ONDOKUZ MAYIS UNIVERSITY

PROTOCOL FOR THE DOUBLE MAJOR PROGRAM BETWEEN

THE DEPARTMENT OF MOLECULAR BIOLOGY AND GENETICS

AND THE DEPARTMENT OF FOOD ENGINEERING

DATE OF AGREEMENT: 02.10.2024

The purpose of this protocol is to outline the course requirements assigned to students who are entitled to enroll in the Double Major Program carried out in cooperation between the Department of Molecular Biology and Genetics and the Department of Food Engineering, and which they are required to take and successfully complete for graduation.

The equivalent courses, common courses, additional courses, and ECTS calculations determined between the Department of Molecular Biology and Genetics and the Department of Food Engineering are presented in the attached tables.

A student enrolled in the Double Major Program is responsible for fulfilling the total credits and any additional requirements needed for graduation from both major programs.

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Head of the Department of Molecular Biology and Genetics

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Head of the Department of Food Engineering

Credit Distribution for Graduation
for Students Enrolled in the Department of Food Engineering and Pursuing a Double Major in the Department of Molecular Biology and Genetics:

- Common Courses: **24 ECTS**
- Equivalent Courses: **140 ECTS**
- Additional (Differential) Courses: **76 ECTS**
- **Total: 240 ECTS**

Credit Distribution for Graduation
for Students Enrolled in the Department of Molecular Biology and Genetics and Pursuing a Double Major in the Department of Food Engineering:

- Common Courses: **24 ECTS**
- Equivalent Courses: **119 ECTS**
- Additional (Differential) Courses: **97 ECTS**
- **Total: 240 ECTS**

Table 1. Common Courses

COMMON COURSES ACCEPTED BETWEEN THE DEPARTMENT OF MOLECULAR BIOLOGY AND GENETICS AND THE DEPARTMENT OF FOOD ENGINEERING							
MOLECULAR BIOLOGY AND GENETICS				**FOOD ENGINEERING**			
Code	**Course Name**	**Credits**	**ECTS**	Code	**Course Name**	**Credits**	**ECTS**
ATİ101	Atatürk's Principles and History of Reforms I	2	2	ATİ101	Atatürk's Principles and History of Reforms I	2	2
ATİ102	Atatürk's Principles and History of Reforms II	2	2	ATİ102	Atatürk's Principles and History of Reforms II	2	2
YDİ13	Foreign Language I	2	3	YDİ13	Foreign Language I	2	3
YDİ14	Foreign Language II	2	3	YDİ14	Foreign Language II	2	3
İSG101	Occupational Health and Safety I	2	2	İSG101	Occupational Health and Safety I	2	2
İSG102	Occupational Health and Safety II	2	2	İSG102	Occupational Health and Safety II	2	2
SSD1	Social Elective Course I	2	3	SSD1	Social Elective Course I		3
SSD2	Social Elective Course II	2	3	SSD2	Social Elective Course II	2	3
YDİ213	Advanced English I	3	3	YDİ213	Advanced English I	3	3
YDİ214	Advanced English II	3	3	YDİ214	Advanced English II	3	3
	TOTAL:	22	24		**TOTAL:**	22	24

Table 2. Equivalent Courses

COMMON COURSES ACCEPTED BETWEEN THE DEPARTMENT OF MOLECULAR BIOLOGY AND GENETICS AND THE DEPARTMENT OF FOOD ENGINEERING							
MOLECULAR BIOLOGY AND GENETICS (MAIN CURRICULUM)				**FOOD ENGINEERING (MAIN CURRICULUM)**			
Code	**Course Name**	**Credits**	**ECTS**	Code	**Course Name**	**Credits**	**ECTS**
TBFIZ125	General Physics	4	6	TBFIZ123	Physics I	4	6
TBKIM115	Chemistry I	4	6	TBFIZ124	Physics II	4	6
TBKIM116	Chemistry II	3	4	TBKIM113	General Chemistry	4	6
MBG114	General	3	6	GMB110	Analytical	3	7

