DETAILED PROPOSAL OF THE STUDY PROGRAMME

1. GENERAL INFORMATION ON THE STUDY PROGRAMME			
1.1. Name of the study programme	Undergraduate university study programme: Nutrition		
1.2. Provider of the study programme	Faculty of Food Technology and Biotechnology, University of Zagreb		
1.3. Partner institutions	-		
1.4. Type of study programme	Vocational study programme ☐		University study programme ☒
1.5. Level of study programme	Undergraduate ☒	Graduate ☐	Integrated ☐
1.6. Manner of implementation of the study programme	Classical ☐	Mixed (classical + online) ☒	Online in entirety ☐
1.6.1. Is it a?	☒single major ☐double major ☐interdisciplinary study ☐multidisciplinary study ☐developing programme		
1.7. Academic/vocational title earned at completion of the study	Bachelor of Science in Nutrition (univ. bacc. nutr.)		
1.8. Scientific/artistic field/area of the proposed study programme	Biotechnical sciences, nutrition		

2. INTRODUCTION		
2.1. Reasons for starting the study programme	Scientific need	One of the reasons for establishing the study programme is an increasing interest in the scientific field of nutrition and the growing interest of students in scientific research. During studying within the programme, students are being prepared to work in scientific research institutions within the field of nutrition and other related scientific disciplines. The Faculty of Food Technology and Biotechnology has at its disposal high quality and modern scientific research equipment, which is also used in the teaching process. Nutrition science is a rapidly evolving discipline and represents an area of exceptional potential for the creation of new knowledge with a distinct characteristic of a practical and economic application.
	Cultural need	Since the Mediterranean diet is on the UNESCO's intangible cultural heritage list, educating students about the Mediterranean diet and other types of traditional diets

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		during their studies contributes to the cultural segment. It should be noted that encouraging the production and consumption of traditional food and nutrition has been scientifically confirmed and justified.
	Social need	The social role of nutritionists is to promote proper nutrition, which along with effective health care is crucial for the health of individuals and the nation. Students with a degree in nutrition participate in the development of specialized meal plans and menus in a number of hospitals, schools, kindergartens, and military academies in the Republic of Croatia, as well as activities related to promoting proper nutrition as a key factor in combating obesity, which is one of the biggest problems in modern society.
	Economic need	In addition to the acquired knowledge and practical experience, critical thinking and creativity that lead to new scientific knowledge and ideas needed to transfer knowledge and innovation to the economy are also encouraged during studying within the programme. The vision of the Faculty is to have an important role in the sustainable development of science and technology, economy and the society as a whole.
2.2. Assessment of the study programme's usefulness relative to the demands of the labour market in the public and private sectors	The labour market targeted by the participants in this study programme is the public and private sectors related to food, nutrition planning, food quality control, and the production of food and food supplements. Thanks to the competencies acquired at the Faculty, after completing this study programme, the students are very well accepted in the domestic labour market, but also around the world. Students are not educated to be narrowly specialized experts, but to have good basic and professional knowledge that allows them to be much more competitive in the market, and to quickly master the necessary specialist knowledge.	
2.3. Compatibility of the study programme with the University mission and the strategy of the proposer, as well as with the Higher Education Institutions Network strategic plan	The study programme is in accordance with the mission, vision, and strategy of the Faculty, as it produces experts, bachelors of nutrition, whose education is based on scientific, basic, applied and developmental research. It is in line with the University's mission to develop study programmes needed by society and the economy, as well as nationally and strategically needed study programmes. It is in line with the strategic document of the Network of Higher Education Institutions and Study Programs regarding teacher workload, teacher-student ratio, percentage of lectures held by in-house teaching staff, labour market needs, interest in the field of study, occupancy of the institution in the summer enrolment period, implementation of programmes in cooperation with other institutions, the ratio of the number of students who are enrolled and the number of high school graduates in the region.	
2.4. Comparability of the study programme with other accredited programmes in higher education institutions in the Republic of	If the undergraduate study programme is compared with the corresponding study programmes at European universities with regard to the structure of the study program, the number of ECTS credits, course content, and the	

