



**ULUDAĞ UNIVERSITY**  
**INSTITUTE OF NATURAL SCIENCES**  
**2015-2016 ACADEMIC YEAR COURSE PLAN**

**DEPARTMENT OF** Biosystems Engineering  
**DEPARTMENT / PROGRAM** Biosystems Engineering / Master's Degree Program

COURSE STAGE	I. TERM / FALL								II. TERM / SPRING							
	Code	Course Title	Type	T	U	L	Credit	ECTS	Code	Course Title	Type	T	U	L	Credit	ECTS
	BSM5191	MA THESIS I	Z	0	1	0	0	1	BSM5192	MA THESIS II	Z	0	1	0	0	1
	BSM5009	SOIL - PLANT - WATER RELATIONSHIPS IN IRRIGATION	Z	3	0	0	3	6	BSM5172	SEMINAR (CLASS)	Z	0	2	0	0	5
	BSM5037	ADVANCED APPLICATIONS IN DESIGN OF AGRICULTURAL BUILDING STRUCTURES	Z	3	0	0	3	6	BSM5008	GEOGRAPHIC INFORMATION SYSTEMS AND NATURAL RESOURCE MANAGEMENT	Z	3	0	0	3	7
	BSM5017	ENERGY USE IN AGRICULTURE	Z	3	0	0	3	6	BSM5036	PLANNING AND DESIGNING OF LARGE DAIRY FARMS	Z	3	0	0	3	7
	BSM5019	PROJECTS OF WATER SUPPLIER STATIONS FOR AGRICULTURAL PURPOSES	Z	3	0	0	3	6	BSM5028	HORTICULTURAL AND GREENHOUSE MECHANIZATION	Z	3	0	0	3	7
									BSM5032	PRINCIPLE OF PRE-COOLING MACHINERY	Z	2	2	0	3	7
	BSM5181	ADVANCED TOPICS IN MA THESIS I	S	4	0	0	0	5	BSM5182	ADVANCED TOPICS IN MA THESIS II	S	4	0	0	0	5
	BSM5001	SOIL AND WATER CONSERVATION ENGINEERING	S	3	0	0	3	6	BSM5002	RESEARCH TECHNIQUES IN DRAINAGE ENGINEERING	S	3	0	0	3	6
	BSM5003	PHYSICAL PLANNING IN RURAL AREAS AND LAND CONSOLIDATION RELATIONS	S	3	0	0	3	6	BSM5004	COMPUTER AIDED DESIGN IN BIOSYSTEMS ENGINEERING	S	2	2	0	3	6
	BSM5005	SPATIAL TECHNOLOGIES IN BIOSYSTEMS ENGINEERING	S	3	0	0	3	6	BSM5006	PRESSURIZED IRRIGATION SYSTEMS AND METHODS	S	3	0	0	3	6
	BSM5007	IRRIGATION OF AGRICULTURAL CROPS	S	3	0	0	3	6	BSM5010	ORGANIZATION AND MANAGEMENT OF IRRIGATION NETWORK	S	3	0	0	3	6
	BSM5011	DATABASE MANAGEMENT IN THE LAND CONSOLIDATION	S	3	0	0	3	6	BSM5012	MEASUREMENT TECHNIQUES IN AGRICULTURAL MACHINERY	S	2	2	0	3	6
	BSM5013	SYSTEM ENGINEERING IN WATER RESOURCES	S	3	0	0	3	6	BSM5014	APPLICATION OF INTERNAL COMBUSTION ENGINE IN AGRICULTURE	S	3	0	0	3	6

