

**EQAS-Food**

**EUROPEAN QUALITY ASSURANCE  
FOR FOOD STUDIES PROGRAMMES  
*FOOD SCIENCE AND TECHNOLOGY***

**Procedures, Criteria and Standards**

Adopted by the Accreditation Commission of IFA

on February 18<sup>th</sup> 2019

ISEKI-Food Association

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## **Preamble**

EQAS-Food is a framework for the attribution of the label award by the ISEKI Food Association (IFA). This label will be a means of identifying high quality food studies programmes, first and second cycle, of any higher education system, European or International.

The specific aims of EQAS-Food implementation are:

- To provide a knowledge base to inform educational qualifications in food studies in the European Higher Education Area (EHEA);
- To drive the accreditation of the field of food science and technology (First and Second Degree) and of each individual programme, by defining the goals and challenges related to the capacity to deliver science and technology education and advance the standing of this field;
- To contribute to the increasing efficiency of programmes in the achievement of national and regional demands in high level education in food science and technology by assuring the judicious opinion of an appraisal panel on the strengths, weaknesses and overall performance of such programmes;
- To facilitate recognition of degrees awarded in food science and technology in higher education in accordance with EU Directives and other international agreements;
- To facilitate the mobility of students and professionals in the field of food science and technology.

With the attribution of the label by IFA, the Association intends to fill a gap in the recognition of the quality of food science and technology programmes from a body of food science and technology experts, a need recognised over the years within the ISEKI Erasmus networks. This label is also the result of a European trend of specialized label awards that have appeared as a natural consequence of the European tuning of subjects' areas since 2000. The need to assure that the design of a food science and technology programme and its delivery has a minimum quality led to the definition of minimum requirements for food studies programmes in 2005 and now the culmination of this process is the implementation of this label.

The Standards and Criteria herein defined are intended to set a high-quality threshold. The Standards can be used as guidelines for the design of food studies programmes, and are in line

with both European Qualifications Framework for the European Higher Education Area<sup>1</sup> and the European Qualifications Framework for Lifelong Learning<sup>2</sup>. These Standards and criteria are also an instrument for the dissemination of good practice and for the promotion of continuous improvement. The Procedures are in line with Standards and Guidelines for Quality Assurance in the European Higher Education Area<sup>3</sup>.

The diversity of programmes<sup>4</sup> related to food led IFA to define different standards and criteria according to their proximity to the food science and technology area.<sup>5</sup> A distinction is made between programmes in which the core is food science and technology and programmes where food science and technology is secondary. This award is to be given to programmes in which core is food science and technology. Recommendations of minimum learning outcomes are given to programmes where the domain of food science and technology is secondary.

While EQAS-Food aims at implementing standards and developing excellence, it is the corresponding national authority in each country to decide if a qualification, accredited or not, is sufficient or not for that particular country, or if further education, training or professional experience are necessary. The EQAS-Food label is a recognition given by a professional association and, together with other professional associations, IFA will support the future integration of international standards of specialized areas (as EQAS-Food) into national accreditation systems in order to provide a broader European dimension to accredited programmes and to raise national quality standards of the specialization in food science and technology.

The EQAS-Food label can be attributed to any programme that applies for this label and that is recognized as achieving the standards described herein. This will include the recognition of credits gained by students in other institutions that have been awarded the EQAS-Food label. The

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<sup>1</sup> <http://www.ehea.info/article-details.aspx?ArticleId=65>

<sup>2</sup> [http://ec.europa.eu/education/lifelong-learning-policy/doc44\\_en.htm](http://ec.europa.eu/education/lifelong-learning-policy/doc44_en.htm)

<sup>3</sup> [www.enqa.eu/files/ESG\\_3edition%20\(2\).pdf](http://www.enqa.eu/files/ESG_3edition%20(2).pdf)

<sup>4</sup> A large number of programmes are related to “Food Studies”, these include Agricultural Engineering, Biotechnology, Chemical Engineering, Chemistry, Consumer Sciences, Health (environment and public), Nutrition, Pharmacy, Veterinary, Packaging Technology, Informatics, Economy and Management and others.

<sup>5</sup> See Annex 1 (former 3) for further information

application for the label will require different local effort according to current national quality assurance demands. The following situations are foreseen:

- In countries where a national system for assessing food science and technology programmes already exists, recognition of national accreditation certificates as having achieved the proposed standards can be immediate if the existing arrangements are consistent with EQAS-Food Standards.
- In countries where no national food studies quality assurance and accreditation systems yet exist, the Standards can be directly applied to relevant programmes, or used as a starting basis for the Standard and Procedures of newly created Agencies.
- Where a student has achieved credits for the successful completion of study in another institution that has the EQAS-Food label, that student will be allowed to have those credits added to their programme through appropriate local systems, such as APL.

