New Bachelor

In “Food and Nutrition Sciences”

Bachelor’s Program "Food and Nutrition Sciences"

Bachelor’s program in **"Food and Nutrition Sciences"** at the Agricultural University of Tirana, is an interdisciplinary program that combines biology, chemistry and health sciences to study food composition, nutrition and their impact on human health. It is designed to prepare students for careers in nutrition counseling, public health, research and processing.

The **"Food and Nutrition Sciences"**program at AUT is aligned with Albania's strategic goals for nutrition and public health, emphasizing nutritional research, food security, and sustainable food production. Through its curriculum and research, it enhances dietary quality, disease prevention, and food processing technologies in line with European standards. Graduates gain hands-on experience in these fields, preparing them for careers in nutrition, food safety, and public health.

Program Objectives

The goal of Albania's unique B.Sc. degree in **"Food and Nutrition Sciences"** is:

- To prepare professionals with substantial theoretical and practical experience in the field of food and nutrition sciences
- Study the role of nutrition in various diseases
- Develop new products and also well-oriented in the fields of food and nutrition sciences
- Graduates to gain problem-solving skills related to all levels of food production and processing, food quality, and safety
- Prepare professionals who understand the socio-economic, legal, and regulatory aspects of the food and human health sector related to nutrition.

Key Competencies

Graduates will gain skills in:

- nutrition counseling, public health, research, and food processing.
- practical knowledge in these fields, preparing them for careers in:

- Nutrition
- Food Safety and
- Public Health

Career Opportunities

Graduates have diverse career opportunities. The main employment sectors include:

1. The public sector:

- local government (developing dietary programs in kindergartens, schools, hospitals and social shelters)
- institution of central governance (public health interventions, food and nutrition monitoring and evaluation, developing and monitoring food laws and nutrition policies to enhance public health)

2. The private sector:

- food service (culinary, restaurants, food trading and processing units, catering)
- nutrition counseling (clinics)
- food industry (developing innovative health-oriented food products)
- 3. Research

Curriculum Structure

The three-year program blends ***N= Natural Science; T=Technical Science; S=Socio-Economic Science; PS=Program Specific (Specialization)***

- **1st Year**: Foundational courses in physics, mathematics, Biology. (60 ECTS).
- **2nd Year**: Advanced courses (60 ECTS).
- **3rd Year**: Specialization, thesis project (60 ECTS).

Interdisciplinary Approach

Aligned with international standards (Muster Curricula), the program balances:

- 27.8% ECTS in Natural Science
- 30% ECTS in Technical Science
- 18.9% ECTS in Social-Economic Science

- 23.3% ECTS in Diploma, Elective courses

Why Choose This Program?

“Bachelor’s Degree in **"Food and Nutrition Sciences"** is well-founded, reflecting the program’s interdisciplinary nature and aligning it with academic, professional, and public health needs. It relies on: (a) an interdisciplinary scope (food composition and processing, the biological impact on human health), (b) addressing Albania’s public health (nutrition-related challenges and the double burden of malnutrition), (c) alignment with global and European standards (international recognition and similitude), (d) an academic and research focus.

STUDY CURRICULUM

Year I, Semester I (1)

Nr	Modules	ECTS
1	Introduction to Food Chemistry	5
2	General and Inorganic Chemistry	5
3	Introduction to Biology and Molecular Biology	5
4	Genetics	5
5	Production and Quality of Plant-based Food	5
6	Sociology of Food and Consumers	4
	Total	**29**

Year I, Semester II (2)

Nr	Modules	ECTS
1	Organic Chemistry	5
2	Introduction to Biostatistics and Scientific Work	6
3	Microbiology and Hygiene	5
4	Food Technology	5
5	Production and Quality of Primary Livestock products	5
6	Food Law and Bioethics	5
	Total	**31**

Year II, Semester I (3)

Nr	Modules	ECTS
1	Introduction to Food Biodiversity	5
2	Food Product Development and Marketing	5
3	Food Systems for Health and Sustainable Diet	5
4	Biochemistry	5
5	Anatomy and Histology	5
6	Human Nutrition I	5
	Totali	**30**

Year II, Semester II (4)

Nr	Modules	ECTS
1	Human Nutrition II	5
2	Human Physiology	5
3	Basics of Dietology	5
4	Nutrition Supplements and Functional Foods	4
5	Fermented Foods in Health and Nutrition	4
6	Tecnical English	3
7	Elective modules*	4
	Totali	**30**

Year III, Semester I (5)

Nr	Modules	ECTS
1	Community Nutrition and Public Health Interventions	5
2	Foodborne Diseases	5
3	Quality and Food Safety Systems	5

4	Analytical Control of Foods	4
5	Elective modules*	11
	Total	**30**

Year III, Semester II(6)

Nr	**Modules**	**ECTS**
1	Sensorial Analyses of Food	3
2	Elective modules	12
3	Profesional Practices	6
4	Exame/Theses	9
	Elective modules*	
	Entrepreneurship in Food Science	3
	Scientific writing and presentation	3
	Circular Economy in Food Systems	3
	Technology of Food Products from Beekeeping Sector	3
	Alternative Proteins and Future Foods	3
	Informatics	3
	Smart Technologies in Food Processing	4
	Food Packaging and Shelf-Life Extension	4
	Food Industry Management	4
	Basics of Economy	5
	Career management	3
	Physics	5
	Wild Plants/ Herbs	4
	Agriculture and Ecology	3
	Total	**30**
	Total (1+2+3+4+5+6)	**180**