ASIIN Seal & EQAS Food Label

Accreditation Report

Bachelor's Degree Programme
Food Processing Technology

Provided by
Cairo University

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A About the Accreditation Process

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2]
تصنيع تكنولوجيا برنامج الأغذية (باللغة الانجليزية)	Food Processing Technology	ASIIN, EQAS Food Label	NQAAEE), 2013	08
Date of the contract: 31.12.2017 **Submission of the final version of the self-assessment report:** 26.06.2018 **Date of the onsite visit:** 11./12.12.2018 **at:** Faculty of Agriculture, Cairo University				
Peer panel: Prof. Dr. Stephan Huehn-Lindenbein, Beuth University of Applied Sciences, Berlin; Dr. Ingy Mostafa Hashad, Nutrition Consultant for Hero Baby in Egypt and Middle East, Health Care Nutritionist at In Shape Clinic in Cairo; Heba Osman, 3rd year student at the Faculty of Phamacy, German University of Cairo; Prof. Dr. Cristina Silva, Universidade Católica Portuguesa (on behalf of IFA)				
Representative of the ASIIN headquarter: Dr. Siegfried Hermes				
Responsible decision-making committee: Accreditation Commission for Degree Programmes				

[1] ASIIN Seal for degree programmes; EQAS Food Label

[2] TC: Technical Committee for the following subject areas: TC 08 – Agronomy, Nutritional Sciences and Landscape Architecture

Criteria used:

European Standards and Guidelines as of 15.05.2015

ASIIN General Criteria as of 28.03.2014

Subject-Specific Criteria of Technical Committee 08 – Agronomy, Nutritional Sciences and Landscape Architecture as of 09.12.2011

European Quality Assurance for Food Study Programmes – Food Science and Technology, Procedures, Criteria and Standards as of 07.01.2016

B Characteristics of the Degree Programme

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[3]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Ba Food Processing Technology	B.Sc. in Agriculture Sciences, Food processing technology	n/a	6	Full time	n/a	8 Semesters	240 ECTS	September 2006 Developed at 2016

For the Bachelor's degree programme Food Processing Technology, the institution has presented the following profile in the Self-Assessment Report (SAR):

„The program concentrates on food scientific bases, English, training on- site & information technology (basic requirements for food processing field) program. The program cooperates with different universities inside and outside Egypt (especially in Germany and the Netherlands) as well as most of the food companies in Egypt. The highly qualified graduates are able to work in the famous food companies in Egypt such as Holding Company for Food Industries, Private sector, Ministry of Health (food control section), Ministry of Agriculture and research institutes as well as centers and scientific career in different universities. "

"Therefore, the present education system is aimed to:

1. Development of food science program to meet the international changes in the field (i.e., modification of the existing foods and development of new products) and educational standards.

2. Introducing new fields of food processing and technologies according to international standards and consumer requirements and acceptability and allow the graduates to compete on the international levels.

3. Development of the graduate skills with relevant training on site, whether locally or abroad, so as to approach international standards in this respect, giving more importance to the costing and engineering aspects of the activity.

[3] EQF = The European Qualifications Framework for lifelong learning

4. Graduation of a student having some proficiency in the English language so as to be able to deal with his fellows, experts, whether local or foreign marketing and international commerce.

5. The program should train the students to be able to deal scientifically with other interested partners either interdepartmental, interfaculty of the university and/or interuniversity whether locally or internationally.

C Peer Report for the ASIIN Seal[4]

1. The Degree Programme: Concept, content & implementation

Criterion 1.1 Objectives and learning outcomes of a degree programme (intended qualifications profile)

Evidence:

- Learning objectives according the Self-Assessment Report (SAR), see chap. E of this report
- Module matrices, Annexes 8 (general) and 33 (EQAS Food Label) of the SAR
- Structure of the programme, Student Guide; Annex 2 of the SAR
- Audit discussions

Preliminary assessment and analysis of the peers:

The peers acknowledge that the programme coordinators put stress on defining comprehensive programme learning outcomes. They could see that the faculty has done so in the course of preparing and (successfully) passing the national accreditation by the National Authority for Quality Assurance and Accreditation in Education (NAQAAE). According to the respective nationwide standards, the faculty in detail developed the intended learning outcomes in the fields of subject-specific knowledge and understanding, methodological and analytical skills, practical and professional competences as well as transferable skills and general competences such as foreign language skills, scientific writing and presentation skills, management capabilities, team competences etc. As a result, all graduates of the university – irrespective of the specialty – have to achieve competences related to the areas of expertise of the faculty of agriculture as such. Among them are, for instance, the ability to utilize agricultural resources, to participate in managing agricultural business or to demonstrate awareness of related legal, ethical and socioeconomic issues. Additionally, the graduates have to achieve a number of subject-specific knowledge, skills and competences matching exemplary learning outcomes defined nationally for each specialty and

[4] This part of the report applies also for the assessment for the European subject-specific labels. After the conclusion of the procedure, the stated requirements and/or recommendations and the deadlines are equally valid for the ASIIN seal as well as for the sought subject-specific label.

level. The programme coordinators put great weight on detailing all relevant subject-specific learning achievements at the knowledge, skills and competence level, thus outlining a qualification profile of graduates that plausibly meets not only national but also international food-related standards (see below, in particular, for the EQAS Food Label). The expert panel appreciates that the intended qualifications are communicated to the relevant stakeholders, in particular to the students (in the so-called "Study guide for Undergraduate Students"). Through this, it is ensured that the students as the most relevant stakeholders of the Bachelor programme may refer to the objectives if needed.

As has been mentioned already, the faculty appears keen to equip the graduates of the Food Processing Technology programme with competences fitting international standards as well. In this respect, the peers take note that the faculty further applies for the EQAS Food Label of the International Food Association aside from the ASIIN seal. The coordinators took pains to provide evidence that the intended learning outcomes at the programme level also match the relevant subject-specific criteria of the EQAS Food-Quality Label. The peers could see that the learning outcomes in the areas of Food Safety and Microbiology, Food Chemistry and Analysis, Food Processing and Engineering (at least to a minimum extent), Quality Management and the Law, and, finally, Generic Competences could be judged as largely equivalent to the exemplary learning outcomes presented in the IFA standards[5]. As mentioned above, the peers voice a certain reservation with regard to the food processing competences of graduates, which will be treated in more detail in the analysis of the curriculum (see below sec. 1.3).

Subject-specific competences and transferable skills conveyed in the programme according to the matrices and the module descriptions from the peers' point of view are indicative for a Bachelor's degree programme at level 6 of the European Qualification Framework (EQF).

The peers understand that the faculty is in close contact with major food companies in Egypt and abroad and is always intent to tailor the structure and contents of the programme in accordance with the need of the industry. Keeping this in mind, they expect an iterative feedback circle ensuring that newly arising demands of the food industry as well as technological developments in this field will be included in the further development of the degree programme. This is evidenced by the specification and further elaboration of the learning outcomes related to the professional practice and by tailoring the curricular

[5] See EQAS-Food Award. European Quality Assurance For Food Studies Programmes – Food Science and Technology, Procedures, Criteria and Standards as of 2017-01-09, available at: https://www.iseki-food.net/webfm_send/2440 (Download: 18.01.2019)

content (practical training units) accordingly, as well as by the active engagement of qualified professionals and visiting lecturers.

In sum, the expert panel is content with the proposed programme learning objectives. It concludes that they give a meaningful account of the qualifications Bachelor graduates do need in order to find an occupation in the food (processing) industry pursuant to their qualification. Explicitly embracing an international scope into the qualification profile could significantly widen the prospect of job opportunities into an increasingly international food labour market. English language skills as well as managerial competences and the ability to team up with colleagues in internationally composed project teams underline this component of the qualification profile. It is in this context that the peers suggest undertaking any possible effort to spread the regional and international visibility of the Bachelor programme.