## **Summary**

This document describes the procedures, the criteria and the standards of the EQAS-Food award. Section 1 describes the procedures, i.e., steps starting from the submission of the application until publication of the decision on the award. Section 2 describes the criteria on which the decision will be made. Section 3 describes the standards for learning outcomes that are here presented as the main building blocks for the quality of education.

## 1. Procedures for Applying for a EQAS-Food Award

### 1.1 Two routes for accreditation

The procedures of application to obtain the EQAS-Food award are schematized below.

There are two routes to accreditation: (A) the Standard Route for institutions that have recently undergone an internal or external review/re-validation, or accreditation by another Accrediting Body and (B) the Extended Route that requires full documentation and an audit.

#### Standard Route

The higher education institution will have undergone a prior review that includes the programme(s) being proposed for accreditation. The institution submits a short summary of the previous review that should have taken place ***no longer than two years previously***, along with documents that supported that review and the results/outcome. Since the time of that review, there should have been no substantive changes to the structure and delivery of the programme(s) other than it is accepted that there may have been changes, for example, in the staff involved. Institutions may use section 2 as a guide to the documentation to be submitted but it is recognised that this may differ from that available from the prior review. Therefore, as long as the information is presented, it does not have to conform exactly to the detail in section 2. There will be no requirement for an audit visit for applications under the Standard Route, however, if the Accreditation Commission believes one necessary, it may at its own discretion, request such a visit. The assessors will review the application and provide a report to the Accreditation Commission who will decide if the EQAS-Food award is given.

#### Extended Route

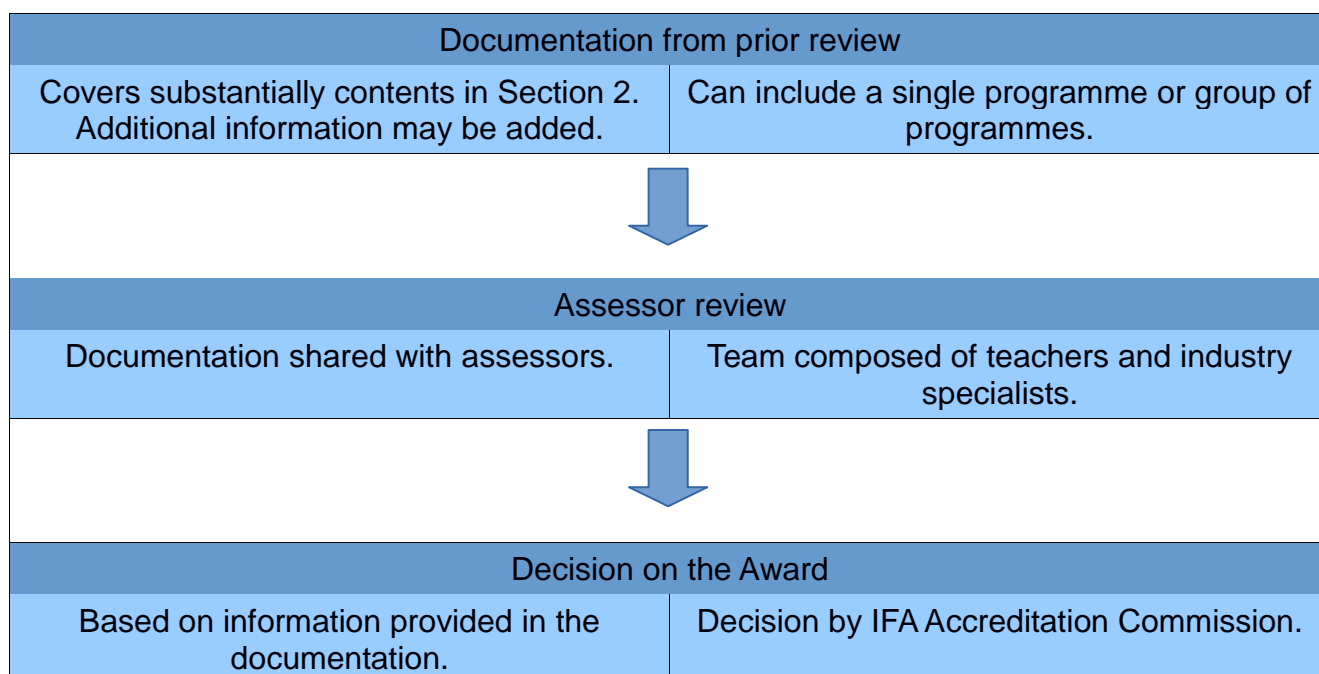
The higher education institution (HEI) starts the application with the submission of the self-assessment report of the programme(s) to be considered for the EQAS-Food award. This report must provide assessors with all the information detailed in the criteria section (section 2.). There follows an audit visit for the confirmation of the information contained in the report and the better evaluation of certain parameters, such as facilities and for student evaluation of the programme. Finally, with the audit report and the self-assessment report, the Accreditation Commission of IFA will decide if the EQAS-Food award is given (section 1.4.3).