	Mathematics				Chemistry		
MBG111	General Biology I	5	8	TBMAT113	Mathematics I	3	5
TDI101	Turkish Language I	2	2	TBMAT114	Mathematics II	3	5
TDI102	Turkish Language II	2	2	TBBI0121	Biology	2	3
MBG215	Microbiology	5	7	TDI201	Turkish Language I	2	2
MBG209	Biochemistry	5	7	TDI202	Turkish Language II	2	2
MBG214	Organic Chemistry	5	8	GMB206	General Microbiology	3	4
MBG205	Biostatistics	3	5	GMB212	Biochemistry	3	4
MBG411	Graduation Project I	2	3	GMB212	Organic Chemistry	2	3
MBG410	Graduation Project II	2	6	GMB216	Engineering Statistical Methods	2	3
MBG412	Bioethics	2	3	GMB400	Graduation Project	2	6
MBGS-5	5th Semester Elective Course I	2	3	GMB419	Food Law and Ethics	2	3
MBGS-6	6th Semester Elective Course I	2	3	GMB301	Food Microbiology	4	5
MBGS-3	3rd Semester Elective Course I	2	3	MÜH301	Entrepreneurship and Innovation	3	5
MBGS-4	4th Semester Elective Course I	2	3	GMB-TSEC-2	TECHNICAL ELECTIVE – 2	2	3
MBGS-4	4th Semester Elective Course II	2	3				
MBGS-5	5th Semester Elective Course I	2	3	GMB-TSEC-3	TECHNICAL ELECTIVE -3	3	4
MBGS-5	5th Semester Elective Course II	2	3				
MBGS-5	5th Semester Elective Course III	2	3	GMB-TSEC-4	TECHNICAL ELECTIVE – 4	2	3
MBGS-6	6th Semester Elective Course II	2	3				
MBGS-6	6th Semester Elective Course III	2	3	GMB-TSEC-5	TECHNICAL ELECTIVE – 5	2	3
MBGS-7	7th Semester Elective Course I	2	3				
MBGS-7	7th Semester Elective Course II	2	3	GMB-TSEC-6	TECHNICAL ELECTIVE – 6	2	3
MBGS-7	7th Semester Elective Course III	2	3				
MBGS-7	7th Semester Elective Course VI	2	3	GMB-TSEC-7	TECHNICAL ELECTIVE – 7	2	3
MBGS-8	8th Semester Elective Course 1	2	3	GMB-TSEC-8	TECHNICAL ELECTIVE – 8	2	3
MBGS-8	8th Semester Elective Course 2	2	3	GMB-TSEC-9	TECHNICAL ELECTIVE – 9	2	3
MBGS-8	8th Semester Elective Course 3	2	3	GMB-TSEC-10	TECHNICAL ELECTIVE – 10	2	4

MBGS-8	8th Semester Elective Course 4	2	3	GMB-TSEC-11	TECHNICAL ELECTIVE – 11	3	6
MBGS-8	8th Semester Elective Course 5	2	3	GMB-TSEC-12	TECHNICAL ELECTIVE – 12	2	4
				GMB-TSEC-13	TECHNICAL ELECTIVE – 13	2	4
TOTAL:		90	140	TOTAL:		73	119

THE DEPARTMENT OF MOLECULAR BIOLOGY AND GENETICS AND THE DEPARTMENT OF FOOD ENGINEERING							
MOLECULAR BIOLOGY AND GENETICS DEPARTMENT (MAIN CURRICULUM)				**FOOD ENGINEERING DEPARTMENT (MAIN CURRICULUM)**			
Code	**Course Name**	**Credits**	**ECTS**	**Code**	**Course Name**	**Credits**	**ECTS**
MBG500	Professional Practice Program	14	24	GMB504	Professional Practice Program	13	30

Table 3. Alternative Course Equivalency (for 8th Semester)

Table 4a. Differential Courses Required for Food Engineering Students Who Will Take Courses from the Department of Molecular Biology and Genetics

MOLECULAR BIOLOGY AND GENETICS COURSES			
Code	**Course Name**	**Credits**	**ECTS**
MBG112	General Biology II	5	8
MBG202	Basic Genetics	3	6
MBG216	Physiology	3	4
MBG218	Molecular Cell Physiology	3	4
MBG309	Molecular Biology	5	8
MBG315	Evolution and Biodiversity	5	7
MBG317	Introduction to Bioinformatics	2	4
MBG308	Biotechnology	3	5
MBG310	Introduction to Proteomics	2	4
MBG312	Stem Cell and Tissue Culture	2	4
MBG407	Genetic Engineering	3	6
MBG409	Molecular Biology and Genetics Seminars	2	4
MBG408	Human Genetics and Cancer Biology	2	4
TOTAL:		**40**	**76**

Table 4b. Differential Courses that Molecular Biology and Genetics Students Must Take from the Department of Food Engineering

MOLECULAR BIOLOGY AND GENETICS COURSES			
Code	**Course Name**	**Credits**	**ECTS**

GMB101	Computer-Aided Design	2	3
GMB105	Engineering Computer Applications	2	3
GMB106	Introduction to Food Engineering	2	3
GMB201	Food Chemistry I	2	3
GMB205	Differential Equations	3	4
GMB207	Mass and Energy Balances	3	5
GMB209	Fluid Mechanics	3	4
GMB211	Thermodynamics	3	4
GMB201	Food Chemistry II	2	3
GMB218	Heat and Mass Transfer	3	4
GMB309	Reaction Kinetics	2	3
GMB311	Instrumental Food Analysis	2	4
GMB313	Food Engineering Unit Operations I	3	6
GMB306	Fruit and Vegetable Technology	4	6
GMB316	Meat Technology	4	6
GMB318	Food Engineering Unit Operations II	3	6
GMB320	Oil Technology	4	6
GMB334	Internship	0	10
GMB411	Dairy Technology	4	6
GMB413	Cereal Technology	4	6
GMB415	Food Engineering Design	3	6
GMB410	Process Control	2	6
	TOTAL:	**60**	**97**