IZTECH Food Engineering Department

Undergraduate Education Program

FIRST SEMESTER			CREDIT	ECTS CREDIT	PREREQUISITES
MATH	141	Basic Calculus	(3+2) 4	5	
PHYS	121	General Physics I	(3+2) 4	7	
MBG	101	Biology I	(3+0) 3	5	
CHEM	121	General Chemistry I	(3+0) 3	5	
CHEM	141	General Chemistry Lab I	(0+2) 1	2	
ENG	101	Development of Reading and Writing Skills I	(3+0) 3	3	
FE	105	Introduction to Food Engineering	(2+0) 2	3	
		Total Number of Credits in the Semester :	20	30	
SECOND SEMESTER			CREDIT	ECTS CREDIT	PREREQUISITES
MATH	142	Basic Calculus II	(3+2) 4	6	
PHYS	122	General Physics II	(3+2) 4	8	
CHEM	122	General Chemistry II	(3+0) 3	5	
CHEM	142	General Chemistry Lab. II	(0+2) 1	2	
ENG	102	Development of Reading and Writing Skills II	(3+0) 3	3	
GCC	101	Career Planning and Development	(2+0)0	2	
FE	104	Fundamentals of Nutrition	(3+0) 3	6	
		Total Number of Credits in the Semester :	20	32	
THIRD SEMESTER			CREDIT	ECTS CREDIT	PREREQUISITES
MATH	255	Differential Equations	(4+0) 4	6	
CHEM	221	Organic Chemistry	(4+0) 4	5	
CHEM	201	Analytical Chemistry I	(3+0) 3	5	
FE	201	Material and Energy Balances in Engineering	(3+0) 3	6	
FE	211	Basic Programming for Engineers	(2+2) 3	5	
TURK	201	Turkish Language I (NC)	(2+0) 0	2	
HIST	201	Principles of Atatürk I (NC)	(2+0) 0	2	
		Total Number of Credits in the Semester :	17	31	
FOURTH SEMESTER			CREDIT	ECTS CREDIT	PREREQUISITES
FE	202	Fluid Mechanics	(3+0) 3	6	FE 201
FE	204	Numerical Methods in Engineering	(3+0) 3	5	
FE	206	Food Microbiology	(3+2) 4	7	
TURK	202	Turkish Language II (NC)	(2+0) 0	2	
HIST	202	Principles of Atatürk II (NC)	(2+0) 0	2	
FE	210	Introduction to Statistics for Engineers	(3+0) 3	5	
ECON	205	Principles of Economics	(3+0) 3	4	
		Total Number of Credits in the Semester :	16	31	

FIFTH SEMESTER			CREDIT	ECTS CREDIT	PREREQUISITES
FE	301	Heat Transfer	(3+0) 3	6	FE 201, 202
FE	303	Thermodynamics	(3+0) 3	6	FE 201
FE	305	Food Chemistry	(3+0) 3	5	
FE	321	Food Chemistry Laboratory	(0+2) 1	2	
FE	323	Applied Nutrition in Food Science	(3+0) 3	5	
ENG	301	Technical Writing and Communication	(3+0) 3	3	
-		Nontechnical Elective	(3+0) 3	3	
		Total Number of Credits in the Semester :	19	30	
SIXTH SEMESTER			CREDIT	ECTS CREDIT	PREREQUISITES
FE	302	Mass Transfer	(3+0) 3	6	FE 201, 202, 301, 303
FE	304	Food Engineering Unit Operations	(3+0) 3	5	FE301
FE	322	Unit Operations Laboratory	(0+4) 2	4	FE301
FE	324	Nutritional Biochemistry	(3+0) 3	5	
FE	310	Food Technology	(3+0) 3	5	
-	-	Technical Elective	(3+0) 3	5	
		Total Number of Credits in the Semester :	17	30	
SEVENTH SEMESTER			CREDIT	ECTS CREDIT	PREREQUISITES
FE	401	Principles of Food Safety and Quality Assurance	(3+2) 4	5	
FE	403	Food Process Design	(4+0) 4	8	FE 302, 304, 322
-		Nontechnical Elective	(3+0) 3	3	
-		Technical Elective	(3+0) 3	5	
FE	423	Bioprocess Engineering and Reaction Kinetics in Fo	(3+0) 3	5	FE206, 304, 305, 321, 322, 324
FE	419	Instrumental Analysis in Foods and Nutrition	(2+2) 3	5	
FE	400	Summer Practice (NC)	(0+0) 0	1	
		Total Number of Credits in the Semester :	20	32	
EIGHTH SEMESTER			CREDIT	ECTS CREDIT	PREREQUISITES
MAN	211	Corporate Communication and Management Skills	(3+0) 0	3	
FE	408	Product Engineering For Functional Foods	(3+2) 4	9	FE 323, 403
-		Nontechnical Elective	(3+0) 3	3	
-		Technical Elective	(3+0) 3	5	
-		Technical Elective	(3+0) 3	5	
-		Technical Elective	(3+0) 3	5	
		Total Number of Credits in the Semester :	16	30	
		Total Credits :	143	244	

FOOD ENGINEERING ELECTIVE COURSE LIST*					PREREQUISITES
FE	311	Principles of Food Packaging	(3+0) 3	5	
FE	312	Introduction to Industrial Microbiology	(3+0) 3	5	
FE	313	Food Additives	(3+0) 3	5	
FE	314	Food Enzymes	(3+0) 3	5	
FE	318	Introduction to Food Biotechnology	(3+0) 3	5	
FE	320	Sensory Analysis in Foods	(3+0) 3	5	
FE	402	Nutrition in Health and Diseases	(3+0) 3	5	
FE	405	Microbiological Quality Control	(2+2) 3	5	FE 206
FE	406	Principles of Food Preservation	(3+0) 3	5	
FE	407	Engineering Properties of Foods	(3+0) 3	5	
FE	409	Methods in Nutritional Sciences	(3+0) 3	5	
FE	410	Introduction to Nutrigenomics and Nutrigenetics	(3+0) 3	5	
FE	411	Research/Problems in Nutrition	(3+0) 3	5	
FE	412	Introduction to Nutritional Epidemiology	(3+0) 3	5	
FE	413	Quality Management Systems	(3+0) 3	5	
FE	414	Process Dynamics and Control	(3+0) 3	5	FE 301, 302
FE	417	Special Topics in Nutrition and Food Engineering	(3+0) 3	5	
FE	418	Introduction To R Programming	(3+0)3	5	
FE	424	Sustainable Food Processing	(3+0)3	5	
FE	420	Graduation Project	(0+6)3	5	
FE	499	Cooperative Education Course	(0+6)3	5	

*Regulations for Technical Elective Courses:

1) Other technical elective courses offered on campus could be selected by the consent of the department only if they meet minimum 240 ECTS (240 AKTS) in total.