Criterion 1.2 Name of the degree programme

Evidence:

- Respective chapter of the SAR
- Documentation of establishment of the Food Processing Technology in 2006 and Approval of the programme development 2016; Annex 2 of the SAR
- Audit discussions

Preliminary assessment and analysis of the peers:

The peers generally assume that the programme title adequately reflects the learning outcomes and core contents of the Bachelor degree programme. Nevertheless, they consider the prominent "processing" term in the programme name a little overrating the process-related components of an obviously more fundamental and broad curricular approach. The peers certainly understand that strengthening the programmes' scope in this direction has been a guiding line in the most recent overhaul of the programme. It is agreeable that at least some parts of the curriculum deal with different aspects of the "processing" of foods.[6] However, as the coordinators admit, no more than some 30 to 40% may be relevant in this respect, leaving the "processing" term in the programme name still somewhat opaque. Regarding the broad approach and basic education in the field forming the baseline of the curriculum, the expert panel would have considered a programme title such as "Food Sci-

[6] See the courses of the "Module 3: food processing", *inter alia* Principles of Food Processing (FPT 202); Engineering Principles and Food Properties (FPT 323); Food Plant Planning (FPT 440) (cf. Annex 9 of the SAR).

ence and Food Technology", "Food Science" or "Food Technology" more convenient to adequately address the programme's core. The coordinators principally agree with the assessment, since, in fact, the Arabic Version of the programme is offered under the title "Food Science and Food Technology". Otherwise, they emphasize that the title has been chosen deliberately with a view to the food processing industry and, at least in part, in response to the respective feedback from the relevant companies. The peers take note of this justification. They, too, feel that the programme name – as it stands – cannot be disregarded as evidently wrong or misleading. Nor do, in their opinion, the related learning outcomes necessary contradict with what is actually being taught (see sec. 1.3). Discussions with both employers and students show that neither of them feels misinformed by the programme's name. Still, a programme title more aptly covering the contents of the programme might be conceived in the medium term. Hence, the expert panel suggests reconsidering the "processing"-related part of the programme title in order to better reflect the more fundamental scope of the programme according to international standards.

Criterion 1.3 Curriculum

Evidence:

- Respective chapter of the SAR
- Course specifications, Submission after the onsite-visit
- Module/Course contents, Annex 9 of the SAR
- Objectives matrices, Annexes 8, 27, 33 of the SAR
- Study plan, Annex 32 of the SAR
- Developed programme (ECTS) – A guide for undergraduate students, Annex 4 of the SAR
- Admission regulations according to the Student Guide, Annex 2 of the SAR
- Student assessments of ILOs, Annex 19 of the SAR
- Graduates assessment of the ILOs, Annex 21 of the SAR
- Audit discussions

Preliminary assessment and analysis of the peers:

Four strings of courses essentially structure the curriculum of the Food processing technology programme. Each of these so-called modules (see below sec. 2.1) comprises "sub-modules" itself consisting of courses related to the broad area of "Basic sciences", "Principles of food sciences", "Food processing" and, finally, "Issues related to food processing". Basic

sciences courses, inter alia, cover thematic fields such as Mathematics, Physics, Chemistry, Biology, Genetics, Statistics, Fundamentals of economics and so forth. Principles of food sciences courses encompass topics like Raw materials of plant, animal, and microbial origin as well as Physiology and biochemistry of plant, animal, and microbial products. Courses in the field of Food processing, inter alia, refer to Engineering principles and food properties, Food processing operation and equipment, Food plant planning, Processing of cereal and cereal products, procession of oil and fats, Small scale food industries and Enzymes in food processing. Lastly, Issues related to food processing consists of courses dealing with Packaging and package materials, Food chemistry and analysis, Food law and legislation, Food safety, Treatment of water and food processing wastes, as well as Business, marketing and management skills. Additionally, the four-year study programme entails English language courses, summer and Graduation training units and a Project.

The presented curriculum of the Food Processing Technology programme leaves the expert panel with the impression that the programme curriculum convincingly portrays a comprehensive overview and sound basis of the food sciences, technology and production. In principle, the curriculum is reasonable and meaningful designed, thereby ensuring that students will achieve the above-mentioned learning outcomes. In particular, the auditors come to see that the students gain the skills and competences in the competence fields defined by the IFA (EQAS Food Label) standards. The skills and competences students are expected to acquire in the broad fields of Food safety and microbiology, Food chemistry and analysis, Food processing and engineering, Quality management and food law are not only adequately reflected in the Learning Objectives matrix (as part of SAR) but also plausibly implemented and operationalized in the curriculum of the programme. This is plausibly indicated in the Learning Objectives matrix, and generally evidenced in the module descriptions ("course specifications") submitted after the audit visit.

However, the peers have the impression that dairy science ranks low in the content list of the programme, which seems astonishing, given the importance of dairy products in the human food supply chain. The programme coordinators generally admit that while dairy science is not paid major attention in the curriculum, some basic knowledge being conveyed in the *Introduction to dairy science* elective course. Even as an elective course, the peer panel deems this to be very limited concerning the manifold dairy products and applications of the related scientific results. The peers recommend considering more electives in this realm of food technology in order to give students more opportunities to further specialize in dairy science.

Regarding the internationalisation strategy of the university and its implementation in the Faculty of Agricultures English taught degree programmes, the peers welcome the mandatory English courses in the curriculum. If the students were either to work in international

companies or to continue their studies in Master and PhD programmes abroad, they will benefit from pursuing their first cycle education in English. Supporting them by mandatory English language courses will contribute to achieve these objectives. Otherwise, it seems inadequate to label the English language courses according to their numerical order only (1, 2, 3…), since, as programme coordinators and English lecturers jointly indicate, the courses do build on one another consecutively, progressively widening and deepening the students command of English. The panel therefore suggests naming the English language courses more in line with the subsequent content and intended learning outcomes. In addition, the university uses an identical code for all four English language courses and, consequently, only one course specification is provided. If the courses are indeed consecutive in substance and learning objectives, this should also be reflected in the course specification(s).

The peer panel positively values the three month-long summer training units from the first through the third study years and an additional four-month internship after graduation as an asset of the programme, since students will be accustomed to the working conditions, typical assignments and working environment of potential fields of employment. In addition, these units build an awareness of the subject-specific competences and transferable skills required in the respective job market (see further on below, sec. 2.1).

Criterion 1.4 Admission requirements

Evidence:

- Relevant chapter of the SAR
- Developed programme – a guide for the undergraduate student, Annex 4 of the SAR
- Admission Forms, Annex 10 of the SAR
- Audit discussions

Preliminary assessment and analysis of the peers:

As the peers can see, students are primarily admitted to the programme according to regulations by the Programme Supervision Committee (PSC). Principally, a ranked list for the programme is prepared for selection based on a grade point average of some selected courses (including, particularly, Chemistry, English, and Biology) plus the final grade in the General Secondary School Certificate (GSC). In addition, an interview will take place and the best overall rated students are selected depending on total admission numbers approved by the Faculty Administration & Programme Supervision Committee. Since the Bachelor's programme is an English taught degree programme, applicants also have to have a grade not less than 70 % in the English language Course with the General Secondary

School Certificate (GSC). The peer panel learns that the Faculty of Agriculture accepts equivalent certificates from foreign or Arab Countries with the same conditions. Students report that the admission rules are reasonable, transparent and available to them. Agreeing with the students, the peer panel concludes that the admission regulations are clearly stated and easily accessible to the stakeholders (website, study guide). Through combining English language requirements with the proof of subject-specific qualifications, the admission rules from the peers' perspective contribute to the selection of students most qualified for the Bachelor's programme.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 1:

The peers conclude that the requirements of the above-mentioned criteria are generally met. They agree with the programme coordinators opinion that the Bachelor's programme has been developed according to international standards and the needs of the main stakeholders in the region. The peer panel still finds that there is room for improvement in certain aspects:

Programme title / Food processing

The peers have taken into account the coordinators' statement concerning the processing related parts of the curriculum. They conform to the argument that the natural and food science principles first need to be laid down before progressing to the Food Processing courses. They also see that these courses deliver the very basics of processing technologies. That is why, in turn, the expert panel considers their weight overrated when making the issue a feature of the programme title. Consequently, the peers still deem it worth reconsidering the title of the programme in this respect (see below, sec. F, E 1.).