These procedures are in accordance with the Standards and Guidelines for Quality Assurance in the European Higher Education Area<sup>6</sup>.

Applications via routes A or B can be submitted for a single programme or a group of programmes. The programme can be a first cycle degree (FCD) or a second cycle degree (SCD), and the latter can include combined first and second cycle. When several programmes are submitted in the same application, it would aid the review if the common contents are submitted in one section, whilst the content specific to the individual programme should be submitted in separate sections.

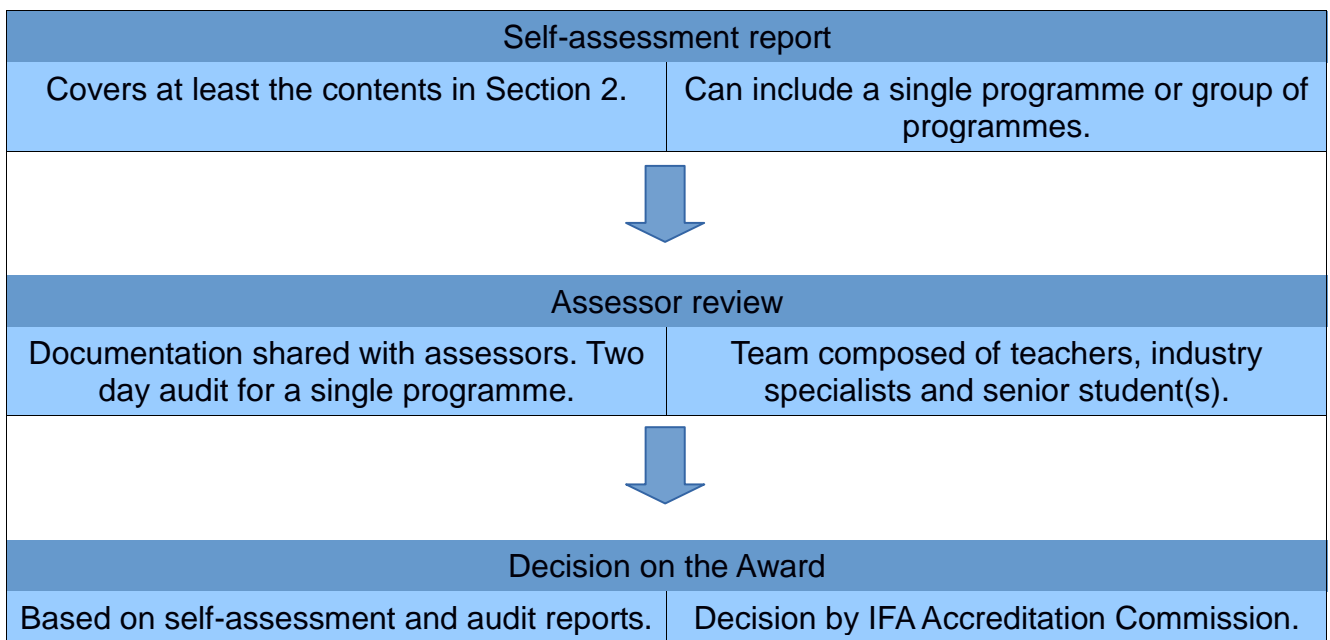
Summary of procedures – Standard Route.




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<sup>6</sup> [www.enqa.eu/files/ESG\\_3edition%20\(2\).pdf](http://www.enqa.eu/files/ESG_3edition%20(2).pdf)

Summary of procedures – Extended Route.



Instructions of formal procedures to submit the application are available at <https://www.iseki-food.net/accreditation>.

Assessor Teams

In order to ensure impartiality, proposed members of a team must declare any conflict of interest before starting an assessment.

**1.2. Standard Route**

Supporting documentation must be submitted at the start of the application. This should include a short summary in English of the programme(s) to be considered and brief descriptions of the documentation that indicate where it matches the standards as indicated below in Sections 2 and 3 and Annex IV (Applicants are NOT required to submit the self-assessment report as in the Extended Route). Consideration should be given to any areas not covered by the documentation and additional information provided to cover these. Applicants should also submit a copy of the outcome of the prior review. It is expected that this would be the report of the internal or external body that undertook that review. If appropriate, the institution may provide a commentary on any significant points.