Croatia and the EU (name at least two programmes, one of which is from an EU country, and compare them with the proposed programme; provide internet addresses of the programmes)	competencies that the students acquire upon their completion, it is closest to the undergraduate studies of the following institutions: Nutritional Sciences, Faculty of Life Sciences, University of Vienna https://nutrition.univie.ac.at/en/studies/ Food Science and Nutrition, Biotechnical Faculty, University of Ljubljana http://www.bf.uni-lj.si/en/deans-office/study-programmes/academic-study-programmes/food-science-and-nutrition/ Human Nutrition, London Metropolitan University https://www.londonmet.ac.uk/courses/undergraduate/human-nutrition---bsc-hons/ Life Sciences Nutrition, Technical University of Munich https://www.wzw.tum.de/index.php?id=487&L=1 Bachelor's Programme in Nutrition, Stockholm University https://www.su.se/english/search-courses-and-programmes/nnutk-1.411714 There is currently no related study programme in the Republic of Croatia.
2.5. Openness of the study to student mobility (horizontal, vertical in the Republic of Croatia and international)	Horizontal and international mobility of students is regulated by the Decision on the manner of implementation of student mobility procedures. The Ordinance on undergraduate and graduate studies at the University of Zagreb regulates the horizontal mobility of students within the University and the mobility of students between universities in the Republic of Croatia. After completing the undergraduate study, students can enrol in the graduate study of nutrition, and after completing the graduate study of nutrition, they can enrol in a postgraduate doctoral study at the Faculty of Food Technology and Biotechnology, University of Zagreb. Furthermore, in the Republic of Croatia, students may, upon completing the undergraduate study programme: Nutrition, enrol in the graduate study programme: Food Science and Nutrition at the Faculty of Food Technology Osijek, Josip Juraj Strossmayer University in Osijek. International mobility of students at the Faculty of Food Technology and Biotechnology, University of Zagreb, is enabled because FFTB is included in all major European mobility networks, with ERASMUS+ and CEEPUS being the most prominent ones. When choosing elective courses, students may enrol in other courses at the same level that are taught at FFTB, but also other components of UNIZG, for which the procedure is stipulated and it includes the head of a study programme and vice dean for education. In this way, the students are encouraged to be open in terms of broadening the achieved learning outcomes but in line with the learning outcomes of the programme.
2.6. Relationship with the local community (economy, entrepreneurship, civil society, etc.)	The food industry is the most important economic branch in the Republic of Croatia, and bachelors of nutrition have an opportunity to work in the food industry on developing new food products. Bachelors of nutrition can also find

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	employment in public administration, thus contributing to the development of civil society. The Faculty has an active Economic Council, which additionally enables connection with stakeholders, including businessmen
2.7. Compatibility with the requirements of professional associations, if any exist	The study programme is in accordance with the goals and tasks of the Croatian Society of Food Technologists, Biotechnologists and Nutritionists and similar professional associations in the Republic of Croatia (Croatian Society of Nutritionists and Dietitians, the Croatian Association of Nutritionists and Croatian Academic Center for Applied Nutritional Science).
2.8. Name possible partners outside the higher education system	Within the courses at the Faculty, it is encouraged that some lectures be delivered by renowned experts in the field of nutrition from institutions such as the Children's Hospital Zagreb, Clinical Hospital Dubrava, the Clinical Hospital Center Zagreb, the Institute for Medical Research and Occupational Medicine and the Ministry of Agriculture and from food companies such as Podravka d.d.
2.9. Other (as the proposer wishes to add)	/

3. GENERAL INFORMATION	
3.1. Duration of the study programme (is there an option of distance learning, part-time studying, etc.)	The study programme lasts six (6) semesters, or three (3) academic years. There is no possibility of distance learning or part-time studying.
3.2. The minimum number of ECTS credits required for completion of study	180 ECTS credits. Additional ECTS credits can be earned through extracurricular activities approved by UNIZG.
3.3. Enrolment requirements and admission procedure	At the request of the University, the criteria for the enrolment in undergraduate studies are proposed for approval to the Faculty Council in a timely manner through the Teaching Committee, and then published on the website of the Faculty i.e. the University, and are available to the candidates on the website of the National information system for the application to higher education institutions Postani student! (Become a student!)
3.4. Language of the study programme	The study program is conducted in Croatian.
3.5. Learning outcomes of the study programme relative to legislative acts, requirements of applicable professional associations, demands of the labour market, possibilities for continuation of education and general social needs (name 15-20 learning outcomes)	1. Apply general and specific knowledge and skills from basic, applied sciences and profession in the field of nutrition. 2. Organize dietary systems in public and private institutions for targeted population groups. 3. Apply appropriate methods in individual dietary assessment systems. 4. Apply appropriate methods in systems for the nutritional status assessment of population groups. 5. Apply analytical methods in food analysis and interpret results. 6. Identify the impact of food components, whole foods and dietary patterns on human health. 7. Design a diet plan according to specific nutritional needs of an individual. 8. Apply knowledge of nutrition science as part of a product development team in the food industry. 9. Critically appraise the relationship between diet and health based on scientific and professional findings in the field

