

## Food Control and Security

### 1. Admission Requirements:

#### • Prerequisites:

- Successful completion of high school studies and obtaining a baccalaureate degree or equivalent.
- Non-EU Citizens - Contingent upon the presentation of the Graduation Certificate from the preparatory year (excluding those who have completed their previous studies in the Romanian language) and obtaining the Letter of Acceptance issued by the Ministry of Education.
- EU Citizens + Swiss Confederation - Contingent upon the presentation of the Graduation Certificate from the preparatory year (excluding those who have completed their previous studies in the Romanian language) and the recognition of their studies by the National Centre for Recognition and Equivalence of Diplomas (CNRED).

#### • Entrance Exams:

- The admission average of registered candidates is made up of: average of the baccalaureate exam - weight 100%.
- Admission to undergraduate studies is strictly in descending order of the general admission averages obtained by the candidates respecting the capacity of tuition for each study program

### 2. Degree Levels:

- Bachelor's Degree: 4-year program.

### 3. Curriculum:

#### • Core Courses:

**Mandatory courses** that all students in the program must take:

- Microbiology
- Food Biochemistry
- Principles and Methods of Food Preservation
- General Biotechnology
- Basics of Nutrition
- Hygiene in Food Industry
- Food Safety and Traceability in Food Chain
- Operations and Equipment in the Food Industry
- Analysis and Identification of Risks in Food Products
- Authentication and Detection of Counterfeits

#### • Electives:

- Food Chemistry
- Equipment in Food Industry

- Enzymatic and Immunological Methods
- Nanomaterials
- Machineries and Equipment in Food Industry

• **Major/Concentration:**

- The undergraduate study program in Food Control and Security is meticulously crafted to prepare specialists for pivotal roles in food industry companies, research institutes, and product design institutes. With a dedicated teaching staff, the program is committed to delivering high-quality pre-university education. Its overarching goal is to train engineers in the food industry who demonstrate a commitment to lifelong learning, excellence, and innovation in problem-solving. Moreover, the program aims to instill in students the ability to make informed decisions within the contemporary social and global context and develop a leadership attitude in professional practice.
- Through a well-rounded curriculum, the program provides a blend of academic and practical training. It specifically focuses on physical-chemical analyses, food chemistry, biochemistry, and microbiology of food products, with a keen emphasis on quality control. The ultimate aim is to equip graduates with the skills needed to reduce risks and enhance the safety of food consumption. By fostering a comprehensive understanding of both theoretical principles and practical applications, the program empowers students for success in the dynamic and critical field of food control and security.

• **General Education Requirements:**

- Successful completion of the mandatory courses, seminars and labs, completion of the three internships and the bachelor thesis.

4. **Credits:**

- Each semester carries a weight of 30 ECTS, with a total of 240 ECTS required for graduation. An additional 10 ECTS is allocated to the diploma exam.

5. **Internships and Practical Experience:**

Students are offered a total of 300 hours of practical experience spanning the first through the third year of study. This hands-on learning is divided into field practice and specialty practice, providing students with a diverse range of tasks aligned with the specifics of their future profession.

The Faculty of Environmental Engineering and Food Science has established collaborative agreements with numerous entities involved in environmental activities, such as wastewater treatment plants, environmental protection agencies, and waste treatment stations. These partnerships are instrumental in

providing students with practical experiences that bridge the gap between theoretical knowledge and real-world applications.

Furthermore, through participation in European projects, agreements have been forged to involve students, particularly those in their third and fourth years of study, in entrepreneurial activities. This engagement aims to connect the specific focus of their field of study with the demands of the labor market.

#### **6. Research Requirements:**

- The Bachelor thesis is an engineering project structured into essential components, encompassing raw and auxiliary materials, processing technology, packaging characteristics, material balance, quality control on technological flow, economic calculation, and the development of an HACCP (Hazard Analysis and Critical Control Points) plan. As outlined in the curriculum, a dedicated 60 hours (equivalent to 2 ECTS) are allocated to the practice specifically designed to prepare students for their Bachelor thesis. This intentional provision ensures a focused and well-prepared approach to this significant academic undertaking.
- To adequately prepare students for the successful completion of their Bachelor thesis, a dedicated Practice for Bachelor Thesis Preparation is integrated into the curriculum. This practice allocates a total of 120 hours, equivalent to 10 ECTS, providing students with the necessary guidance, resources, and support to refine their research skills, synthesize theoretical knowledge, and apply it to real-life scenarios.

#### **7. Academic Advising:**

- During each academic year, students are paired with a dedicated tutor from the teaching staff. This tutor serves as a guiding resource, assisting students in course selection, mapping out their academic trajectory, and addressing both professional and administrative concerns. This academic advisor provides continuous support from the first year of study through the fourth year. Acting as the intermediary between students and academic representatives, including teachers and management, communication is facilitated through various channels such as phone, email, and social media.

#### **8. Extracurricular Activities:**

- Students actively engage in a variety of extracurricular activities directly aligned with their field of study. These include participation in workshops focusing on food production, attendance at symposia like the Student Research Symposium, and conferences addressing distinct topics such as Food waste. Additionally, students contribute to school dropout prevention activities and projects, as well as actively participate in Special Event Days such as International Food Day and Health World Day.

- Complementing their involvement in academic and environmental initiatives, students maintain their own university-level organization—the Students League. This platform serves as a hub for student collaboration, fostering a sense of community and providing an avenue for collective engagement beyond the confines of their academic pursuits.

#### **9. Examinations:**

- The specific requirements for exams in a given discipline are explicitly outlined in the discipline syllabi. Professors communicate these requirements to students during the initial course session. Students must meet various criteria before taking the exam, which include active participation in all laboratory sessions, successful defense of the lab colloquium, and the satisfactory completion and presentation of the semester project with a minimum acceptable grade. The specific criteria vary based on the nature and intricacies of each discipline.

#### **10. Thesis Defense:**

- The bachelor thesis undergoes a plagiarism check using specialized software before the decision is made to present it before a committee.
- The bachelor thesis is expected to fulfill all required content chapters with a focus on scientific rigor. It should demonstrate accurate calculations, draw conclusions grounded in evidence, and present information in a clear manner. The presentation is an opportunity to showcase the graduate's professional knowledge and cross-disciplinary skills.

#### **11. Graduation Requirements:**

- Students are required to accumulate all 240 ECTS, demonstrating successful completion of exams for all curriculum disciplines. The final examination is twofold, encompassing the assessment of fundamental and specialty knowledge alongside the defense of the bachelor thesis.

#### **12. Degree Awarding:**

- Bachelor's Degree (Engineer) in Food Control and Security.