The application should include short curricula vitae of the members of academic staff on the programme(s) to be reviewed.

### Composition of the peer-review team

The peer review team will consist of at least three members, representing the different stakeholders of the programme – academics and industry/services representatives – assuring that all different perspectives of the quality of the programme are covered and that expertise in food science and technology and teaching and learning is included in the team.

## **1.3 Extended Route**

### **1.3.1 Self-assessment report**

A detailed self-assessment report in English and other supporting documentation must be submitted at the beginning of the application. After this submission, an audit will be scheduled ensuring enough time for the review of the self-assessment report by the assessment team. Section 3 and Annex IV detail the content that the report must contain. The report may contain additional supporting information if the applicant wishes, in separate section(s).

### **1.3.2 Audit visit**

The assessment will consist of an analysis of the self-assessment report and an audit visit. The details of the audit visit are as follows.

### **1.3.3 Composition of the team of assessors**

The team of assessors (peer review team) will consist of at least three members, representing the different stakeholders of the programme – academics, students and industry/services representatives – assuring that all different perspectives of the quality of the programme are covered and that expertise in food science and technology and teaching and learning is included in the team. The team will be accompanied by an administrator.

All members of the assessment team will have been sufficiently trained for the conduction of the audit visit.

Annex I contains the detailed procedures and criteria for the selection of assessors.

#### **1.3.4 Plan and duration of the audit visit**

The audit visit will take from one and a half to two days, including:

- a preliminary meeting of the assessment team prior to the visit to identify what information is to be obtained during the visit;
- a meeting with head of department / university;
- a meeting with teaching team members;
- a meeting with students;
- a meeting with former students;
- a meeting with employers / industry / professional organisations representatives;
- a visit of facilities (libraries, laboratories, etc.);
- a review of project work, final papers and other assessed work (with regards to the standard and modes of assessment as well as to the learning achievements of the students);
- verbal feedback of the assessment team at the end of the visit.

The timetable for the meetings indicated above will be agreed with the institution beforehand.

### **1.4 Final steps of the procedures**

#### **1.4.1 Verification and validation of the documentation**

The members of the peer review team will prepare an assessment report based on the documentation submitted by the HEI. This assessment report will then be submitted to the HEI to check for factual errors and for them to submit a statement on the report if they believe it necessary. Any such statement from the HEI will be transmitted to the members of the peer review team for review of the report and formulation of a recommendation concerning the assessment decision. The final report will then be submitted to Accreditation Commission of IFA.

#### **1.4.2 Decision on the assessment**

The final decision on assessment will be pronounced by the Accreditation Commission of IFA. The programme will be judged as:

- EQAS awarded without any conditions or recommendations

- EQAS awarded with requirements to be met within 1 year
- EQAS award deferred until conditions defined by the panel have been met

The judgment “deferred until conditions ... have been met” should be pronounced when some requirements have not been completely fulfilled but correction can be done in a short time (less than two years). In such a case, the chair of the review team and a nominated representative of the Accreditation Commission will check that the conditions have been met.

The accreditation decision is then communicated to the HEI.

The award is valid for five academic years. After expiration of the validity, the programme can be resubmitted for assessment.

### **1.5. Re-accreditation**

At approximately six months before the expiration of a five-year accreditation, the institution will be invited to submit for re-accreditation. The institution should submit a revised up-dated summary report (Standard Route) or a revised self-assessment document (Extended Route) that shows, in either case, how the course has operated since accreditation and how it has complied with the EQAS-Food framework and the LOs specified therein. Institutions should provide additional information on changes made to the course(s) during the previous period, such as changes in modules, teaching staff and facilities made in response to the accreditation report and other developments and enhancements. A *pro forma* will be provided for this purpose. This will form the basis of the decision to re-accredit, or not. In the case of the Extended Route, the Accreditation Commission will determine whether an audit visit is required to verify details. It is anticipated that such a visit may be of shorter duration and the audit team may comprise fewer members. If no visit is needed, the fees for re-accreditation will be at a lower level compared with the initial accreditation. An institution that has been accredited under the Extended Route may apply for re-accreditation under the Standard Route if they have undergone a review that complies with the conditions described for that route.

### **1.6. Response and Appeal Mechanism**

An accreditation decision may be appealed if it is felt that there are grounds to believe that the

assessment process was not carried out fairly and properly in accordance with the framework outlined in this document.

The procedure of appeal will be made by the submission of a response to the decision of the accreditation decision addressed to the “Appeal Board (Secretary of the Accreditation Commission)” within two months of the decision being communicated to the institution.

