



AFYON KOCATEPE UNIVERSITY
INSTITUTES OF NATURAL AND APPLIED SCIENCES
DEPARTMENT OF MECHANICAL ENGINEERING



DOCTOR OF PHILOSOPHY (PhD) PROGRAM

FIRST YEAR

FIRST SEMESTER								
COURSE CODE	COURSE NAME	C/E	COURSE CREDIT*					
			TH	AP	TO	CR	EC	
MKM-6501	DIRECTED FIELD STUDIES	C	8	0	8	0	9	
MKM-6601	THESIS PREPARATION	C	0	1	1	0	1	
	ELECTIVE COURSE	E	3	0	3	3	5	
	ELECTIVE COURSE	E	3	0	3	3	5	
	ELECTIVE COURSE	E	3	0	3	3	5	
	ELECTIVE COURSE	E	3	0	3	3	5	
TOPLAM			20	1	21	12	30	

SECOND SEMESTER								
COURSE CODE	COURSE NAME	C/E	COURSE CREDIT*					
			TH	AP	TO	CR	EC	
MKM-6502	DIRECTED FIELD STUDIES	C	8	0	8	0	9	
MKM-6602	THESIS PREPARATION	C	0	1	1	0	1	
	ELECTIVE COURSE	E	3	0	3	3	5	
	ELECTIVE COURSE	E	3	0	3	3	5	
	ELECTIVE COURSE	E	3	0	3	3	5	
	ELECTIVE COURSE	E	3	0	3	3	5	
TOTAL			20	1	21	12	30	



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SECOND YEAR

THIRD SEMESTER								
COURSE CODE	COURSE NAME	C/E	COURSE CREDIT*					
			TH	AP	TO	CR	EC	
MKM-6503	DIRECTED FIELD STUDIES	C	8	0	8	0	9	
MKM-6603	THESIS PREPARATION	C	0	1	1	0	1	
MKM-6701	SEMINAR	C	0	2	2	0	5	
	ELECTIVE COURSE	E	3	0	3	3	5	
	ELECTIVE COURSE	E	3	0	3	3	5	
	ELECTIVE COURSE	E	3	0	3	3	5	
TOTAL			17	3	20	9	30	

FOURTH SEMESTER								
COURSE CODE	COURSE NAME	C/E	COURSE CREDIT*					
			TH	AP	TO	CR	EC	
MKM-6504	DIRECTED FIELD STUDIES	C	8	0	8	0	9	
MKM-6604	THESIS	C	0	1	1	0	21	
TOTAL			8	1	9	0	30	



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THIRD YEAR

FIFTH SEMESTER								
COURSE CODE	COURSE NAME	C/E	COURSE CREDIT*					
			TH	AP	TO	CR	EC	
MKM-6505	DIRECTED FIELD STUDIES	C	8	0	8	0	9	
MKM-6605	THESIS	C	0	1	1	0	21	
TOTAL			8	1	9	0	30	

SIXTH SEMESTER								
COURSE CODE	COURSE NAME	C/E	COURSE CREDIT*					
			TH	AP	TO	CR	EC	
MKM-6506	DIRECTED FIELD STUDIES	C	8	0	8	0	9	
MKM-6606	THESIS	C	0	1	1	0	21	
TOTAL			8	1	9	0	30	

FOURTH YEAR

SEVENTH SEMESTER								
COURSE CODE	COURSE NAME	C/E	COURSE CREDIT*					
			TH	AP	TO	CR	EC	
MKM-6507	DIRECTED FIELD STUDIES	C	8	0	8	0	9	
MKM-6607	THESIS	C	0	1	1	0	21	
TOTAL			8	1	9	0	30	

EIGHTH SEMESTER								
COURSE CODE	COURSE NAME	C/E	COURSE CREDIT*					
			TH	AP	TO	CR	EC	
MKM-6508	DIRECTED FIELD STUDIES	C	8	0	8	0	9	
MKM-6608	THESIS	C	0	1	1	0	21	
TOTAL			8	1	9	0	30	



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FIFTH YEAR

NINTH SEMESTER								
COURSE CODE	COURSE NAME	C/E	COURSE CREDIT*					
			TH	AP	TO	CR	EC	
MKM-6509	DIRECTED FIELD STUDIES	C	8	0	8	0	9	
MKM-6609	THESIS	C	0	1	1	0	21	
TOTAL			8	1	9	0	30	

TENTH SEMESTER								
COURSE CODE	COURSE NAME	C/E	COURSE CREDIT*					
			TH	AP	TO	CR	EC	
MKM-6510	DIRECTED FIELD STUDIES	C	8	0	8	0	9	
MKM-6610	THESIS	C	0	1	1	0	21	
TOTAL			8	1	9	0	30	

