 110E	Statics	3	0	0	Z	3	5	E
MAK104E	Computer Aided Technical Drawing	2	2	0	Z	3	5	E
MAT 102E	Mathematics II	3	2	0	Z	4	5	E
MAT 108 E	Linear Algebra	3	0	0	Z	3	4	E

TDB 102	Türk Dili II	2	0	0	Z	2	2	T
	English Course(*)	3	0	0	Z	3	4	E
TOTAL		20	4	12		25	35	

II.YEAR – I. SEMESTER								
COURSE CODE	COURSE NAME	COURSE TIME			COURSE TYPE	CREDIT	AKTS	COURSE LANGUAGE
		THEORIC	APPLIED	LAB				
ATA 101	Atatürk İlkeleri ve İnkılap Tarihi I	2	0	0	Z	2	2	T
MAK 201E	Thermodynamics I	3	0	0	Z	3	4	E
MAK 203E	Strength of Materials I	2	2	0	Z	3	6	E
MAK 205E	Dynamics	4	0	0	Z	4	5	E
MAK 209E	Material Science-I	3	0	0	Z	3	4	E
MAT 202E	Differential Equations	4	0	0	Z	4	5	E
	Elective Course (ITB) (SGS)	2	0	0	S	2	2	E
TOTAL		20	2	0		21	28	

II.YEAR – II. SEMESTER								
COURSE CODE	COURSE NAME	COURSE TIME			COURSE TYPE	CREDIT	AKTS	COURSE LANGUAGE
		THEORIC	APPLIED	LAB				
ATA 102	Atatürk İlkeleri ve İnkılap Tarihi II	2	0	0	Z	2	2	T
ELK 102E	Fundamentals of Electrical Electronics Eng.	3	0	0	Z	3	5	E
MAK 202E	Thermodynamics II	3	0	0	Z	3	4	E
MAK 204E	Strength of Materials II	2	2	0	Z	3	5	E
MAK 206E	Fluid Mechanics I	3	0	0	Z	3	5	E
MAK 210E	Material Science-II	3	0	0	Z	3	4	E
MAT 201E	Numerical Methods	3	0	0	Z	3	4	E
	Elective Course (ITB) (SGS)	2	0	0	S	2	2	E
	Elective Course (ITB)	3	0	0	S	3	4	E
TOTAL		24	2	0		25	35	

III.YEAR – I. SEMESTER								
COURSE CODE	COURSE NAME	COURSE TIME			COURSE TYPE	CREDIT	AKTS	COURSE LANGUAGE
		THEORIC	APPLIED	LAB				
MAK 300E	Internship I	0	0	0	Z	0	0	E
MAK 301E	Theory of Machines I	3	0	0	Z	3	5	E
MAK 303E	Heat Transfer	3	0	0	Z	3	5	E
MAK 305E	Fluid Mechanics II	3	0	0	Z	3	5	E
MAK 307E	Machine Elements I	3	2	0	Z	4	6	E
MAK 309E	Engineering Biology	2	2	0	Z	3	4	E
	Elective Course (ITB)	3	0	0	S	3	4	E
TOTAL		17	4	0		19	29	

III.YEAR – II. SEMESTER								
COURSE CODE	COURSE NAME	COURSE TIME			COURSE TYPE	CREDIT	AKTS	COURSE LANGUAGE
		THEORIC	APPLIED	LAB				
MAK 302E	Theory of Machines II	3	0	0	Z	3	5	E
MAK 304E	Manufacturing Processes	3	1	0	Z	3.5	5	E
MAK 306E	System Dynamics and Control	3	1	0	Z	3.5	5	E
MAK 308E	Machine Elements II	3	2	0	Z	3	6	E
MAK XXXE	Design Elective	1	0	4	S	3	5	E
	Elective Course (ITB)	3	0	0	S	3	4	E
TOTAL		16	2	4		19	30	

IV.YEAR – I. SEMESTER								
COURSE CODE	COURSE NAME	COURSE TIME			COURSE TYPE	CREDIT	AKTS	COURSE LANGUAGE
		THEORIC	APPLIED	LAB				
END 401E	Occupational Health and Safety I	2	0	0	Z	2	2	E
ETK 101E	Engineering Ethics	1	0	0	Z	1	2	E
MAK 400E	Internship II	0	0	0	Z	0	0	E
MAK 401E	Mechanical Engineering Lab.	1	0	2	Z	2	3	E
MAK 403E	Applied Machine	1	4	0	Z	3	3	E