Dairy products

The peers thank the coordinators for the statement with regard to the omission of courses related to dairy products in the Bachelor's programme under review. They are aware of the fact that there is an outspoken division of labour between the Dairy Science Department and the Food Science Department concerning the respective content of courses. The welcome that the coordinators nevertheless are considering to integrate some additional courses with reference to the processing and evaluation of dairy products and the application of nanotechnology in food and dairy respectively. Adding these courses as electives would widen the students' range of developing an individual disciplinary profile. The expert panel of the re-accreditation procedure should have a look at how the department has been handling this aspect in the course of the curriculum development (see below, sec. F, E 2.).

English Language Courses

It is perfect in the peers' opinion that the English language courses are different and of increasing level in ascending order. Regarding this, the panel suggests communicating the difference more transparently in the respective course title (see below, sec. F, E 3.).

2. The degree programme: structures, methods and implementation

Criterion 2.1 Structure and modules

Evidence:

- Relevant chapter of the SAR
- Module-objectives matrices, Annexes 8, 27, 33 (EQAS Food label)
- Course specifications (as far as available); additional information submitted after the onsite visit
- Developed programme (ECTS) – A guide for undergraduate students, Annex 4 of the SAR
- Examples of course evaluations, Annex 12 of the SAR
- Audit discussions

Preliminary assessment and analysis of the peers:

The curriculum of the Bachelor's degree consists of courses forming self-contained thematic study units normally completed by a coherent set of continuous assessment (cf. sec. 3 for examinations). The Faculty presents the curriculum as a new concept comprising modules, sub-modules and thematically related courses. It turns out, that the terms "module" and "sub-module" are not used in the technical sense developed in the Bologna Process for the European Higher Education Area (EHEA). In fact, modules in the understanding of those responsible for the Food Processing Technology programme refers to a basic structure of the programme with its four pillars: Basic Sciences (Module 1), Principles of food science (Module 2), Food processing (Module 3) and Issues related to food processing (Module 4). Sub-modules, in turn, do normally comprehend a set of interrelated courses each. In the peers' opinion, the different utilization of a terminology deeply ingrained in the Bologna reform of Higher Education in Europe, transparently mirrors the underlying concept of this Bachelor's programme and is even consistent with the above mentioned proper understanding of "modules" when "courses" are taken as "modules".

Overall, the peers also conclude that the sequence of the courses is adequate and facilitates the achievement of the intended programme learning outcomes. The samples of course evaluation sheets apparently confirm this assessment. However, it seems that the *Food chemistry and Analysis* course scheduled for the fourth study year (first semester) is somewhat misplaced given the close link to the food processing courses (foreseen in the third year) and the fact that this course introduces important methodical prerequisites, which could be meaningfully referred to in the food processing courses. Therefore, the expert panel strongly advices placing the course at an earlier date in order to better prepare the students for the food processing courses and thereby better achieve the learning objectives of both.

The peers positively note that students do have the option to develop an individual qualification profile by elective component in the curriculum with a total volume of 48 ECTS credits. This seems to be impressive at a first glance, but is obviously more limited when taking into account that students usually have to make a choice of three courses out of four, in effect restraining their options significantly. The peer panel suggests enlarging the number of elective courses per study year, for instance by including courses of other faculties and even neighbouring universities for the students of this programme.

As already mentioned, the expert panel positively acknowledges the professional training units included in the curriculum of this programme with regard to the professional perspectives of students. In the discussion with industry representatives, the peer panel was told that the students' assignments during their internships (summer training and graduation training) are principally devised by the companies and are very realistic. Otherwise, the peers assured themselves that the students constantly do have a contact person at the faculty during their work practice at the companies, to whom they can refer in case of organisational or study-related questions. Still, it becomes not fully clear to the expert panel whether these contact persons/coordinators at the faculty are actively pursuing a supervising role in the internships. In fact, the panel had the impression that the involvement of the Faculty in the conduct and design of the working practice is not that far-reaching. Regarding this, the panel points to the accreditation requirement that extra-curricular activities such as working practice units need to be meaningfully integrated in the curriculum and supervised by staff members in order to be awarded with credits. Since all internships in the Food Processing Technology programme are valued between 3 and 10 ECTS credits, it has to assured that they are not only reasonably integrated into the curriculum – which they are in the eyes of the peer panel –, but also supervised and counselled by Faculty staff. As indicated, the peers are not quite sure concerning the latter question. They assume that more information about that might be found in formal guidelines about the internships,

which have not been submitted by the Faculty, or in the module description or course specification of those units, which is also missing so far. Guidelines / provisions for the internships at companies, if they exist, should be provided then, and the course specification of the summer training units and the graduation training be delivered. The peer panel will regard such additional information in its final decision.

The peers are convinced that the offer of English taught programmes such as the Bachelor's programme under review is an appropriate means to spur the internationalization strategy of the university. As mentioned above, the compulsory English language courses are further underlining and effectively supporting this strategy on the programme level. Particularly, if students were to be qualified to continue their academic qualification at Master's level in partner universities abroad, the Food Processing Technology programme serves as a good basis. Peers cannot judge from the available information whether Cairo University or the Faculty of Agriculture have put in place guidelines or rules of recognition of academic achievements acquired at other universities. They suggest implementing such rules in order to encourage the academic mobility of students.

Criterion 2.2 Work load and credits

Evidence:

- Relevant chapter of the SAR
- Developed programme (ECTS) – A guide for Undergraduate students), Annex 4 of the SAR
- Study plan, Annex 32 of the SAR
- Audit discussions

Preliminary assessment and analysis of the peers:

The peers take note that the Faculty has been introducing the ECTS in the curriculum in order to implement a strictly learner-oriented approach to curriculum development. Study documents presented to the peers nevertheless show that besides the ECTS numbers the traditional Egypt credit hours are still in use (for instance in some course specifications). In the peers' view, this is quite understandable. Nevertheless, the ECTS numbers need to be assigned consistently in order to effectively introduce this credit point system and to get all stakeholders attuned to using the system.

When looking at the study plan and the respective allocation of ECTS credit points, it becomes clear that the theoretical courses are normally conducted in six weeks sequences (reversing the sequence of the scheduled courses in one semester for two student groups).

The application orientation of the programme is apparent, since most of the courses have a significant greater volume of lab units compared to theoretical lessons. However, it is also obvious that according to the study plan (Annex 32) the weekly workload of students varies between peeks of more than 50 hours and lows of roughly 30 hours. Moreover, these numbers seemingly indicate attendance time in lectures and laboratory units only, thus leaving open the question of students' self-study time to prepare or work over the content of lectures and labs. On request though, the students estimate their amount of work at eight hours on average per day (including self-study time), but at the same admit fluctuations depending on semester and course. In this context, the peers note that the weekly workload in the first study terms is comparably high and sometimes unbalanced between the two six week-periods of the semester. As a result, the peers are unsure whether the students actually do have sufficient self-study time for preparing and follow up the courses (whether theoretical or practical). As a result, the panel considers it necessary that the programme coordinators ensure a more balanced amount of student work during the semester and between the semesters. They also strongly suggest indicating the students' self-study time separately in study-related information sources such as the study plan and course specifications.