BSM5015	ADVANCED THERMODYNAMIC IN BIOSYSTEMS ENGINEERING	S	3	0	0	3	6	BSM5016	DESIGN OF SOIL TILLAGE MACHINERY	S	2	2	0	3	6		
BSM5021	ADVANCED AGRICULTURAL MACHINERY MANAGEMENT	S	3	0	0	3	6	BSM5018	DESIGN OF SEEDING AND PLANTING MACHINERY	S	2	2	0	3	6		
BSM5023	RESEARCH AND DEVELOPMENT IN AGRICULTURAL TECHNOLOGY	S	2	2	0	3	6	<b>BSM5020</b>	<b>PRECISION AGRICULTURE IN CROP PRODUCTION</b>	<b>S</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>6</b>		
BSM5025	DAIRY MILKING SYSTEMS AND MILK PROCESSING MACHINES	S	3	0	0	3	6	BSM5022	COMPUTER APPLICATIONS IN AGRICULTURAL TECHNOLOGY	S	2	2	0	3	6		
BSM5027	SYSTEM ANALYSIS AND PLANNING IN AGRICULTURAL MACHINERY	S	3	0	0	3	6	BSM5024	ERGONOMICS AND SAFETY IN AGRICULTURAL TECHNOLOGY	S	3	0	0	3	6		
BSM5029	DETERMINATION SYSTEMS OF BIOLOGICAL MATERIAL TECHNICAL PROPERTIES	S	2	2	0	3	6	BSM5026	WORKING SYSTEMS IN AGRICULTURAL MACHINERY PLANTS	S	3	0	0	3	6		
BSM5031	DRYING METHODS OF AGRICULTURAL PRODUCTS	S	3	0	0	3	6	BSM5030	ANALYSIS TECHNIQUE OF MECHANISM IN AGRICULTURAL MACHINERY	S	3	0	0	3	6		
BSM5033	INDOOR AIR QUALITY IN BARNS	S	3	0	0	3	6	<b>BSM5034</b>	<b>BULK SOLIDS STORAGE AND HANDLING</b>	<b>S</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>6</b>		
BSM5035	STATICALLY INDETERMINATE STRUCTURES	S	3	0	0	3	6	BSM5038	PARTICULATE MATTER POLLUTION IN AGRICULTURAL BUILDINGS	S	3	0	0	3	6		
BSM5039	WASTEWATER IRRIGATION	S	3	0	0	3	6	BSM5042	IRRIGATION SCHEDULING TECHNIQUES	S	3	0	0	3	6		
BSM5041	COMPUTER SIMULATION MODELS IN PLANT GROWTH AND MANAGEMENT	S	3	0	0	3	6	<b>BSM5044</b>	<b>DATA ANALYSIS IN BIOSYSTEMS ENGINEERING</b>	<b>S</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>6</b>		
BSM5043	ODOR POLLUTION AND CONTROL IN ANIMAL BARNS	S	3	0	0	3	6										
<b>BSM5045</b>	<b>HYDRAULIC CIRCUIT DESIGN AND CONTROL</b>	<b>S</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>6</b>										
<b>BSM5047</b>	<b>DESIGN AND MODELING OF ANIMAL BARNS</b>	<b>S</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>6</b>										
<b>Total Credits</b>							<b>12</b>	<b>30</b>	<b>Total Credits</b>							<b>9</b>	<b>30</b>
<b>STAGE THESIS</b>	<b>III. TERM / FALL</b>								<b>IV. TERM / SPRING</b>								
	BSM5173	SEMINAR (THESIS)	Z	0	2	0	0	5	BSM5184	ADVANCED TOPICS IN MA THESIS IV	Z	4	0	0	0	5	
	BSM5183	ADVANCED TOPICS IN MA THESIS III	Z	4	0	0	0	5	BSM5194	MA THESIS IV	Z	0	1	0	0	25	
	BSM5193	MA THESIS III	Z	0	1	0	0	20									
<b>Total Credits</b>							<b>0</b>	<b>30</b>	<b>Total Credits</b>							<b>0</b>	<b>30</b>
<b>TOTAL CREDITS: 21 - TOTAL ECTS: 30</b>																	

**Not:** The student is expected to take a total of ..... credited ..... selective courses every academic term.  
The student have the option of choosing one selective course from another department with the endorsement of the supervisor.