The Secretary of the Accreditation Commission will pass the appeal to the Board of the IFA which will nominate an independent appeal panel composed of:

- A member of the ISEKI Food Association Board.
- A member of the Accreditation Commission
- A nominated member of IFA designated as an expert in the area who has not participated in the accreditation process

The decision of the appeal shall be issued within 2 months of the submission.

### **1.7. Publication**

The list of EQAS-Food awarded programmes will be made available on the IFA website according to the template presented in Annex II.

## 2. Learning Outcomes Standards for EQAS-Food award

The Learning Outcomes (LO) will be the main building block of quality standards for the evaluation of knowledge, skills and competences<sup>7</sup>. LO define the learning that graduates should have achieved upon completion of a programme and focus on the educational process of the learner. LO express what the learner can demonstrate at the end of a learning activity. LO vary according to the differing objectives of First and Second Cycle degree (FCD and SCD) programmes with Food Science and Technology (FST) as a core area.

The LO for the EQAS-Food award are grouped into five subject areas. Programmes that want to be awarded the label must demonstrate how they fulfil the majority of the LO in each of these five areas (Tables 1 to 5):

- i. Food Safety and Microbiology - Essential to produce safe foods; microbiology, toxicology and applied safety management belong to this group of outcomes.
- ii. Food Chemistry and Analysis - Analysis of foods, chemical composition, physical properties and sensory characteristics of foods.
- iii. Food processing and engineering - How to process foods with optimized product quality and hygiene, with knowledge of the food product and of the processing plant, with adequate water and waste management.
- iv. Quality management and food law
- v. Generic Competences - Communication abilities, ethics and personal

The achievement of any of these outcomes by the student can be in one or several modules since no restriction to the design of programmes is implied by EQAS-Food. Institutions will complete the Alignment Matrix of Programme Learning Outcomes (Annex V) to show where and how far they comply with the EQAS-Food LO. They should add any additional programme LO together with a commentary that explains the rationale for these and how they substitute for those not matching the EQAS table.

The LO of the first cycle degree are included in the second cycle degree if there is no first cycle degree offered in the same institution or the first cycle degree is not part of the EQAS-Food accreditation process.

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Table 1. Learning Outcomes for **Food Safety and Microbiology**

Graduates are able to:

(A) First Cycle	(B) Second Cycle
Describe the properties of common food spoilage organisms. Experimentally determine their presence and numbers.	(A) + Demonstrate a critical understanding of instances of food spoilage, causation and prevention.
Describe the properties of common food poisoning organisms, their toxins and means of detection.	(A) + Experimentally determine: The presence of food poisoning organisms.  Demonstrate a working knowledge of food-borne infections/intoxications, evaluating causation and prevention.
Recognize and describe the principles and limitations of food preservation. Exercise appropriate judgement on the suitability of different preservation methods to particular foods; give some practical examples.	(A) + Critically discuss the effects of intrinsic and extrinsic factors on shelf-life and safety of foods. Give practical examples and some indications of the benefits of predictive modelling.



Table 2. Minimum Learning Outcomes for **Food Chemistry and Analysis**

(A) First Cycle	(B) Second Cycle
<p>Demonstrate understanding of the basic concepts of organic chemistry, physical chemistry and biochemistry related to food.</p> <p>Demonstrate an understanding of the structure and function of major food components.</p> <p>Describe the physical and chemical properties of foods in production and supply chains.</p>	<p>(A) + Demonstrate a comprehensive understanding of the structure, function and interactions of major and minor food components, vitamins, flavours, taste and colour.</p>
<p>Describe the effects of at least two different food process operations on the physico-chemical properties of foods.</p>	<p>(A) + Demonstrate a critical understanding of the changes occurring during food process operations on the physico-chemical properties of foods.</p>
<p>Demonstrate a practical understanding of health and safety in the laboratory.</p>	<p>(A) + Demonstrate the application of the principles of GLP, health and safety in the context of a food laboratory.</p>
<p>Carry out an analysis of the proximate composition of foods and of basic sensory properties.</p>	<p>(A) + Undertake an extended analysis of the chemical, physical and sensory properties of foods, critically analyse and interpret the results.</p>
<p>Describe the main constituents of foods and their role in nutrition and health.</p>	<p>Demonstrate an awareness of the relationship between food, nutrition and health.</p>