As to the reliability of the ECTS credit point allocation, the peer panel cannot verify whether its underlying calculation basis is plausible and overall appropriate. In fact, this is an indispensable information, if the ECTS shall emerge as a reliable instrument to support the achievement of the study objectives. Valuable information in this regard might be retrieved from the students' course evaluations after including suitable questions concerning the students' workload experience in the questionnaire. The expert panel claims that a reliable process of monitoring the ECTS credit point allocation should be implemented in order to take corrective actions in case significant discrepancies should be identified.

Regarding the practical training units, the peer panel doubts whether the allocation of 3 to 4 ECTS credits for the summer training units until the third study year do adequately reflect the actual amount of student work. In pure mathematical terms, this is to say that students attend barely two hours per day at the companies, which is simply implausible and apparently reflects a significant underrating of the factual student workload during their practical training units. In comparison, 10 ECTS credits for the six-week Graduation training amounts to 7-8 hours per day, which seems to be much more realistic. It is not expected that each and every training hour in the company is explicitly taken into account when awarding credit points for the internships. Nevertheless, the credits on average should realistically reflect the amount of working hours students are spending in the companies. Similarly, the award of 4 ECTS credits for the (Graduation) project appears to be a quite small amount of

credits hardly covering the work actually done to fulfil the requirements. In sum, it is necessary that the training courses (internships) and the graduation project are awarded ECTS credits according to the actual workload of the students.

Criterion 2.3 Teaching methodology

Evidence:

- Relevant chapter of the SAR
- Course specifications, Submission after the onsite-visit
- Audit discussions

Preliminary assessment and analysis of the peers:

Reportedly, there are different educational methods in place, with lectures, exercises, laboratories, practical work, projects and excursions being the most familiar ones. As to that, it is worthwhile that each course specification does also contain some short indication of the didactical methods and learning/teaching forms adopted in the respective course.

The peers learn that the application, extent and weight of the teaching methods are up to the individual professor with particular attention to the intended learning outcomes. The intention is to look at specific topics from different angles and to see how different units contribute to achieving the learning outcomes. Following that, the teaching methods and instruments in use are considered to generally support the students in achieving the learning outcomes. On request, the students confirmed this judgement. From the quality level of the Graduation projects (see below sec. 3), the peers could infer that students are generally introduced to scientific standards and enabled to work scientifically. On the other hand, it is particularly this issue, which underlines the necessity of assuring sufficient self-study time for students to best enable them to solve subject-related tasks on a scientific basis. Accordingly, the peer panel strongly advises to foster independent scientific work of students, for instance through reasonably increasing the share of self-study time without exceeding the given workload.

With regard to the application-oriented approach of the Bachelor's programme at hand, the peers take positively note of the close ties the faculty is keeping with companies in the food processing industry. The active engagement of company staff in the summer and Graduation trainings and in the Graduation project as well as the participation of lecturers from the industry as lecturers in specialized courses is seen as an appropriate means to introduce students to the industry perspective on subject-specific problems and solutions.

Criterion 2.4 Support and assistance

Evidence:

- Relevant chapter of the SAR
- Developed programme (ECTS) – A guide for Undergraduate students, Appendix 4 of the SAR
- Audit discussions

Preliminary assessment and analysis of the peers:

Peers note that freshmen are well introduced into the Faculty facilities, services and the programme details in an introductory course at the beginning their studies. Overall, the students confirmed that they can turn to all teaching staff for support and that a good communication environment is fostered in the Faculty of Agriculture. The students underlined that they are highly satisfied with the support measures.

On the other hand, the peers received the impression, that at least those students showing up during the onsite-visit could not recall any active involvement and participation in the revision and further development of the curriculum. Although making use to a certain degree of the results of quality assurance processes already in place, the design, establishment, revision and further development of the degree programmes generally rests with the responsible university and Faculty committees, without some kind of a formalized student participation. The peer panel therefore suggests implementing formal communication channels between students and the teaching staff.

Despite this reservation, the peers conclude that there are adequate resources available to provide individual assistance, advice and support for all students. They also underline that the academic advice and guidance offered by the teaching staff assists the students in achieving the learning outcomes and in completing the curriculum within the scheduled time.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2:

Taking into account the statement and the voluminous additional documents, the peers conclude that the requirements of the above-mentioned criterion cannot be considered fully met yet.

Schedule of the Food Chemistry and Analysis Course

It is welcomed that the HEI in an apparently updated curriculum has changed the schedule of the Food Chemistry and Food Analysis course now placed in the second half of the third study year. On a first glance, this seems to be a step in the right direction, while a close look at this modification reveals that the timing seems still too late if students' are to make good use of the course content for the food processing courses largely located in the first half of the third year. Consequently, the peer panel still proposes addressing the issue in a related requirement (see below, sec. F, A 1.).

Elective courses / individual qualification profile

The peers take note of the enlargement of elective courses notified in the statement of the HEI. Concerning this issue, the panel fully relies on the announcement of the coordinators; no further action is needed.

Students' workload

The peers are thankful for the explanatory sheet concerning the underlying workload calculation of the courses (Annex 57). However, they cannot not see that this in any meaningful way addresses their concern voiced in the preliminary assessment. The problem of, at times, significant imbalances of students' weekly workload, the vagueness and overall comparatively low share of students' self-study time in the numbers presented in the curriculum (Annex 54) and the module specifications respectively, remain to be a major deficit of the Bachelor's programme. Overall, the workload should be evenly distributed of the weeks, semesters and study years. Moreover, the students' self-study time per course should be reassessed and transparently indicated in the respective information sources. Eventually, the workload should be monitored on a regular basis in order to take appropriate steps in case of significant discrepancies between the factual workload and the underlying calculation and credit point allocation (see below, sec. F, A 2.).

In this respect, it seems especially worthwhile, as already argued above, to foster the students' independent scientific work through adequate means. The peer panel recommends carefully considering this point in connection with further establishing the ECTS system at the university (see below, sec. F, E 5.).

Course specifications of summer training and the Graduation training units

The expert panel welcomes the course specifications provided as additional documents after the onsite visit. Most probably, these specifications have been produced for the purpose of this accreditation procedure. Essentially identical learning outcomes of the summer training and Graduation training units are indicative of this, missing content description

also points in this direction. The vast difference of the ECTS load alone should have prompted some sort of distinction between the mentioned course descriptions. Nevertheless, the peers consider them as a good start. They advise the coordinators to elaborate on them and make them available to the relevant stakeholders (students and teaching staff in the first place; see below, final assessment on criterion 5). Taking together all information about the training courses, the expert panel is convinced that they are altogether well organised and supervised, thus effectively preparing the Graduation project and contributing to acquiring the intended programme learning outcomes.

Workload calculation and ECTS credit point allocation of training courses and the graduation project

The peers thank for the submission of course specifications for the different training units and the Graduation project. However, they still doubt whether the actual workload of students in the different training units (especially the summer training courses) and the Graduation Project – despite a slight increase of the credit volume of the summer training courses (5 ECTS instead of 3 to 4 according to the initial documentation) – is realistically covered. On the other hand, they propose to leave the issue of reasonably assessing the workload of students and the attributing ECTS credit points accordingly to an adequate monitoring process to be established in accordance with the previous paragraph (see below, sec. F, A 2.).

