University of Life Sciences "King Michael I" from Timișoara
Faculty of Food Engineering
Domain: Food Engineering
Study programm: JOINT DEGREE - SUSTAINABILITY IN AGRICULTURE, FOOD PRODUCTION AND FOOD TECHNOLOGY IN THE DANUBE REGION
Studies: Master
Full time study
Period of courses: 2 years / 4 semesters

Aproved RECTOR,
Prof. Dr.Ing. Cosmin Alin Popescu
on the date of:

Curriculum I. Year, 2022/2023

No	COURSES	Code	I. Semester								II. Semester								Total /year		
			C	S	L	P	Hours CV	ECTS	Hours IS	EF	C	S	L	P	Hours CV	ECTS	Hours IS	EF	Hours CV	ECTS	Hours IS
Focus Area ''Food Safety and Consumer Science''																					
1	Cereal technology		2	-	-	-	56	2		E	-	-	-	-	-	-	-	-	56	2	
2	Food safety and risk		2	1	-	-	70	3		E	-	-	-	-	-	-	-	-	70	3	
3	Food microbiology		4	-	3	-	154	7		E	-	-	-	-	-	-	-	-	154	7	
4	Practical course in food processing		-	-	5	-	70	5		C	-	-	-	-	-	-	-	-	70	5	
5	Applied quality management practical course		-	-	5	-	70	5		C	-	-	-	-	-	-	-	-	70	5	
6	Food chemistry		4	-	3	-	154	7		E	-	-	-	-	-	-	-	-	154	7	
7	Human nutrition		3	-	-	-	84	3		E	-	-	-	-	-	-	-	-	84	3	
8	Molecular biology for food analysis		2	1	-	-	70	3		E	-	-	-	-	-	-	-	-	70	3	
9	Food authenticity practical		-	-	3	-	42	3	-	C	-	-	-	-	-	-	-	-	42	3	
10	Validation of cleaning processes and hygienic design		-	-	-	-	-	-	-	-	2	-	1	-	70	3	-	E	70	3	
11	Analysis of bio-hazards in food		-	-	-	-	-	-	-	-	2	1	-	-	70	3	-	E	70	3	
12	Automatic identification technology in food industry		-	-	-	-	-	-	-	-	2	1	-	-	70	3	-	E	70	3	
13	National and international food safety authorities		-	-	-	-	-	-	-	-	-	3	-	-	42	3	-	C	42	3	
14	Food biotechnology		-	-	-	-	-	-	-	-	2	-	1	-	70	3	-	E	70	3	
1	Fish production in ponds		-	-	-	-	-	-	-	-	2	-	2	-	84	4	-	E	84	4	
2	Animal hygiene and health		-	-	-	-	-	-	-	-	2	-	1	-	70	3	-	E	70	3	
3	Food and feed safety		-	-	-	-	-	-	-	-	2	-	1	-	70	3	-	E	70	3	
1	Advanced food processing techniques		-	-	-	-	-	-	-	-	2	-	2	-	84	8	-	E	84	8	