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**DEPARTMENT OF** Biosystems Engineering  
**DEPARTMENT / PROGRAM** Biosystems Engineering / Doctoral Program

COURSE STAGE	I. TERM / FALL							II. TERM / SPRING								
	Code	Course Title	Type	T	U	L	Credit	ECTS	Code	Course Title	Type	T	U	L	Credit	ECTS
	BSM6191	PHD THESIS I	Z	0	1	0	0	1	BSM6192	PHD THESIS II	Z	0	1	0	0	1
	FEN6001	RESEARCH METHODS	Z	2	0	0	2	4	BSM6172	SEMINAR (CLASS)	Z	0	2	0	0	4
	BSM6009	ADVANCED GEOGRAPHIC INFORMATION SYSTEMS IN HYDROLOGIC ANALYSIS	Z	3	0	0	3	5								
	BSM6025	NON - POINT SOURCE POLLUTION AND CONTROL IN AGRICULTURAL BUILDINGS	Z	3	0	0	3	5								
	BSM6019	AGRICULTURAL APPLICATIONS OF WIND ENERGY	Z	2	2	0	3	5								
	BSM6021	AGRICULTURAL MACHINERY IN THE MANUFACTURING OF CNC PROGRAMMING PRINCIPLES	Z	3	0	0	3	5								
	BSM6181	ADVANCED TOPICS IN PHD THESIS I	S	4	0	0	0	5	BSM6182	ADVANCED TOPICS IN PHD THESIS II	S	4	0	0	0	5
	BSM6001	HYDROLOGIC MODELING OF SMALL WATERSHEDS	S	3	0	0	3	5	BSM6002	HYDRAULICS IN POROUS MEDIA	S	3	0	0	3	5
	BSM6003	INFILTRATION THEORY	S	3	0	0	3	5	BSM6004	ADVANCED HYDROLOGY	S	3	0	0	3	5
	BSM6005	GROUNDWATER DEVELOPMENT	S	2	2	0	3	5	BSM6006	SIMULATION MODELS IN DRAINAGE ENGINEERING	S	3	0	0	3	5
	BSM6007	SURFACE IRRIGATION HYDRAULICS	S	3	0	0	3	5	BSM6008	ADVANCED COMPUTER PROGRAMMING	S	3	0	0	3	5
	BSM6011	TRACTORS - EQUIPMENT MECHANICS	S	3	0	0	3	5	BSM6010	MONITORING AND EVALUATION OF IRRIGATION PROJECTS	S	3	0	0	3	5
	BSM6013	SPECIFICATION AND APPLICATIONS OF COOLING MACHINERY AND HEAD PUMPS	S	3	0	0	3	5	BSM6012	DESIGN OF PLANT PROTECTION MACHINERY	S	2	2	0	3	5
	BSM6015	DESIGN OF CULTIVATION MACHINERY	S	2	2	0	3	5	BSM6014	DESIGN OF IRRIGATION MACHINERY	S	2	2	0	3	5
	BSM6017	AGRICULTURAL APPLICATIONS OF SOLAR ENERGY	S	2	2	0	3	5	BSM6016	MODELING TECHNIQS IN AGRICULTURAL MACHINERY	S	2	2	0	3	5
	BSM6023	DESIGN OF TRANSPORTATION MACHINERY	S	3	0	0	3	5	BSM6018	STANDARDIZATION AND QUALITY IN AGRICULTURAL TECHNOLOGY	S	3	0	0	3	5
	BSM6027	DESIGN OF STEEL STRUCTURES IN FARM BUILDINGS	S	3	0	0	3	5	BSM6020	DESIGN AND PRACTICAL GUIDELINES OF HARVEST AND THRESHING MACHINERY	S	3	0	0	3	5