Rules of recognition of competences gained at other universities / universities abroad

In order to promote the internationalization strategy of the HEI and the mobility of the students of the Bachelor's programme, it seems recommendable to the peers to establish appropriate rules concerning the recognition of academic achievements gained at other universities, in particular universities abroad. The peer panel suggests a recommendation to this end (see below, sec. F, E 4.).

Student involvement in the programme development

As already mentioned, the students active engagement in the further development of the Bachelor's programme – apart from their voice in the evaluation framework – could be intensified. The peers recommend taking adequate steps to encourage the students' active participation (see below, sec. F, E 6.).

3. Exams: System, concept and organisation

Criterion 3 Exams: System, concept and organisation

Evidence:

- Relevant chapter of the SAR
- Course specifications, Submission after the onsite-visit
- Structure of the programme 2006 (student guide), Annex 2 of the SAR
- Developed programme (ECTS) – A guide for undergraduate students, Annex 4 of the SAR
- Onsite inspection of a sample of exams and (Graduation) projects
- Audit discussions

Preliminary assessment and analysis of the peers:

The Faculty of Agriculture has adopted the concept of multi-component assessments to measure the achievement of the course outcomes. Courses usually comprise a midterm examination, an oral examination, a practical examination and a final examination stretching over the whole semester to ensure a continuous assessment of learning. This is transparently communicated in the course specifications, which also contain detailed information about the weight of each examination component.

Given the relatively high number of examinations per course and per semester (up to 24 examinations in only one term), the peers explicitly approached the students to understand how they deal with the overall load of examinations. However, the latter confirmed that the examinations are generally well distributed over the semester and that they are used to a high examination load, which nevertheless appears doable for them. Further, they perceive the examinations as an appropriate feedback mechanism for their study progress. As examinations include different examination methods (such as written, oral, and practical examinations), this examination approach ensures in the eyes of the peers that the academic performance of the students is assessed in different ways and in a comprehensive manner. Further, the peer panel welcomes this assessment method because it at the same time aims at assessing different levels of competences. Overall, the Faculty has convincingly demonstrated that the examinations are structured adequately to cover the intended learning outcomes and provide students with continuous feedback on their learning progress.

Concerning the organisation of the examinations, the peers learn that students failing examinations have to re-take the whole course. Whether this is possible in a timely manner, reportedly depends on the number of course participants, failing students etc., and thus may lead to a delay in the study progress or prolongation of the study period. As students and coordinators jointly pointed out though, this is rarely an issue of concern. With regard to further aspects of the organisation of examinations (such as the examination period, preparation time, application and deregistration, remediation period etc.), the peers have the impression that it works well and is duly regulated. However, no exam regulations have been presented attesting to this assumption. This is why the expert panel asks the coordinators to additionally provide the relevant study and examination regulations (in an English translation and with an indication whether and where they are available for stakeholders).

At the end of their studies (in the eighth semester), students do have to prepare a Graduation project demonstrating knowledge, skills and competences gained in the course work of the preceding semesters. From the information in the SAR and in the audit discussions, the peers gain the impression that the Graduation projects are thoroughly planned major academic works conducted in distinct stages from the first proposal to the final report. The study guide for undergraduate students in the 2006 version (Annex 2) gives more detailed account of the project requirements than does the most recent study guide (2016/17), where students were left without further information about the Graduation project. Contrary to the latter, the previous study guide (2006) has an indication that the project "will be carried out according to faculty rules". Unfortunately, neither specific rules regulating the Graduation project nor the course specification for the project are available. As a result, the peers lack more detailed information regarding the intended learning outcomes, contents, and didactical methods of the Graduation project. Guidelines for the Graduation project, if existing, as well as the missing course specification should be delivered before the peers have their final assessment.

However, during the onsite-visit, the peer panel has inspected a sample of examinations and projects. Additionally, the coordinators presented photo material about the (Graduation) projects in 2017 and 2018. Again, the topics of the projects clearly and convincingly illustrate the dominant application orientation of this programme. Overall, the expert panel confirms that the projects and examinations were of adequate standard and principally consider them as proof of the achievement of the study objectives at the level aimed for.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 3:

The peers consider the requirements of the above-mentioned criterion as fulfilled.

Examination rules and provisions

No major examination regulations of the university/the faculty have been provided. The coordinators point to uniform university-wide (or even nationwide) provisions governing the assessment process. Although the peers would have preferred getting to know a least the most relevant rules, they do not doubt – as already stated previously – that the examinations are meticulously organized and well ordered. Additionally, the panel comes to conclude that the case of re-sitting examinations does not constitute a structural obstacle to the study progress.

Course specification of the study project

The expert panel positively notes the course specification for the Graduation project provided along with the statement of the HEI, which includes an overall adequate description of the course learning outcomes together with an appropriate account of academic guidance and assessment. Since the description again appears to be produced for the purpose of the accreditation procedure, the peers nevertheless assume that it will be made available for the students and teaching staff in an appropriate manner.

4. Resources

Criterion 4.1 Staff

Evidence:

- Relevant chapter of the SAR
- Table of teaching staff engaged in delivering the lectures, labs, etc., Annex 34 of the SAR
- Staff handbook, Submission after the onsite-visit
- Criteria for selection of staff members for teaching, Appendix 11 of the SAR
- Audit discussions

Preliminary assessment and analysis of the peers:

As the SAR states, altogether 10 professors, 7 associate professors, 7 assistant professors, 6 lecturers from other Egyptian universities and 6 food experts are providing the courses of the Bachelor's programme under review. It also holds that professors and staff members from all departments of the Faculty of Agriculture are participating in the programme and that the faculty cooperates with other faculties across Cairo University in order to provide

the programme with the best expertise in the respective field of teaching. Accordingly, co-operation with the Faculty of Engineering, the Faculty of Veterinary Medicine, the Faculty of Tourism and Hotels, the Faculty of Arts, the Faculty of Laws, and, too, the Faculty of Agriculture of Ain Shams University have been established. As the peers learnt, particularly the cooperation within Cairo University is essentially based on an informal agreement and a small additional remuneration for the external teaching personnel providing an incentive to bear the additional teaching load.

The peers positively note the apparently well-established cooperation with internal and external experts, which together with the Faculty's own teaching staff build a solid teaching capacity to guarantee the teaching quality of the programme. Taking into account the additional information about the staff qualification, its teaching and research experience, the peers conclude that the academic staff is well qualified to assume its teaching responsibility.

Criterion 4.2 Staff development

Evidence:

- Relevant chapter of the SAR
- Audit discussions

Preliminary assessment and analysis of the peers:

According to the teaching staff, the university organizes workshops aiming at improving the didactical competences and teaching practice. Staff members regularly receive information about further training opportunities scheduled at the university or faculty level. They can apply for these offers and with the permission from their superiors participate. In fact, the expert panel was told that lecturers are expected to engage in regular CPD measures[7] as a prerequisite to further ascend in the academic hierarchy. Consequently, it can fairly be stated that sufficient opportunities to further develop the professional and teaching skills of the staff are available.

Criterion 4.3 Funds and equipment

Evidence:

- Relevant chapter of SAR
- Onsite inspection of relevant infrastructure

[7] CPD stands for "Continuous Professional Development".

- Additional information (photos) about the laboratory equipment of the Faculty of Agriculture
- Audit discussions

Preliminary assessment and analysis of the peers:
According to the SAR, apart from the general funding of the university and its faculties the tuition fees are considered the main budget available for the implementation of the study programme. Student tuition fees are determined and controlled by the Faculty and the university council. In addition, Egyptian food companies and the Cairo Trade Center respectively finance some scholarships for outstanding students.