Table 3. Minimum Learning Outcomes on **Food Processing and Engineering**

(A) First Cycle	(B) Second Cycle
Identify sources of raw material, explain the variability and the impact on food processing operations.	(A)+ propose alternative ways of utilization of lower quality raw materials.
Understand the fundamental concepts of mass, heat, and momentum transfer required in food unit operations. Calculate mass and energy balances for a general food process	Propose solutions for the practical application of the fundamental concepts of mass, heat, and momentum transfer in food processing
Explain the principles and current practices of major food processing operations, and understand the effect of processing parameters on product quality.	(A)+Understand the principles of process control and instrumentation
Explain characteristics and properties of packaging materials for food products and identify appropriate packaging systems.	Demonstrate understanding about characteristics and properties of packaging materials to select appropriate packaging systems for selected applications
Understand the basic principles and practices used for cleaning and sanitation of food process equipment, including the use of water, cleaning chemicals and waste management.	Understand current practices in maintenance of plant hygiene through CIP and its relation to GMP, the use of water in processing, and the management of waste streams.

Table 4. Learning Outcomes on **Quality Management and the Law**

Graduates should be able to:

(A) First Cycle	(B) Second Cycle
Describe how quality management systems are applied in the food industry with examples.	
Describe the main organisations responsible for overseeing quality management systems at a national and European level.	Demonstrate an understanding of the principles of quality management systems in the food industry, the range of documentation required and its use.
Describe the principles of food legislation and how it application in the food industry.	Describe the legal framework that applies to the food industry, the principle legal requirements, enforcement and the penalties that can be applied within a defined jurisdiction.
Describe the principles of authentication of food provenance and quality. Give an example of at least one well known scheme.	Demonstrate a critical understanding of the role of food provenance in maintaining food quality. Undertake an analysis demonstrating how a food product can be authenticated.

Table 5. Learning Outcomes for **Generic Competences**

Graduates should be able to:

(A) First Cycle Degree	(B) Second Cycle Degree
Carry out a basic experimental work under close supervision and write a summary report using a word processing application and spreadsheet as appropriate.	Able to plan and carry out an experimental investigation under supervision and write a scientific report following standard conventions.
Communicate scientific ideas through written, oral and visual means in their native language.	Communicate scientific ideas through written, oral and visual means in English. Able to discuss these ideas at a higher level.
Able to work in a team, with an understanding of the different roles, time management and meetings coordination.	Evaluating their own achievement by developing a capacity for self-reflection and that of others by participating in peer-review.
Demonstrate self-planning in order to prioritise and manage time and resources effectively	Demonstrate autonomy, self direction, initiative and effective decision making in complex and unpredictable situations.
Demonstrate problem solving skills, showing ability to solve practical interdisciplinary problems, showing ability to separate relevant and irrelevant information and working towards a successful solution.	Use statistical programs for experimental design and analysis of experimental data and interpret the results.

### **3. Self-assessment report**

The self-assessment report must show how the learning-outcomes as defined in Section 2 are achieved. Overall, the self-assessment report must be clear, concise and coherent for each programme, and address the following areas:

- The rationale of the programme and how it is related to food science and technology.
- Educational process: How the study programme is sufficient to achieve the objectives.
- The human and physical resources and partnerships and show that they are adequate to deliver the programme.
- Management System: How the standing and quality of the programme is managed and how it is perceived by alumni and employers of those graduates.

Instructions of format, length and copies of the self-assessment report will be available at [www.iseki-food.net/EQASFOOD](http://www.iseki-food.net/EQASFOOD) and is detailed in Annex IV.

## **Annex I Procedure and Criteria for the Selection of Assessors**

The higher education institution will be asked to inform IFA what it considers to be the ideal specialist profile for the assessment team. IFA's accreditation Committee will decide who should be nominated for the review on the basis of a proposal from the relevant technical committee(s), and will appoint the auditors.

The Assessment Team should be:

- composed of members that enable it to gain a specialist overview of the degree programme(s) being evaluated during a review
- composed of members that enable it to gain an overview of the interests of the parties affected by a specific course of study being offered, and include these in its evaluation
- include, where possible, some auditors with accreditation experience and others who are new to the accreditation procedure.

The Assessment Team for a single accreditation will usually comprise:

- 1 professor (from a university, usually a university of applied sciences)
- 1 industry representative
- 1 student.

Principles for the nomination of assessors from industry:

They should possess:

- proven specialist expertise
- experience of employing graduates of higher education degree programmes in the workplace (in a human resources capacity)
- It is also desirable that they have accreditation or evaluation experience, international experience, experience of administrative procedures in institution of higher education.

Additionally, they should have participated in training opportunities on accreditation issues.

Principles for the nomination of assessors from the student body:

They should:

- be enrolled in a subject relevant to the accreditation procedure
- already have experience as a student, but not have clearly exceeded the standard period of study
- have experience of Bachelor's and Master's degree programmes

Additionally, they should have participated in training opportunities on accreditation issues.