2	Advances in Food Toxicology and Food Authenticity		-	-	-	-	-	-	-	-	2	-	2	-	84	8	-	E	84	8	
3	Hygienic design in food factory		-	-	-	-	-	-	-	-	-	2	-	-	28	2	-	C	28	2	
4	Nutritional cooking and chrononutrition		-	-	-	-	-	-	-	-	1	-	1	-	42	4	-	E	42	4	
5	Nutrition biochemistry		-	-	-	-	-	-	-	-	2	-	2	-	84	8	-	E	84	8	
6	Nutrition for special categories of consumer		-	-	-	-	-	-	-	-	2	-	2	-	84	8	-	E	84	8	
Focus Area "Sustainable rural and regional development and policy"																					
1	Innovations for sustainable forest management		2	2	-	-	84	4		E	-	-	-	-	-	-	-	-	84	4	
2	Forest resource economics		2	2	-	-	84	4		E	-	-	-	-	-	-	-	-	84	4	
3	Sustainable spatial		2	3	-	-	98	5		E	-	-	-	-	-	-	-	-	98	5	
4	Resource and environmental economics		-	-	-	-	-	-	-	-	3	-	-	-	84	3		C	84	3	
5	Globalisation and rural development		-	-	-	-	-	-	-	-	3	-	-	-	84	3		C	84	3	
6	Regional economics and regional governance		-	-	-	-	-	-	-	-	3	-	-	-	84	3	-	C	84	3	
7	Rural tourism		-	-	-	-	-	-	-	-	2	-	-	-	56	2	-	C	56	2	
8	Economics of multiple use forestry		-	-	-	-	-	-	-	-	1	1	-	-	42	2	-	E	42	2	
9	Livelihood system dynamics in rural development		-	-	-	-	-	-	-	-	1	1	-	-	42	2	-	E	42	2	
1	Agricultural product marketing		-	-	-	-	-	-	-	-	3	-	-	-	84	3	-	C	84	3	
Focus Area "Biodiversity and sustainable use of natural resources"																					
1	Multiple criteria decision making in natural resource		2	1	-	-	70	3		E	-	-	-	-	-	-	-	-	70	3	
2	Role of soils in nature conservation and wildlife management		1	-	1	-	42	2	-	E	42	2	-	-	-	-	-	-	-	-	
3	Soil conservation and soil protection		2	-	1	-	70	3		E	-	-	-	-	-	-	-	-	70	3	
4	Soil erosion models and their application		2	2	-	-	84	4		E	-	-	-	-	-	-	-	-	84	4	
5	Biocultural diversity in rural landscapes		-	-	-	-	-	-	-	-	2	1	-	-	70	3		E	70	3	
6	Biodiversity and conservation of mountain forests		-	-	-	-	-	-	-	-	1	1	-	-	42	2	-	E	42	2	
7	Protection and mitigation measures against natural		-	-	-	-	-	-	-	-	2	-	1	-	70	3	-	C	70	3	

8	Soil fertility and soil ecology in organic agriculture		-	-	-	-	-	-	-	-	2	-	1	-	70	3	-	E	70	3	
9	Valuation methods for natural resources		-	-	-	-	-	-	-	-	3	-	-	-	84	3	-	C	84	3	
10	Possible impacts of climate change on water resources		-	-	-	-	-	-	-	-	3	-	-	-	84	3	-	C	84	3	
1	Biometry		-	-	-	-	-	-	-	-	-	2	-	-	28	2	-	C	28	2	
1	Biodiversity conservation (fac.)		-	-	-	-	-	-	-	-	2	-	2	-	84	8	-	E	84	8	
1	Ecological aspects of grassland management		-	-	-	-	-	-	-	-	3	-	3	-	126	6	-	E	126	6	
2	Geomorphology and landscape ecology		-	-	-	-	-	-	-	-	2	-	1	-	70	3	-	E	70	3	
Focus Area "Sustainable Agriculture"																					
1	Development innovation		2	1	-	-	70	3		E	-	-	-	-	-	-	-	-	70	3	
2	Applied development research		2	1	-	-	70	3		E	-	-	-	-	-	-	-	-	70	3	
3	Ecological plant protection		2	-	1	-	70	3		E	-	-	-	-	-	-	-	-	70	3	
4	Ecological basis of biological control		3	-	-	-	84	3	-	C	-	-	-	-	-	-	-	-	84	3	
5	Organic fruit growing and viticulture		2	-	1	-	70	3	-	C	-	-	-	-	-	-	-	-	70	3	
6	Organic production of vegetables and ornamentals		2	-	1	-	70	3	-	C	-	-	-	-	-	-	-	-	70	3	
7	Biology and physiology of the grapevine		2	1	-	-	70	3		E	-	-	-	-	-	-	-	-	70	3	
8	Medicinal and aromatic plants		3	-	-	-	84	3	-	C	-	-	-	-	-	-	-	-	84	3	
9	Animal production in organic agriculture		4	-	-	-	112	4	-	C	-	-	-	-	112	4	-	C	112	4	
10	Standards, certification and accreditation in organic		2	1	-	-	70	3		E	-	-	-	-	-	-	-	-	70	3	
11	Rhizosphere processes and application to agriculture and soil		3	-	-	-	84	3	-	C	-	-	-	-	-	-	-	-	84	3	
12	System analysis and scenario technique - methods and		-	5	-	-	70	5	-	C	-	-	-	-	-	-	-	-	70	5	
13	Plant and environment		3	-	-	-	84	3	-	C	-	-	-	-	-	-	-	-	84	3	
14	Local knowledge and ethnobiology in organic		1	-	-	-	28	1	-	C	-	2	-	-	28	2	-	C	56	3	
15	Soil fertility and soil ecology in organic agriculture		-	-	-	-	-	-	-	-	2	-	1	-	70	3	-	E	70	3	
16	Production systems and atmospheric pollution		-	-	-	-	-	-	-	-	3	-	-	-	84	3	-	C	84	3	