With the programme revision and the development of a new student-centered approach combined with an outspoken orientation towards the demands of the food industry, the available equipment has been improved and modernised in some fields and to a certain degree, as the SAR states. During the onsite-visit, the peers could inspect the Faculty buildings and some major labs used in the Food Processing Technology programme. Additionally, the coordinators provided photo material of most of the relevant laboratory equipment.

As to this, the expert panel is very much concerned that the facilities at least partly might not fit the minimal requirements. The Microbiology lab, for instance, should be used for growth, cultivation and detection of microorganisms. However, detection is regularly dependent on the use of microscopes, but there is not even one visible in the photos and almost all plug-ins apparently unfilled. Moreover, basic staining technologies, e.g. Gram staining, seem to be absent; there are no staining racks/facilities visible in the photos. Again, since especially the microbiology lab is mostly concerned with the detection of bacteria and other toxic organisms, is should follow international hygiene and safety standards and good laboratory practice. The visible lab flooring and lab furniture – apart from the relatively basic state of the equipment itself – do not leave the peers with the impression that the labs are living up to those standards. The peers therefore consider it necessary that the faculty by other means either provides evidence of the laboratories keeping up to international laboratory standards and good practice or evidences serious steps ensuring that the labs will do so in the medium run. Additionally, the expert panel strongly advises the programme coordinators to upgrade the lab equipment in order to better achieve the intended learning outcomes.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 4:

The peer panel considers the requirements of the above-mentioned criterion not fulfilled yet with regard to the condition of laboratories.

Laboratory equipment

The peers take note of the coordinators explanation particularly concerning the microbiology lab units and courses. They very much appreciate that courses and laboratory units are mostly done in the department of Microbiology, which – according to the HEI – is well equipped for the teaching assignments in the Food processing programme. Otherwise, no further evidence has been provided for the claim. Irrespective of this, the peer group welcomes the statement of the coordinators, but at the same time, and based on the available information (including a large amount of photo material), it generally suggests upgrading the labs and lab equipment in order to better achieve the intended learning outcomes (see below, sec. F, E 7.).

Laboratories – compliance with safety and hygiene standards

The expert panel is well aware the long history and tradition of the Faculty of Agriculture (CUFA). It sincerely acknowledges the achievements of the faculty in teaching, learning and research and its close contact to with all relevant stakeholders in the field of food science, plainly illustrated in the CUFA presentation (Annex 50). The Western and Wadi Al-Natroun experimental farms and, in particular, the related facilities of the Cairo University Research Park (CURP) are definitely noteworthy. They surely contribute to the teaching process in the programme under review, although more indirectly (in the first instance through the research activities of the teaching staff). However, neither of this can remove the peers' serious concern with regard to the actual condition of the labs already in use in the Food Processing Technology programme. As has been detailed above, there are manifest doubts that the labs are compliant with the international safety and hygiene standards. The peers consider it necessary to clearly address this point in a respective requirement (see below, sec. F, A 3.).

5. Transparency and documentation

Criterion 5.1 Module descriptions

Evidence:

- Course specifications, Submission after the onsite-visit

- Audit discussions

Preliminary assessment and analysis of the peers:
A line of course specifications have been provided after the onsite-visit containing information about the learning outcomes, contents, ECTS volume, forms and methods of teaching, assessment forms and literature. The peer panel deems these descriptions as a helpful information source for students (and other stakeholders), although many course specifications are still not available to it. Many course descriptions are still missing: *Application of Computer Science*, *World Food Problems*, *Technology Risks Management*, *Maintenance of food plants machinery*, *Procession of cereal and cereal products*, *Processing of sugars*, *special products & functional food*, *Enzymes in Food Processing*, *Packaging and Packages Materials*, *Food Safety*, *Treatment of Water and Food Processing Wastes*, *Human Nutrion and Applied Dietetics*, *Summer Training*, *Graduation Training*, and *Project*. Hence, the panel asks the coordinators for the completed set of course specifications subsequent to the new study plan.

Further, some file titles are not consistent with course titles as stated in the course specifications and/or the study plan (for example in the case of the *Food Processing operation & equipment* course). The peers assume that such discrepancies will be remedied in the next editorial revision of the course specifications. Regarding the transparency issue, the peer panel is convinced that staff members taking part in the teaching of the Bachelor's programme have prepared course specifications of their respective courses. However, it remains unclear whether the latest version of the course specifications are available for students, since those submitted to the peers after the onsite-visit are copied for the purpose of the accreditation procedure specifically. Although the students indicate having access to the course descriptions, the peer panel suspects that these are not routinely updated. Therefore, the peers strongly suggest revising the course specifications regularly and ensuring that the latest edition is available for the relevant stakeholders.

As has been noted earlier in this report, it is also perceived as commendable to modify the name of the English courses according to the concrete content and the learning objectives of the respective course (see above sec. 1.3).

Criterion 5.2 Diploma and Diploma Supplement

Evidence:

- Relevant chapter of the SAR
- Audit discussions

Preliminary assessment and analysis of the peers:
The SAR does not contain a sample of final documents (Diploma, degree certificate, Diploma Supplement). In particular, no Diploma Supplement is issued so far entailing detailed information about the educational objectives, intended learning outcomes, the structure and academic level of the degree programme as well as about the respective national higher education system. In order to enable external stakeholders to classify the achievements and performance of the graduates and make them comparable to the performance of other graduates, the peers strongly suggest introducing a Diploma Supplement or equivalent document.[8]

Criterion 5.3 Relevant rules

Evidence:

- Relevant chapter of the SAR
- Course specifications, Submission after the onsite-visit
- Study plan, Annex 32 of the SAR
- Developed programme (ECTS) – A guide for undergraduate students, Annex 4 of the SAR
- Admission regulations according to the Student Guide, Annex 2 of the SAR
- Executive regulation for the undergraduate programme in Agricultural Sciences (2009), Annex 28 of the SAR

Preliminary assessment and analysis of the peers:
According to the SAR, all rights and duties of both the higher education institution and students are clearly defined and binding (in respective national, university or faculty statutes and guidelines). Some of those binding provisions are part of the SAR and thus could be taken into consideration.

As has been noted earlier in this report (see above sec. 3), the most relevant study and examination rules, although explained in the audit discussions and transparently communicated to the students, have not been annexed to the SAR. The peers therefore ask the programme coordinators to submit the relevant study and examination regulations in an

[8] Samples of the Diploma Supplement in use in the EHEA can be downloaded on the Internet at: http://www.ehea.info/Upload/document/ministerial_declarations/EHEAParis2018_Communique_AppendixIV_952782.pdf (Download: 01.01.2019)

English translation along with an indication whether and where they are available for stakeholders.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 5:

The peers conclude that the transparency requirements are not fulfilled completely.

Module descriptions / course specifications

The peers welcome the submission of the course specifications missing so far. The peers made sure that the course descriptions are in general existent and available. However, they conclude that the latest version is not generally available for the students and the teaching staff. Consequently, the faculty must ensure that the course specifications not only are updated regularly but also made publicly accessible for the relevant stakeholders (see below, sec. F, A 4.).

Diploma Supplement

For reasons detailed above the peer panel strongly suggests issuing a Diploma Supplement, which will be a useful tool for the HEIs internationalisation strategy and student mobility (see below, sec. F, A 5.).

English language courses

The peers' suggestion of renaming the consecutive English language courses is discussed in another chapter of this report (see above criterion 1.3; see below, sec. F, E 3.).