Nominated students will be drawn from the pool of students for accreditation assessments.

The following are excluded from nomination as assessors:

- Individuals involved in application procedures in the institution to be audited
- Colleagues who are cooperating on publications or projects with teaching staff from the institution to be audited
- Individuals employed by, or in a relationship of dependence with, the institution to be audited
- As a general rule, professors from the same economic zone.

Each IFA assessor will be required to sign a confidentiality agreement and declaration of impartiality prior to the commencement of the audit. The applicants will be informed of the composition of the assessment team. The higher education institution may request that assessors be replaced if they can show that such an assessor may be biased or otherwise inappropriate for the particular assessment. The relevant technical committee will deal with such a request.

## Annex II Template for Publication of Results

Higher Education Institution (name in original language and in English)	
Country	
<b>State/Province</b> (where applicable)	
Name of the Programme (name in original <b>language</b> and in <b>English</b> )	
Degree Awarded	
<b>Qualification Level</b> (First Cycle / Second Cycle)	
Programme Objectives; Profile (where applicable)	
Programme Duration (Semesters; in case of "terms" of different length, indicate them and the equivalent in semesters)	Semesters
Total Number of ECTS Credits Awarded	ECTS cp
Accredited without /with Adjustment Requirements	
Adjustment Requirements (where applicable)	
<b>Accredited by</b> (agency, country)	
<b>Accredited</b> (from ... to ...)	



## **Annex III Frame of reference of Food Science and Technology**

This frame of reference defines the domain of Food Science and Technology in the context of the knowledge base and the profession.

### **Food Science and Food Technology Definitions**

Food Science is the study of food from its physical, chemical, biological and sensorial characteristics and properties. Food Technology is the application of food science to food processing, food preservation and food distribution. The two disciplines are interrelated and are mastered by the Food Science and Technology (FST) professional. Such a professional has both a broad and a deep understanding of food production with knowledge of the boundary with food primary production (agriculture, animal husbandry and seafood), the distribution of food products and of consumers. FST professionals feed directly into the food and drink industry workforce but can also work in related industries or services.

### **Food and Drink Industry**

The food and drink industry comprises various sectors, from processed fruit and vegetables, beverages, dairy products, meat, fish, animal and vegetable oils and fats, flour and starch products, animal feed and others. In the EU, it is the largest manufacturing sector with a €965 billion turnover, and employs 4.4 million people, being the leading employer (CIAA, Data & Trends of the European Food and Drink Industry, 2009). This industry has been focus of many political measures mainly on food safety to assure consumer protection. Also, environmental concerns have led to new measures for environment protection, resulting in less pollution from this industry. More recently, due to the big challenge in feeding the world due to the growing world population, together with simultaneous climate change and intensive use of land, the concept has evolved towards sustainable food production, which incorporates the concept of using available natural resources appropriately. Consumers also demand more from this industry, although many advances have occurred in food science and food technology, mainly during the 20<sup>th</sup> century which have enhanced consumers' quality of life. Even more advances are claimed nowadays, particularly innovative foods tailor-made to various groups of consumers, and, especially, more claims

regarding the manufacturing of healthier foods.

### **Requirements for future professionals**

Future professionals must be prepared to address the ultimate criterion for food production, which is the quality of food. The specific competences of a food science and technology graduate will guarantee the good quality of the food product with respect to its sensory, nutrition and safety aspects. Knowledge of food primary production, food distribution and consumer science will assure the graduate has the competences to build the links from food production to these connected areas. Simultaneously, the FST professional must be prepared to help the food and drink industry with product and process development to answer consumer demands for tailor-made and healthier foods, and to move towards sustainable food production and food security.

### **Food Science and Food Technology Programmes**

Food Science and Technology studies comprise a wide variety of programmes of which the central core is food processing and food preservation. The grasp of the key concepts of these topics requires a strong basis of food chemistry, food microbiology, physical properties of foods and transport processes (heat, mass and momentum). The typical first cycle programme has to offer a solid, concise, yet comprehensive, delivery of these subjects. Curriculum design and content has to clearly take into account the strong multidisciplinary characteristic of food studies programmes. Thus, a good background of the basic disciplines, biology, chemistry, mathematics and physics, is essential for food studies students. Each programme may then develop different subjects to different extents. For example, Food Chemistry programmes will obviously focus more on the chemistry field, but food microbiology and transport processes should not be excluded; hence there should, at least, be a presence as a minor module in the curriculum.