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	of nutrition. 10. Present work results independently and/or as a part of a homogeneous or interdisciplinary professional team, in written and oral form using professional terminology. 11. Apply legislation, standards and ethical principles related to specific requirements of the profession.
3.6. Evaluation of student employability at completion of the study programme, including opinions or official documents from three organizations associated with the labour market (e.g. professional associations or scientific institutions, employers or their associations, unions, public services, etc.) on the suitability of the anticipated learning outcomes to the demands of the labour market	There are almost no bachelors of nutrition at the Employment Bureau, because after their studies they enrol in the graduate study of nutrition or others and continue their education. Employers' statements on the adequacy of learning outcomes are attached.
3.7. Possibilities of continuing studies at a higher level	Bachelors of nutrition who complete the undergraduate study programme outlined in this detailed proposal will be able to continue their studies at the graduate study of nutrition at the Faculty of Food Technology and Biotechnology, University of Zagreb and at the graduate level on other studies, not only in Croatia but also in Europe and the world, in accordance with the obtained required knowledge.
3.8. Upon submitting proposals for graduate study programmes, name undergraduate studies of the proposer or other institutions in the Republic of Croatia that qualify for admission to the proposed graduate study	/

4. DESCRIPTION OF THE STUDY PROGRAMME	
4.1. List of mandatory and elective courses and/or modules with class hours and ECTS credits (appendix: Table 1)	
4.2. Description of each course (appendix: Table 2)	
4.3. Structure of the study (number of semesters, trimesters, class sizes for lectures and exercises/seminars)	The study programme lasts six (6) semesters. The size of a group for lectures is 150 students, for seminars 30, and for exercises 10 students.
4.4. Enrolment requirements for the following semester or trimester	The study is structured according to the prerequisite principle. Prerequisites for enrolment of individual courses are defined separately and are listed in the tables of course descriptions.
4.5. List of courses and/or modules offered in a foreign language (which language)	Courses that can be taught in English: Mathematics, Analytical Chemistry, Physics, English for Specific Purposes 1, Selected Topics in Functional Human Anatomy, Biochemistry 1, Legislation in Food Quality Control, English for Specific Purposes 2, Biochemistry 2, Sociology and Psychology in Nutrition, Phytochemicals in Health Protection,

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	Sweeteners, Chemistry and Technology of Stimulant Food, Spices and Aromatic Plants, Processing of Olives
4.6. Completion of the study:	
a. Final requirement for completion of the study	Final thesis ☒ Diploma thesis ☐ Final exam ☐ Diploma exam ☐
b. Requirements for application of final/diploma thesis and/or final/diploma exam	The preconditions for applying for the final thesis are passing all exams and completing other study obligations.
c. Evaluation procedure for final/diploma exam and evaluation and defence procedure for final/diploma thesis	A loose-leaf copy of the final thesis, with the approval of the mentor, is submitted to the Expert Committee through the student office. After the Expert Committee accepts the final thesis, i.e. the mentor and the student have resolved the objections of the assigned reviewer, the thesis is publicly defended before colleagues, the mentor, the head of studies and vice-dean for education.

Table 2 Course description- in a separate document

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Table 3 List of required and elective courses and modules with class hours and ECTS credits

LIST OF COURSES/MODULES									
Year of study: 1									
Semester: I									
MODULE	COURSE	COURSE TEACHER	From n to x semester	L	S	E	e-learning	ECTS	Required/elective
	General Chemistry	Damir Iveković	I	24	24	24	5%	6	Required
	Mathematics	Marjan Praljak	I	20	30	0	10%	6	Required
	Physics	Davor Horvatić	I	20	10	15	0%	3	Required
	Basics informatics	Ana Vukelić	I	10	0	15	10%	2	Required
	English/German Language 1	Ana Kovačić / Dijana Njerš	I	10	20	0	20%	2	Required
	Physical Education 1	Neven Karković	I	0	0	30	5%	0,5	Required
	Biology	Ana Bielen	I	38	21	42	3%	8	Required
	Communication skills in business and science	Ivana Kmetič	I	20	12	4	5%	3	Required
Year of study: 1									
Semester: II									
MODULE	COURSE	COURSE TEACHER	From n to x semester	L	S	E	e-learning	ECTS	Required/elective
	Organic Chemistry	Veronika Kovač	II	28	30	30	5%	6	Required
	Selected Topiscs in Functional Human Anatomy	Zdravko Petanjek	II	15	30	33	20%	8	Required
	Introduction to the Profession Nutritionist	Irena Colić Barić	II	10	15	0	0%	3	Required
	Physical Education 2	Neven Karković	II	0	0	30	5%	0,5	Required
	Analytical Chemistry	Ivone Jakaša	II	14	14	24	2%	4	Required