6. Quality management: quality assessment and development

Criterion 6 Quality management: quality assessment and development

Evidence:

- Relevant chapter of the SAR
- Employment of graduates, Annex 5 of the SAR
- Course evaluation sheet, Annex 12 of the SAR
- External evaluation, Annex 15 of the SAR
- Peer review, Annex 17 of the SAR
- Students assessment for ILO's sheet, Annex 19 of the SAR

- Staff member satisfaction with programme performance, Annex 20 of the SAR
- Graduates assessment of achievement of learning objectives, Annex 21 of the SAR
- Student assessment of final written exam and course content, Annex 22 of the SAR
- Student assessment of the on-site training units, Annex 23 of the SAR
- Food company assessments of student competences, Annex 24 of the SAR
- Statistical data (intake, drop-out, employment numbers), Submission after the on-site-visit
- Audit discussions

Preliminary assessment and analysis of the peers:
The expert panel acknowledges that the Faculty of Agriculture has put in place a quality assurance system for its degree programmes. According to the SAR, it has strictly defined the competences and responsibilities for the implementation of the quality assurance processes and instruments. In the first place, the Faculty Quality Assurance Unit (FQAU) has been formed to follow up, organize and cooperate with all departments and programmes to implement the different evaluation instruments. Apart from the FQAU, each degree programme has its own Programme Quality Assurance Unit (PQAU). While the FQAU is supposed to monitor the implementation of the quality assurance strategy, propose measures to remedy identified weaknesses and follow up the measures taken to improve the quality performance, the PQAU conducts yearly programme evaluations through internal and external evaluators.

The SAR and the annexes also demonstrate that the faculty made significant efforts to include the experience and expertise of different stakeholders within and outside the faculty and the university (for instance, evaluators from other faculties and universities, experts from food industry companies, and alumni/graduates) in the process of designing and further developing the Bachelor's programme.

On the programme level, the continuous development mainly relies on a multitude of survey instruments such as course evaluations, student evaluations of the intended learning outcomes (ILO's), staff members' evaluations of students' study performance, or graduates' evaluations of the programme outcomes. These instruments appear generally to be adequate to collect meaningful information about whether the programme's educational objectives and contents actually fit the academic and professional needs of the students, graduates and employers. They are expected to deliver findings about the students' actual achievement of the educational objectives and ILOs. Of course, the significance of these quality assurance tools with respect to their capacity in detecting weaknesses or major

shortcomings of the programme is highly dependent on the respective response rate. Given this, the exemplary results presented in the SAR can only be considered as indicative of a principally positive assessment of the programme. Nevertheless, the faculty has plausibly argued to make good use of the evaluation results for the improvement of the programme.

Although students positively highlight that critical remarks in the course evaluations do prompt corrective actions, the feedback cycle between students and teachers in the follow-up process of the course evaluations seems to be rather weak. In the peers' view, there is no structured feedback as to how evaluation and survey results or informally given suggestions and recommendations to the learning objectives or contents of the programme are fed in the programme development. Apart from that, the involvement and active participation of the students in the (further) development of the study programme appears to be generally low. Thus, the development of a coherent feedback culture, including the effective closing of feedback cycles and sustainable follow-up processes, should be envisaged as next steps in the development of the quality assurance system.

Statistical data submitted subsequent to the onsite-visit are scarce, mainly confirming a high employment ratio of graduates and a comparatively low dropout rate. Given the continuous monitoring of the study progress by means of examinations throughout the study cycle (see sec. 3), especially the desirably low dropout rate might have been expected.

In summary, the peers conclude that the Faculty of Agriculture has convincingly demonstrated its awareness of the quality assurance dimension of the degree programmes. The documentation has illustrated at least to a certain degree that the collected data and information are used in the revision of the Food Processing Technology programme. Nevertheless, the peer panel considers the quality assurance system to be improvable, particular with a view to feedback and follow-up processes as well as student involvement. Thus, the panel commends establishing a more formalized feedback cycle in the course of the student evaluations. Additionally, a more transparent documentation of the follow-up processes of the quality assurance system and the use of its results in further developing the programme seems commendable in the opinion of the peers.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 6:

The quality assurance of the Bachelor's programme under review largely complies with the standards. Feedback cycles and the follow up-processes still leave some room for improvements as discussed above in more detail. The peer panel suggests casting this in an additional recommendation (see below, sec. F, E 8.).

D Additional Documents

Before preparing their final assessment, the panel ask that the following missing or unclear information be provided together with the comment of the Higher Education Institution on the previous chapters of this report:

D 1. Provision of the completed set of course specifications (ASIIN 1.3, 5.1)
D 2. Guidelines/provisions for the internships (summer training, graduation training) and the Graduation project, if available (ASIIN 2.1, 3)
D 3. Relevant study and examination regulations (in English translation and with an indication whether and where they are available for stakeholders) (ASIIN 3)

E Comment of the Higher Education Institution (02.03.2019)

The institution provided a detailed statement as well as the following additional documents:

- Cooperation Agreements
- Missing Course Specifications
- Annex 50 CUFA
- Annex 51 Food Safety etc.
- Annex 52 Graduation Project
- Annex 53 Graduation Training and Summer training
- Annex 54 Curriculum
- Annex 55 A guide for Undergraduate student 2019
- Annex 56 English Courses
- Annex 57 Student Workload
- Annex 58 Dairy products

F Summary: Peer recommendations (18.03.2019)

Taking into account the additional information and the comments given by the HEI, the peers summarize their analysis and **final assessment** for the award of the seals as follows:

Degree Programme	ASIIN-seal	Maximum duration of accreditation
Ba Food Processing Technology	With requirements for one year	30.09.2024

In addition, the peers recommend the award of the EQAS Food Label.

Requirements

A 1. (ASIIN 2.1) Shift the Food Chemistry and Analysis course to an earlier study period in order to better prepare students for the food processing courses.

A 2. (ASIIN 2.2) Ensure a more balanced workload of students during each semester and between the semesters. Indicate the students' self-study time separately in study-related information sources (such as the study plan and the course specifications). Implement a reliable process of monitoring the ECTS credit point allocation in order to take corrective actions in case significant discrepancies should be identified.

A 3. (ASIIN 4.3) Make sure and evidence that the laboratories do meet international hygiene and safety standards.

A 4. (ASIIN 5.1) Update the module descriptions on a regular basis and ensure that the latest version of the course specifications is available for the students and the teaching staff.

A 5. (ASIIN 5.2) Ensure that a Diploma Supplement is issued containing detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree programme as well as about the individual performance of the student.

Recommendations

E 1. (ASIIN 1.2) It is recommended to reconsider the “processing”-related part of the programme title in order to better reflect the more fundamental scope of the programme according to international standards.

E 2. (ASIIN 1.3) It is recommended to consider an additional dairy products course in the elective part of the curriculum.

E 3. (ASIIN 1.3, 5.1) It is recommended to modify the name of the English language courses according to the concrete content and the learning objectives of the respective course and adapt the course specification(s) accordingly.

E 4. (ASIIN 2.1) It is recommended to put in place rules of recognition of academic achievements gained at other universities in order to encourage academic mobility.

E 5. (ASIIN 2.3) It is recommended to foster independent scientific work of students, for instance through reasonably increasing the share of self-study time without exceeding the given workload.

E 6. (ASIIN 2.4) It is recommended to implement formal communication channels between students and the teaching staff.

E 7. (ASIIN 4.3) It is recommended to upgrade the labs and lab equipment in order to better achieve the intended learning outcomes.

E 8. (ASIIN 6) It is recommended to establish a more formalized feedback cycle in the course of the student evaluations. Additionally, the follow up-processes of the quality assurance system as well as the use of its results in the programme development should be documented more transparently.

G Comment of the Technical Committee 08 – Agriculture, Nutritional Sciences and Landscape Architecture (18.03.2019)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee discusses the procedure and agrees with the assessment and recommended resolution of the peers without any modification. It stresses the necessity of the requirement relating to the compliance with international hygiene and safety standards, which needs to be plausibly demonstrated (requirement 3).