The inclusion of sensory analysis, packaging, safety, environmental sciences, quality control, nutrition, completes the picture of topics that should be incorporated into Food Science and Technology programmes. Food Engineering degrees, in the first cycle, can

devote a considerable portion of the curricula to engineering sciences, but, in the second cycle, have to include other chemistry and biology subjects (microbiology included) together with management and economics topics of relevance.

## **Annex IV Contents of Self-assessment Report (Extended Route)**

It is expected that similar details will be provided in the documentation for the Standard Route though they may be structured differently and some additional details may need to be added.

### **1 Formal Data**

#### 1.1 Name and contact details

Name of the degree programme (language of the economic region)

Name of the degree programme (English)

Language of instruction

Contact person

- E-mail

- Telephone number

- Fax

Web address (of the institution, faculty, school or course)

#### 1.4 Degree to be awarded

#### 1.5 Standard period of study

#### 1.6 Commencement of degree programme

#### 1.7 Fees / charges

### **2. The rationale of the programme**

2.1 Needs of stakeholders (students, industry, professional associations)

2.2 Educational objectives (mission of educational institution, national educational policy, needs of stakeholders, relationship to food science and technology; see Annex I for the frame of reference for Food Science and Technology)

2.3 Programme outcomes (consistency with the objectives, consistency with general outcomes such as knowledge, competences and personal skills)

### **3. Educational Process**

3.1 Overview of the curriculum

3.2 Delivery of the curriculum

3.3 Learning and assessment (methods of assessment of LO)

3.4 Alignment matrix for EQAS-Food LO (see Annex V)

### **4. Resources and Partnerships**

4.1 Academic and support staff (quality, number, research and professional activities)

4.2 Facilities (labs related to food, access to scientific literature, pilot plants)

4.3 Partnership (industry links, international links)

### **5. Management System**

Quality assurance system (re-examining needs, objectives and outcomes, educational process, resources and partnerships and quality assurance; analysis of students' results (time to complete the programme, levels achieved), analysis of graduates' results (match between work place and education, time of employment, opinion on education received, opinion of employers))

### **6. Supporting information about the study programme**

Indicative headings – please consider which of these you wish to expand and develop.

#### 6.1 Context

- How does it fit within the field of study or practice? What is its main purpose?
- How has it developed over the last five years? Has it maintained currency?

## 6.2 Performance

- What does employer/practitioner/professional body feedback reveal about the relevance of the course (where applicable)
- What are the main trends in student employment subsequent to completing the course?

## 6.3 Quality & Standards Management

- How effective is the assessment strategy in supporting and demonstrating the fulfilment of the learning outcomes, and in discriminating between different levels of performance?
- How effective are the processes for giving feedback to students on their progress and work?
- Has student feedback led to any changes in the course?
- Show how advisory or liaison committees/contacts help with the delivery of the course.

## 6.4 Employer Involvement

- Describe any employer/practitioner/professional body contribution to course design and to what extent is the above kept aware of course developments.

## 6.5 Course Design & Development

- Explain how students have contributed to the course design and development
- How do you expect the course to develop in the next five years?

## Annex V Module handbooks

Provide a module handbook with the following content for each module:

Module name	
Module level, if applicable	
Abbreviation, if applicable	
Sub-heading, if applicable	
Classes, if applicable	
Semester	
Module coordinator	
Lecturer	
Language	
Classification within the curriculum	For all degree programmes in which the module is taught (including those being discontinued), indicate the degree programme, area of specialisation (where applicable), compulsory / optional, semester.
Teaching format / class hours per week during the semester	Indicate the number of class hours per week during the semester and group size, broken down by teaching format: lecture, exercise, lab, project, seminar, etc.
Workload	(Estimated) workload divided into face-to-face teaching and independent study, in hours.
Credit points (ECTS)	
Requirements under the examination regulations	
Recommended prerequisites	e.g. prior knowledge
Targeted learning outcomes	<p>Basic question: Which learning outcomes should be attained by students in the module? e.g.:</p> <ul style="list-style-type: none"> <li>- Knowledge: information, theoretical and/or factual knowledge</li> <li>- Skills: cognitive and practical skills which make use of the knowledge</li> <li>- Competences: integration of knowledge, skills and social and methodological abilities in work and study situations.</li> </ul> <p>Example: "The students know / are able to..."</p>
Content	The description should indicate the weighting and level of the content.
Study / exam achievements	
Forms of media	
Literature	

## Annex VI Alignment Matrix of Programme Learning Outcomes

Corresponding EQAS-Food LO	Programme learning outcome	Module developing LO	Type of assessment (oral presentation, report, written exam etc.)	Teaching and Learning Activities (lecture, project etc.)	Extent of alignment with EQAS-Food LO
LO1		Module A			
		Module B			
		...			
LO2		Module A			
		Module B			
		...			
...					