SIXTH YEAR

ELEVENTH SEMESTER								
COURSE CODE	COURSE NAME	C/E	COURSE CREDIT*					
			TH	AP	TO	CR	EC	
MKM-6511	DIRECTED FIELD STUDIES	C	8	0	8	0	9	
MKM-6611	THESIS	C	0	1	1	0	21	
TOTAL			8	1	9	0	30	

TWELFTH SEMESTER								
COURSE CODE	COURSE NAME	C/E	COURSE CREDIT*					
			TH	AP	TO	CR	EC	
MKM-6512	DIRECTED FIELD STUDIES	C	8	0	8	0	9	
MKM-6612	THESIS	C	0	1	1	0	21	
TOTAL			8	1	9	0	30	



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GRADUATE PROGRAMS
ELECTIVE COURSES

COURSE CODE	COURSE NAME	C/E	COURSE CREDIT*					NOTE
			TH	AP	TO	CR	EC	
FBE-5001	SCIENTIFIC RESEARCH AND METHODS	E	3	0	3	3	5	
MKM-5001	NON-TRADITIONAL MACHINING PROCESSES	E	3	0	3	3	5	
MKM-5002	SCHOLARLY WRITING AND PRESENTATION TECHNOLOGIES	E	3	0	3	3	5	
MKM-5003	THEORY OF ELASTICITY	E	3	0	3	3	5	
MKM-5004	NATURAL ENERGY SOURCES	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-5005	CONTACT MECHANICS	E	3	0	3	3	5	
MKM-5006	ADVANCED COMPUTER AIDED DESIGN	E	3	0	3	3	5	
MKM-5007	FAILURE ANALYSIS IN ENGINEERING	E	3	0	3	3	5	
MKM-5008	SOLUTION OF ENGINEERING PROBLEMS BY USING MATLAB	E	3	0	3	3	5	
MKM-5009	EXPERT SYSTEMS AND INDUSTRIAL APPLICATIONS	E	3	0	3	3	5	
MKM-5010	FATIGUE	E	3	0	3	3	5	
MKM-5011	COMPUTER CONTROLLED MANUFACTURING	E	3	0	3	3	5	
MKM-5012	FUEL AND BURNING EVENTS IN ENGINE	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-5013	ENGINEERING MATHEMATICS	E	3	0	3	3	5	
MKM-5014	MECHANICS OF COMPOSITE MATERIALS	E	3	0	3	3	5	
MKM-5015	FINITE ELEMENT METHOD	E	3	0	3	3	5	
MKM-5016	METAL CUTTING THEORY	E	3	0	3	3	5	
MKM-5017	OPTIMIZATION IN DESIGN AND MANUFACTURING	E	3	0	3	3	5	
MKM-5018	VEHICLE DYNAMICS	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-5019	VEHICLE DAMAGE AND ACCIDENT ANALYSIS	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-5020	ENERGY CONVERSION IN THERMAL ENGINES	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-5021	COMPUTATIONAL FRACTURE MECHANICS	E	3	0	3	3	5	
MKM-5022	VIBRATION ENGINEERING	E	3	0	3	3	5	
MKM-5023	ADVANCED DYNAMICS AND ITS APPLICATIONS	E	3	0	3	3	5	
MKM-5024	INDUSTRIAL ROBOTS	E	3	0	3	3	5	
MKM-5025	NEW APPROACH TO PRODUCTION DESIGN	E	3	0	3	3	5	
MKM-5026	ADVANCED FLUIDS MECHANICS	E	3	0	3	3	5	
MKM-5027	MECHANICAL BEHAVIOR OF MATERIALS	E	3	0	3	3	5	
MKM-5028	EXPERIMENTAL METHODS IN MECHANIC	E	3	0	3	3	5	
MKM-5029	MECHANISM DESIGN AND KINEMATICS	E	3	0	3	3	5	
MKM-5030	MECHATRONIC DESIGN	E	3	0	3	3	5	
MKM-5031	ENGINE INJECTION SYSTEMS	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-5032	MECHATRONIC	E	3	0	3	3	5	
MKM-5033	AUTOMATION TECHNOLOGY	E	3	0	3	3	5	



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GRADUATE PROGRAMS
ELECTIVE COURSES