	Design							
	7. semester technical elective	3	0	0	S	3	5	E
	7. semester technical elective	3	0	0	S	3	5	E
	Elective Course (ITB)	3	0	0	S	3	4	E
TOTAL		14	4	2		17	24	

IV. YEAR – II. SEMESTER								
COURSE CODE	COURSE NAME	COURSE TIME			COURSE TYPE	CREDIT	AKTS	COURSE LANGUAGE
		THEORIC	APPLIED	LAB				
MAK 402E	Senior Design Project	0	6	0	Z	3	8	E
END 402E	Occupational Health and Safety II	1	0	0	Z	1	1	E
END 305E	Engineering Economics	3	0	0	Z	3	5	E
	8. semester technical elective	3	0	0	S	3	5	E
	8. semester technical elective	3	0	0	S	3	5	E
	8. semester technical elective	3	0	0	S	3	5	E
	Elective Course (ITB)	3	0	0	S	3	4	E
TOTAL		16	6	0		19	33	

ELECTIVE COURSES

2nd Semester English Courses							
COURSE CODE	COURSE NAME	CREDIT	COURSE	APP	LAB	AKTS	
YDE 229	Effective Communication Skills	3	3	0	0	4	
YDE 123	Listening and Speaking	3	3	0	0	4	
YDE 113	Pronunciation Skills	3	3	0	0	4	
YDE 227	Language Acquisition	3	3	0	0	4	

1st and 2nd Semester ITB (SGS) Elective Courses							
COURSE CODE	COURSE NAME	CREDIT	COURSE	APP	LAB	AKTS	
SGS 101E	History of Art	2	2	0	0	2	
SGS 103E	History and Philosophy of Science	2	2	0	0	2	
SGS 105E	Disaster Awareness	2	2	0	0	2	
SGS 107E	Eloquent Speech	2	2	0	0	2	

SGS 109E	Basic First Aid and Emergency	2	2	0	0	2
SGS 111E	Archery	2	2	0	0	2
SGS 113E	Boxing, Karate and Taekwondo	2	2	0	0	2
SGS 115E	Football	2	2	0	0	2
SGS 117E	Volleyball	2	2	0	0	2
SGS 119E	Basketball	2	2	0	0	2
SGS 121E	Tennis	2	2	0	0	2
SGS 123E	Table Tennis	2	2	0	0	2
SGS 125E	Folk Dances	2	2	0	0	2
SGS 127E	Music Culture	2	2	0	0	2
SGS 129E	Arts&Painting	2	2	0	0	2
SGS 131E	Theatre and Cinema	2	2	0	0	2
SGS 133E	Healthy Living	2	2	0	0	2
SGS 135E	Nutrition	2	2	0	0	2
SGS 137E	Media Literacy	2	2	0	0	2
SGS 139E	Mathematical Esthetics	2	2	0	0	2
SGS 141E	Industrial Design	2	2	0	0	2
SGS 143E	Basic Photography	2	2	0	0	2
SGS 145E	Surfing	2	2	0	0	2
SGS147E	Mythology	2	2	0	0	2
SGS149E	Antique cities	2	2	0	0	2
SGS151E	Sosyology	2	2	0	0	2
SGS153E	Philosophy	2	2	0	0	2
SGS161E	Antique DNA: Footprints of Past	2	2	0	0	2
SGS163E	Genetic Heritage	2	2	0	0	2
SGS165E	Modern Genetic Aplications: Gene coding	2	2	0	0	2
SGS 167E	Japonca I	2	2	0	0	2
SGS 169E	Japonca II	2	2	0	0	2

Other elective courses (ITB)						
COURSE CODE	COURSE NAME	CREDIT	COURSE	APP	LAB	AKTS
ISL 426E	Sociology	3	3	0	0	5
END 106E	Economics	3	3	0	0	5
END 425E	Entrepreneurship	3	3	0	0	4
END 412E	Innovation Management	3	3	0	0	5
BIL 401E	Technology and Ethics	3	3	0	0	4
IKY 415E	Social Pshychology	3	3	0	0	5
ISM 406E	Organizational Behaviour	3	3	0	0	4
ISM 402E	Labour Law	3	3	0	0	4
END 308E	Project Management	3	3	0	0	4