BSM6029	REALLOCATION MODELS ON THE LAND CONSOLIDATION PROJECTS	S	3	0	0	3	5	BSM6022	EXPERIMENT TECHNIQUE IN AGRICULTURAL MACHINERY	S	2	2	0	3	5		
BSM6031	AGRICULTURAL SOURCES POLLUTION ANALYSIS	S	3	0	0	3	5	BSM6024	SELECTING AND CLASSIFICATION PRINCIPLES OF AGRICULTURAL PRODUCTS	S	2	2	0	3	5		
<b>BSM6033</b>	<b>DESIGN OF WOODEN STRUCTURES IN FARM BUILDINGS</b>	<b>S</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>5</b>	BSM6026	ADVANCED AGRICULTURAL WASTE MANAGEMENT	S	3	0	0	3	5		
								BSM6028	LIFE CYCLE ASSESSMENT IN BIOLOGICAL SYSTEMS	S	3	0	0	3	5		
								BSM6030	GEOGRAPHIC INFORMATION SYSTEMS APPLICATIONS IN RURAL PLANNING	S	3	0	0	3	5		
								BSM6032	ADVANCED TECHNIQUES IN EVAPOTRANSPIRATION MODELING	S	3	0	0	3	5		
								BSM6034	ADVANCED ENVIROMENTAL CONTROL FOR AGRICULTURAL STRUCTURES AND DESIGN	S	3	0	0	3	5		
								<b>BSM6036</b>	<b>BIOPROCESS APPLICATIONS IN ANIMAL FEEDING OPERATIONS</b>	<b>S</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>5</b>		
<b>Toplam Kredi</b>							<b>14</b>	<b>30</b>	<b>Toplam Kredi</b>							<b>12</b>	<b>30</b>
<b>III. TERM / FALL</b>								<b>IV. TERM / SPRING</b>									
BSM6183	ADVANCED TOPICS IN PHD THESIS III	Z	4	0	0	0	5	BSM6174	SEMINAR(THESIS)	Z	0	2	0	0	5		
BSM6193	PHD THESIS III	Z	0	1	0	0	15	BSM6184	ADVANCED TOPICS IN PHD THESIS IV	Z	4	0	0	0	5		
YET6177	PHD PROFICIENCY EXAMINATION	Z	0	0	0	0	10	BSM6194	PHD THESIS IV	Z	0	1	0	0	20		
<b>Toplam Kredi</b>							<b>0</b>	<b>30</b>	<b>Toplam Kredi</b>							<b>0</b>	<b>30</b>
<b>V. TERM / FALL</b>								<b>VI. TERM / SPRING</b>									
ENS6121	DEVELOPMENT AND LEARNING	Z	3	0	0	0	5	ENS6122	PLANNING AND EVALUATION IN EDUCATION	Z	3	2	0	0	5		
BSM6185	ADVANCED TOPICS IN PHD THESIS V	Z	4	0	0	0	5	BSM6186	ADVANCED TOPICS IN PHD THESIS VI	Z	4	0	0	0	5		
BSM6195	PHD THESIS V	Z	0	1	0	0	20	BSM6196	PHD THESIS VI	Z	0	1	0	0	20		
<b>Toplam Kredi</b>							<b>0</b>	<b>30</b>	<b>Toplam Kredi</b>							<b>0</b>	<b>30</b>
<b>VII. TERM / FALL</b>								<b>VIII. TERM / SPRING</b>									
BSM6187	ADVANCED TOPICS IN PHD THESIS VII	Z	4	0	0	0	5	BSM6188	ADVANCED TOPICS IN PHD THESIS VII	Z	4	0	0	0	5		
BSM6197	PHD THESIS VII	Z	0	1	0	0	25	BSM6198	PHD THESIS VII	Z	0	1	0	0	25		
<b>Toplam Kredi</b>							<b>0</b>	<b>30</b>	<b>Toplam Kredi</b>								
<b>TOTAL CREDITS: 26 - TOTAL ECTS: 240</b>																	

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The student have the option of choosing one selective course from another department with the endorsement of the supervisor. \*Success in Ph.D. qualifying exam is a prerequisite.