17	Safety and quality of organic foods		-	-	-	-	-	-	-	-	3	-	-	-	84	3	-	C	84	3	
18	Facilitating change for sustainable development		-	-	-	-	-	-	-	-	2	1	-	-	70	3	-	E	70	3	
1	Integrated crop production		-	-	-	-	-	-	-	-	2	1	-	-	70	3	-	E	70	3	
2	Integrated horticultural production		-	-	-	-	-	-	-	-	2	1	-	-	70	3	-	E	70	3	
3	Plant protection strategies and systems		-	-	-	-	-	-	-	-	2	1	-	-	70	3	-	E	70	3	
4	Adaptable soil tillage		-	-	-	-	-	-	-	-	2	1	-	-	70	3	-	E	70	3	
1	Crop production (fac.)		-	-	-	-	-	-	-	-	2	-	2	-	84	8	-	E	84	8	
1	Crop ecophysiology		-	-	-	-	-	-	-	-	2	-	2	-	84	7	-	E	84	7	
2	Decision-making in agriculture		-	-	-	-	-	-	-	-	2	1	-	-	70	6	-	E	70	6	
3	Plant nutrition in sustainable agriculture		-	-	-	-	-	-	-	-	2	-	2	-	84	7	-	E	84	7	
4	Water resources management for sustainable agriculture		-	-	-	-	-	-	-	-	2	1	-	-	70	6	-	E	70	6	
5	Water resources systems analysis techniques		-	-	-	-	-	-	-	-	2	1	-	-	70	3	-	E	70	3	
1	Organic farming		-	-	-	-	-	-	-	-	3	-	3	-	126	6	-	E	126	6	
2	Microbial enzymatic activities in soil		-	-	-	-	-	-	-	-	2	-	1	-	70	3	-	E	70	3	
3	Grassland Management		-	-	-	-	-	-	-	-	3	3	-	-	126	6	-	E	126	6	
4	Forage crops		-	-	-	-	-	-	-	-	3	-	3	-	126	6	-	E	126	6	
Focus Area "Soil, water and climate"																					
1	Meteorological conditions and precipitation		2	1	-	-	70	3		E	-	-	-	-	-	-	-	-	70	3	
2	Lecture series in soil, water and atmosphere		3	-	-	-	84	3	-	C	-	-	-	-	-	-	-	-	84	3	
3	Soils and global change		-	4	-	-	56	4		C	-	-	-	-	-	-	-	-	56	4	
4	Water resources planning and management		3	-	-	-	84	3	-	C	-	-	-	-	-	-	-	-	84	3	
5	Soil physics and chemistry		3	-	-	-	84	3	-	C	-	-	-	-	-	-	-	-	84	3	
6	Soils and food security		1	-	1	-	42	2	-	E	-	-	-	-	-	-	-	-	42	2	
7	Agrometeorology		3	-	-	-	84	3	-	C	-	-	-	-	-	-	-	-	84	3	
8	Selected projects in		-	3	-	-	42	3	-	C	-	-	-	-	-	-	-	-	42	3	
1	Modern soil observation and conservation methods		-	-	-	-	-	-	-	-	2	1	-	-	70	3	-	E	70	3	
2	GIS applications in natural resource management		-	-	-	-	-	-	-	-	2	1	-	-	70	3	-	E	70	3	
3	Ecotoxicology		-	-	-	-	-	-	-	-	2	1	-	-	70	3	-	E	70	3	