6th Semester Design Elective courses		CREDIT	COURSE	APP	LAB	AKTS
MAK 310E	Applied Thermodynamics	3	1	0	4	5
MAK 312E	Applied Heat Transfer	3	1	0	4	5

MAK 314E	Robotic Design	3	1	0	4	5
MAK 316E	Applied Mechanics of Fiber-Reinforced Composites	3	1	0	4	5
MAK 318E	Computer Aided Design	3	1	0	4	5
MAK 320E	Computer Aided Structural Analysis	3	1	0	4	5
MAK 322E	Introduction to Automotive Engineering	3	1	0	4	5

7.th the ve 8. th-technical elective courses		CREDIT	COURSE	APP	LAB	AKTS
MAK 404E	Finite Element Analysis	3	3	0	5	5
MAK 405E	Composite Structures	3	3	0	5	5
MAK 406E	Robotics	3	3	0	5	5
MAK 407E	Industrial Fluid Power	3	3	0	5	5
MAK 408E	Mechanical Vibrations	3	3	0	5	5
MAK 409E	HVAC Systems & Equipment Design	3	3	0	0	5
MAK 410E	Hydraulic and Pneumatic Circuits	3	3	0	0	5
MAK 411E	Computer Integrated Manufacturing	3	3	0	0	5
MAK 412E	Maintenance Engineering	3	3	0	0	5
MAK 413E	In.to Biomechanics and Biomedical Eng.	3	3	0	0	5
MAK 414E	Manufacturing Engineering	3	3	0	5	5
MAK 415E	Quality Control in Manufacturing	3	3	0	5	5
MAK 416E	Industrial Acoustics and Noise	3	3	0	5	5
MAK 417E	Advanced Fluid Mechanics	3	3	0	5	5
MAK 418E	Microfluidics	3	3	0	5	5
MAK 419E	Gas Turbines	3	3	0	0	5
MAK 420E	Renewable Energy Systems	3	3	0	0	5
MAK 421E	Energy Efficiency	3	3	0	0	5
MAK 422E	Control System Design	3	3	0	0	5
MAK 423E	Vehicle Technology	3	3	0	0	5
MAK 424E	Internal Combustion Engines	3	3	0	5	5
MAK 425E	Dynamic Systems Modelling and Sim.	3	3	0	5	5
MAK 426E	Material Selection in Design	3	3	0	5	5
MAK 427E	Advanced Strength of Materials	3	3	0	5	5
MAK 428E	Advanced Manufacturing Process	3	3	0	5	5
MAK 429E	Computer Aided Structural Analysis	3	3	0	5	5
MAK 430E	Introduction to Fracture Mechanics	3	3	0	5	5
MAK 431E	Experimental Stress Analysis	3	3	0	5	5
MAK 432E	Computer aided Mathematics	3	3	0	5	5

**MECHANICAL ENGINEERING
PREREQUISITES TABLE**

2018 SYLLABUS		PREREQUISITES	
COURSE CODE	COURSE NAME	COURSE CODE	COURSE NAME
MAK 203E	Strength of Materials I	MAK 110E	Statics
MAK 202E	Thermodynamics II	MAK 201E	Thermodynamics I
MAK 204E	Strength of Materials II	MAK 203E	Strength of Materials I
MAK 210E	Material Science-II	MAK 209E	Material Science-I
MAK301 E	Theory of Machines I	MAK 205E	Dynamics
MAK307E	Machine Elements I	MAK 203E	Strength of Materials I
MAK302 E	Theory of Machines II	MAK 301E	Theory of Machines I
MAK 305E	Fluid Mechanics II	MAK 206E	Fluid Mechanics I
MAK 308E	Machine Elements II	MAK 307E	Machine Elements I
MAK 402E	Senior Design Project		7. Yarıyıldan en az 2 dersten başarılı olmuş olmak
MAK310E	Applied Thermodynamics	MAK 303E	Heat Transfer
MAK312 E	Applied Heat Transfer	MAK 202E	Thermodynamics II
MAK 314 E	Robotic Design	MAK 301E	Theory of Machines I
SGS 169	Japonca II	SGS 167	Japonca I
MAT 201E	Numerical Methods	MAT 102E	Mathematics II
MAK 201E	Thermodynamics I	FIZ 101E	Physics I
MAT 102E	Mathematics II	MAT 101E	Mathematics I
MAT 202E	Differential Equations	MAT 102E	Mathematics II