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	Basic of Food Technology- Food of Plant Origin	Duška Ćurić	II	50	10	0	0%	6	Required
	English/German Language 2	Dijana Njerš	II	10	20	0	20%	2	Required
Year of study: 2									
Semester: III									
MODULE	COURSE	COURSE TEACHER	From n to x semester	L	S	E	e-learning	ECTS	Required/elective
	Microbiology	Ksenija Markov	III	20	10	40	20%	5	Required
	Nutrition 1	Zvonimir Šatalić	III	30	15	15	5%	5	Required
	Physical Education 3	Lidija Podvalej	III	0	0	30	5%	0,5	Required
	Physical Chemistry	Mojca Čakić Semenčić	III	20	17	20	20%	5	Required
	Basics of Human Physiology	Reno Hrašćan	III	40	15	30	3%	5	Required
	Food Preparation Processes	Suzana Rimac Brnčić	III	45	15	37	5%	6	Required
	Basics of Animal Origin Food and Water Technologies	Helga Medić	III	30	0	0	10%	3	Required
Godina studija: 2.									
Semestar: IV									
MODULE	COURSE	COURSE TEACHER	From n to x semester	L	S	E	e-learning	ECTS	Required/elective
	Food Microbiology	Jadranka Frece	IV	25	12	26	20%	5	Required
	Nutrition 2	Ivana Rumbak	IV	30	20	30	5%	6	Required
	Physical Education 4	Lidija Podvalej	IV	0	0	30	5%	0,5	Required
	Statistics	Ana Vukelić	IV	20	15	5	10%	5	Required
	Biochemistry 1	Vladimir Mrša	IV	30	15	26	10%	6	Required
	Food Analyses	Nada Vahčić	IV	15	0	40	10%	5	Required

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	Legislation in Food Quality Control	Mara Banović	IV	20	5	10	0%	3	Required
Year of study: 3									
Semester: V									
MODULE	COURSE	COURSE TEACHER	From n to x semester	L	S	E	e-learning	ECTS	Required/elective
	Basic of Diet Therapy	Ines Panjkota Krbavčić	V	30	12	33	15%	6	Required
	Sensory Analyses of Foods	Nada Vahčić	V	20	0	15	10%	3	Required
	Basic Toxicology	Ivana Kmetič	V	20	15	0	5%	3	Required
	Sociology and Psychology in Nutrition	Jasminka Lažnjak	V	16	20	0	5%	3	Required
	Modelling and Optimization in Nutrition	Jasenka Gajdoš Kljusurić	V	20	10	25	20%	4	Required
	Biochemistry 2	Vladimir Mrša	V	50	15	0	10%	7	Required
	Obesity and Malnutrition	Ines Panjkota Krbavčić	V	16	14	20	10%	4	Required
Year of study: 3									
Semester: VI									
MODULE	COURSE	COURSE TEACHER	From n to x semester	L	S	E	e-learning	ECTS	Required/elective
	Chemistry and Biochemistry of Food	Ines Panjkota Krbavčić	VI	30	0	30	5%	5	Required
	Elective A	/	VI	/	/	/	/	15	Elective
	Elective B	/	VI	/	/	/	/	5	Elective
	Practice and Final Thesis	/	VI	0	0	75	20%	5	Required
Elective A	Women's Nutrition Through the Life Cycle	Ines Panjkota Krbavčić	VI	15	10	10	15%	3	Elective
	Sports Nutrition	Zvonimir Šatalić	VI	16	14	20	10%	4	Elective
	New Achievements in Nutrition Science	Ines Panjkota Krbavčić	VI	10	8	7	10%	2	Elective
	Phytochemicals in Health Protection	Martina Bituh	VI	10	20	0	5%	3	Elective

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	Traditional Food	Suzana Rimac Brnčić	VI	10	10	15	5%	3	Elective
	Storage and Handling of Packed Foods	Mia Kurek	VI	16	14	0	5%	3	Elective
	Sweeteners	Draženka Komes	VI	20	0	10	5%	3	Elective
Elective B	Non-Alcoholic Refreshing Beverages	Branka Levaj	VI	20	0	15	5%	3	Elective
	Strong Spirit Beverages: characteristics and metabolism	Jasna Mrvčić	VI	12	6	10	5%	2	Elective
	Minimally Processed Fruits and Vegetables	Branka Levaj	VI	20	0	15	5%	3	Elective
	Spices and Aromatic Plants	Verica Dragović-Uzelac	VI	20	0	15	0%	3	Elective
	Processing of Olive Fruit	Dubravka Škevin	VI	20	0	15	5%	3	Elective
	Chemistry and Technology of Coffee and Tea	Draženka Komes	VI	20	0	15	5%	3	Elective