COURSE CODE	COURSE NAME	C/E	COURSE CREDIT*					NOTE
			TH	AP	TO	CR	EC	
MKM-5034	VEHICLE EMISSIONS AND CONTROL TECHNIQUES	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-5035	EXPERIMENTAL DESIGN AND ITS ANALYSIS	E	3	0	3	3	5	
MKM-5036	ADVANCED HEAD TRANSFER	E	3	0	3	3	5	
MKM-5037	EXERGY ANALYSIS IN THERMAL SYSTEMS	E	3	0	3	3	5	
MKM-5038	GEOTHERMAL ENERGY AND ITS APPLICATIONS	E	3	0	3	3	5	
MKM-5039	ADVANCED THERMAL INSULATION APPLICATIONS	E	3	0	3	3	5	
MKM-5040	MODAL ANALYSIS	E	3	0	3	3	5	
MKM-5041	WEAR AND FRICTION BEHAVIOURS OF MATERIALS	E	3	0	3	3	5	
MKM-5042	SURFACE COATING TECHNIQUES	E	3	0	3	3	5	
MKM-6001	ADVANCED FLUID DYNAMICS	E	3	0	3	3	5	
MKM-6002	BAUNDRARY LAYER THEORY	E	3	0	3	3	5	
MKM-6003	THERMO-ECONOMIC ANALYSIS OF RENEWABLE ENERGY SOURCES	E	3	0	3	3	5	
MKM-6004	OFF-ROAD VEHICLES AND THEIR DYNAMICS	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6005	DEVICE TECHNOLOGY	E	3	0	3	3	5	
MKM-6006	HEAT EXCHANGERS	E	3	0	3	3	5	
MKM-6007	COMBUSTION FUNDAMENTALS FOR INTERNAL COMBUSTION ENGINES	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6008	FUEL ECONOMY AND PERFORMANCE IN INTERNAL COMBUSTION ENGINES	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6009	AUTOMOTIVE TRIBOLOGY	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6010	TURBOCHARGED ENGINES	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6011	ADVANCED WELDING TECHNIQUES	E	3	0	3	3	5	
MKM-6012	THE AUTOMOTIVE CFD APPLICATIONS WITH OPEN SOURCE CODES (SOFTWARE)	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6013	STRUCTURAL DYNAMICS	E	3	0	3	3	5	
MKM-6014	ADVANCED AUTOMOTIVE MATERIALS	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6015	MULTIPLE-DEGREE-OF-FREEDOM SYSTEMS	E	3	0	3	3	5	
MKM-6016	PLASTIC DEFORMATION OF METALS AND ALLOYS	E	3	0	3	3	5	
MKM-6017	DIFFERENT APPLICATION IN VEHICLE SECTOR	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6018	NONLINEAR VIBRATIONS	E	3	0	3	3	5	
MKM-6019	MOBILE SOFTWARE APPLICATION DEVELOPMENT	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6020	APPLICATION OF MODAL TESTING	E	3	0	3	3	5	
MKM-6021	DECISION SUPPORT SYSTEMS	E	3	0	3	3	5	
MKM-6022	APPLICATION OF THE REVERSE ENGINEERING.	E	3	0	3	3	5	
MKM-6023	BIOMECHANICS	E	3	0	3	3	5	
MKM-6024	VISCOPLASTIC AND HYPERELASTIC BEHAVIOR OF MATERIAL	E	3	0	3	3	5	
MKM-6025	THE METOD OF PERTURBATION 1	E	3	0	3	3	5	



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			TH	AP	TO	CR	EC	
MKM-6026	APPLIED-NUMERIC METHODS	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6027	BIODIESEL-TECHNOLOGY	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6028	THE METOD OF PERTURBATION 2	E	3	0	3	3	5	
MKM-6029	MANAGEMENT OF TECHNOLOGICAL INNOVATION & NEW PRODUCT DEVELOPMENT	E	3	0	3	3	5	
MKM-6030	ADVANCED PRODUCT MODELLING METHODS	E	3	0	3	3	5	
MKM-6031	SOLUTION OF MECHANICAL PROBLEMS WITH FREQUENCY ANALYSIS	E	3	0	3	3	5	
MKM-6032	ULTRASONIC MACHINING	E	3	0	3	3	5	
MKM-6033	AN-INTRODUCTION-TO-MODERN-VEHICLE-DESIGN	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6034	POWER HYDRAULIC	E	3	0	3	3	5	
MKM-6035	AUTOMOTIVE-ELECTRONICS-AND-SENSORS-APPLICATIONS	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6036	THE-AUTOMOTIVE-DEVELOPMENT-PROCESS	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6037	AN-INTRODUCTION-TO-AUTOMOTIVE-COMPOSITES	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6038	AUTOMOTIVE-CONTROL-SYSTEMS	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6039	NATURAL-ENERGY-SOURCES	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6040	THE-ROLE-OF-THE-CHEMIST-IN-AUTOMOTIVE-DESIGN	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6041	MECHANICS OF METAL FORMING	E	3	0	3	3	5	
MKM-6042	GAS-DYNAMICS	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6043	AUTOMOTIVE-PRODUCTION-SYSTEMS-AND-STANDARDIZATION	E	3	0	3	3	5	REMOVED ⁽¹⁾
MKM-6044	OBJECT-ORIENTED PROGRAMMING	E	3	0	3	3	5	
MKM-6045	PRECISION MANUFACTURING SYSTEMS	E	3	0	3	3	5	
EGT-6001	DEVELOPMENT AND LEARNING	E	3	0	3	3	5	
EGT-6002	INSTRUCTIONAL PLANNING AND EVALUATION	E	3	0	3	3	5	

⁽¹⁾ 2014-2015 ACADEMIC YEAR SPRING SEMESTER WILL BE EFFECTIVE FROM.