1	Water resources systems analysis techniques (fac)		-	-	-	-	-	-	-	-	2	-	2	-	84	8	-	E	84	8	
2	Soil and climate change (fac)		-	-	-	-	-	-	-	-	2	-	2	-	84	8	-	E	84	8	
1	Use and conservation of water		-	-	-	-	-	-	-	-	3	-	3	-	126	6	-	E	126	6	
Focus Area "Biotechnology"																					
1	Bioprocess engineering I		2	-	2	-	84	4		E	-	-	-	-	-	-	-	-	84	4	
2	Plant Biotechnology		3	-	-	-	84	3	-	C	-	-	-	-	-	-	-	-	84	3	
3	Animal cell culture		2	-	-	-	56	2		C	-	-	-	-	-	-	-	-	56	2	
4	Biochemical and biotechnological methods		2	-	1	-	70	3		E	-	-	-	-	-	-	-	-	70	3	
5	Quality management in biotechnology		2	-	1	-	70	3		E	-	-	-	-	-	-	-	-	70	3	
6	Cell biology		-	-	-	-	-	-	-	-	3	-	-	-	84	3	-	C	84	3	
7	Methods in cell biology		-	-	-	-	-	-	-	-	3	-	-	-	84	3	-	C	84	3	
8	Cell factory - plants		-	-	-	-	-	-	-	-	-	-	3	-	42	3	-	C	42	3	
9	Plant production		-	-	-	-	-	-	-	-	3	-	-	-	84	3	-	C	84	3	
10	Safety aspects of plant biotechnology		-	-	-	-	-	-	-	-	3	-	-	-	84	3	-	C	84	3	
11	Molecular phytopathology		-	-	-	-	-	-	-	-	2	-	2	-	84	4	-	E	84	4	
12	Genetically modified organisms in the environment		-	-	-	-	-	-	-	-	-	2	-	-	28	2	-	C	28	2	
1	Plant biotechnology		-	-	-	-	-	-	-	-	2	-	1	-	70	3	-	E	70	3	
2	Molecular biology and gene technology and methodology		-	-	-	-	-	-	-	-	2	-	2	-	84	4	-	E	84	4	
3	Fundamentals of animal biotechnology		-	-	-	-	-	-	-	-	2	-	1	-	70	3	-	E	70	3	
4	Fundamentals of plant		-	-	-	-	-	-	-	-	2	-	1	-	70	3	-	E	70	3	
5	Molecular plant breeding		-	-	-	-	-	-	-	-	2	-	1	-	70	3	-	E	70	3	
6	Molecular animal breeding		-	-	-	-	-	-	-	-	2	-	1	-	70	3	-	E	70	3	
7	Fish biotechnology and genome manipulation		-	-	-	-	-	-	-	-	2	-	1	-	70	3	-	E	70	3	
8	Bioinformatics		-	-	-	-	-	-	-	-	2	1	-	-	70	3	-	E	70	3	
Focus Area "Regional specialties"																					
1	Biology and physiology of the grapevine		2	1	-	-	70	3		E	-	-	-	-	-	-	-	-	70	3	
2	Medicinal and aromatic plants		3	-	-	-	84	3	-	C	-	-	-	-	-	-	-	-	84	3	
3	Floriculture		2	1	-	-	70	3		E	-	-	-	-	-	-	-	-	70	3	
4	Methods in horticultural physiology		-	1	2	-	42	3		C	-	-	-	-	-	-	-	-	42	3	

5	Genetic control of secondary metabolites in perennial crop plants		2	1	-	-	70	3		E	-	-	-	-	-	-	-	-	70	3	
6	Viticulture and pomology journal club		-	3	-	-	42	3	-	C	-	-	-	-	-	-	-	-	42	3	
Focus Area ''Sustainable energy systems''																					
1	Technology assessment		2	1	-	-	70	3		E	-	-	-	-	-	-	-	-	70	3	
2	Computer simulation in energy and resource economics		1	2	-	-	56	3	-	C	-	-	-	-	-	-	-	-	56	3	
3	Applied mathematical programming in natural resource management		2	1	-	-	70	3		E	-	-	-	-	-	-	-	-	70	3	
4	Global waste management I		3	-	-	-	84	3	-	C	-	-	-	-	-	-	-	-	84	3	
5	Global waste management II		-	-	-	-	-	-	-	-	3	-	-	-	84	3	-	C	84	3	
6	Post-harvest technology		-	-	-	-	-	-	-	-	3	-	-	-	84	3	-	C	84	3	
7	Production systems and atmospheric pollution		-	-	-	-	-	-	-	-	3	-	-	-	84	3	-	C	84	3	
8	Operations research and system analysis		-	-	-	-	-	-	-	-	3	-	-	-	84	3	-	C	84	3	
1	Waste management		-	-	-	-	-	-	-	-	1	1	-	-	42	2	-	E	42	2	
Focus Area ''Intercultural Learning''																					
1	Negotiating change: simulating an international conference for sustainable development		2	1	-	-	70	3		E	-	-	-	-	-	-	-	-	70	3	
2	Institutions and policies of the EU (introduction to the law and		3	-	-	-	84	3	-	C	-	-	-	-	-	-	-	-	84	3	
3	Intercultural communication		-	-	-	-	-	-	-	-	2	-	1	-	70	3	-	E	70	3	
6	Principles of empirical research methods in the social sciences		-	-	-	-	-	-	-	-	2	1	-	-	70	3	-	E	70	3	
7	Production systems and atmospheric pollution		-	-	-	-	-	-	-	-	3	-	-	-	84	3	-	C	84	3	
8	Operations research and system analysis		-	-	-	-	-	-	-	-	3	-	-	-	84	3	-	C	84	3	
1	Basic studies of the EU		-	-	-	-	-	-	-	-	1	1	-	-	42	2	-	E	42	2	
2	Hungarian studies (language and culture)		-	-	-	-	-	-	-	-	1	1	-	-	42	2	-	E	42	2	

1	Experimental techniques and research		-	-	-	-	-	-	-	-	-	-	1	-	21	5	300	C	21	4	300
2	Research		-	-	-	-	-	-	-	-	-	-	-	-	168	7	-	C	168	8	-
TOTAL			8	0	6	0	**427**	**30**	**400**	4E+1 C	9	0	5	0	**427**	**30**	**400**	4E+3 C	**854**	**60**	**800**
			14								**14**										
Note: C - No lesson hours/week; S - No seminar hours / L - No practical seminar hours / week; P - No project hours / week.; Hours CV - conventional hours; Hours IS - hours individual study; EF - examination form: E - examen; C - colloquy; P - project; Course code: X - bachelor program / course no / course category: F - fundamental; C - complementel; D - domain; S - speciality/ Fa - facultativ/ semester: 1-8 (ex. 1.0. for course in the I. emester; 0.2. for course in the II. semester; 1.2. for course in both semesters); *: english french german			Total no of activities / semester	No hours / week	No weeks / semester	Didactical hours / week	Didactical hours / semester	Hours IS / week	Hours IS / semester		Total no of activities / semester	No hours / week	No weeks / semester	Didactical hours / week	Didactical hours / semester	Hours IS / week	Hours IS / semester				
			560	40	14	**14**	196	26	**196**		**560**	40	14	**14**	196	26	**196**				

Avizat DECAN,
Prof. Dr. Ing. Adrian RIVIŞ

Data:30.06.2022