Assessment and analysis for the award of the EQAS Food label:

The Technical Committee deems that the IFA standards for the EQAS-Food Award are fulfilled.

The Technical Committee 08 – Agriculture, Nutritional Sciences and Landscape Architecture recommends the award of the seals as follows:

Degree Programme	**ASIIN-seal**	**Maximum duration of accreditation**
Ba Food Processing Technology	With requirements for one year	30.09.2024

In addition, the Technical Committee recommends the award of the EQAS Food Label.

H Decision of the Accreditation Commission (29.03.2019)

Assessment and analysis for the award of the ASIIN seal:

The Accreditation Commission endorses the assessment and recommended resolution as proposed by the peers and the Technical Committee without changes.

Assessment and analysis for the award of the EQAS Food label:

The Accreditation Commission agrees with the assessment of the peers and the Technical Committee. It considers the IFA standards for the EQAS-Food Award to be fulfilled.

The Accreditation Commission for Degree Programmes decides to award the following seals:

Degree Programme	**ASIIN-seal**	**Maximum duration of accreditation**
Ba Food Processing Technology	With requirements for one year	30.09.2024

In addition, the accreditation commission recommends the award of the EQAS Food Label.

Requirements

A 1. (ASIIN 2.1) Shift the Food Chemistry and Analysis course to an earlier study period in order to better prepare students for the food processing courses.

A 2. (ASIIN 2.2) Ensure a more balanced workload of students during each semester and between the semesters. Indicate the students' self-study time separately in study-related information sources (such as the study plan and the course specifications). Implement a reliable process of monitoring the ECTS credit point allocation in order to take corrective actions in case significant discrepancies should be identified.

A 3. (ASIIN 4.3) Make sure and evidence that the laboratories do meet international hygiene and safety standards.

A 4. (ASIIN 5.1) Update the module descriptions on a regular basis and ensure that the latest version of the course specifications is available for the students and the teaching staff (preferably on the internet).

A 5. (ASIIN 5.2) Ensure that a Diploma Supplement is issued containing detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree programme as well as about the individual performance of the student.

Recommendations

E 1. (ASIIN 1.2) It is recommended to reconsider the “processing”-related part of the programme title in order to better reflect the more fundamental scope of the programme according to international standards.

E 2. (ASIIIN 1.3) It is recommended to consider an additional dairy products course in the elective part of the curriculum.

E 3. (ASIIN 1.3, 5.1) It is recommended to modify the name of the English language courses according to the concrete content and the learning objectives of the respective course and adapt the course specification(s) accordingly.

E 4. (ASIIN 2.1) It is recommended to put in place rules of recognition of academic achievements gained at other universities in order to encourage academic mobility.

E 5. (ASIIN 2.3) It is recommended to foster independent scientific work of students, for instance through reasonably increasing the share of self-study time without exceeding the given workload.

E 6. (ASIIN 2.4) It is recommended to implement formal communication channels between students and the teaching staff.

E 7. (ASIIN 4.3) It is recommended to upgrade the labs and lab equipment in order to better achieve the intended learning outcomes.

E 8. (ASIIN 6) It is recommended to establish a more formalized feedback cycle in the course of the student evaluations. Additionally, the follow up-processes of the quality assurance system as well as the use of its results in the programme development should be documented more transparently.

I Fulfillment of Requirements (20.03.2020)

Decision of the peers and the Technical Committee (March 2020)

Requirements

A 1. (ASIIN 2.1) Shift the Food Chemistry and Analysis course to an earlier study period in order to better prepare students for the food processing courses.

Initial Treatment	
Peers	fulfilled Justification: The food chemistry and analysis course (FPT306) has been shifted from the fourth level to the first semester of the third level because of its importance.
TC 08	fulfilled Justification: The technical committee agrees with the peers.

A 2. (ASIIN 2.2) Ensure a more balanced workload of students during each semester and between the semesters. Indicate the students' self-study time separately in study-related information sources (such as the study plan and the course specifications). Implement a reliable process of monitoring the ECTS credit point allocation in order to take corrective actions in case significant discrepancies should be identified.

Initial Treatment	
Peers	not fulfilled Justification: As far as can be seen from the documentation provided, no changes catering to the intended objectives have been implemented so far. The university is referred to the ECTS user's guide for further information about the ECTS.
TC 08	not fulfilled Justification: The technical committee agrees with the peers.

A 3. (ASIIN 4.3) Make sure and evidence that the laboratories do meet international hygiene and safety standards.

Initial Treatment	
Peers	partly fulfilled Justification: Since, the Microbiology research lab at faculty Research Park, which has been accredited by EGAC in compliance with the requirements of 150/IEC 17025:2017 in some microbiological tests for food, is used for carrying out the practical work, the requirement could be considered fulfilled. However, this is the first time the term Microbiology *research* lab was used while it was named Microbiology lab in front, and it seems unclear if the same rooms are meant.
TC 08	partly fulfilled Justification: The Technical Committee agrees with the peers.

A 4. (ASIIN 5.1) Update the module descriptions on a regular basis and ensure that the latest version of the course specifications is available for the students and the teaching staff (preferably on the internet).

Initial Treatment	
Peers	partly fulfilled Justification: No evidence has been given that the course specifications are made available for the students ahead of courses, for instance on the internet.
TC 08	partly fulfilled Justification: The Technical committee agrees with the peers.

A 5. (ASIIN 5.2) Ensure that a Diploma Supplement is issued containing detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree programme as well as about the individual performance of the student.

Initial Treatment	
Peers	not fulfilled Justification: There is no indication that a Diploma supplement shall be issued containing detailed information as required. Apparently, the university has not yet grasped the meaning of a Diploma Supplement and should be directed to further information on the respective homepage of the EU commission.
TC 08	not fulfilled Justification: The Technical Committee agrees with the peers.

Decision of the Accreditation Commission (20.03.2020)

The Accreditation Commission discusses the procedure. In follows the assessment of the peers and the responsible Technical Committee without changes and considers the requirements 2 to 5 not fulfilled so far.

Requirement 2:

From the documents provided, it appears that the Faculty of Agriculture has not implemented any changes catering to the intended objectives so far. The university is strongly advised to consult the ECTS user's guide for further information about the ECTS (https://ec.europa.eu/education/ects/users-guide/docs/ects-users-guide_en.pdf).

Requirement 3:

If the Microbiology research lab at faculty Research Park, which has been accredited by EGAC in compliance with the requirements of 150/IEC 17025:2017 in some microbiological tests for food, is actually used for carrying out the practical work, the requirement could be considered fulfilled. However, this is the first time the faculty uses the term Microbiology *research* lab while it was named *Microbiology lab* before. Thus, it still needs to be clarified if the same labs are meant here.

Requirement 4:

The peers acknowledge that the course specifications have been revised and updated according to the indications in the accreditation report. Yet, no evidence has been given that they are made available to the students ahead of courses, for instance on the internet.

Requirement 5:

There is no indication that a Diploma supplement shall be issued containing detailed information as required. The faculty is advised to consult the EU Commission's respective indications for further information as well as the procurement of an English template for its use (see http://ehea.info/Upload/document/ministerial_declarations/EHEAParis2018_Communique_AppendixIV_952782.pdf).

The Accreditation Commission took the following decision:

Degree programme	**ASIIN-label**	**Subject-specific label**	**Accreditation until**
Ba Food Processing Technology	Requirements 2, 3, 4, 5 not fulfilled	EQAS Food Label	6 months prolongation

J Fulfillment of Remaining Requirements (17.09.2020)

Decision of the peers and the Technical Committee (07.09.2020)

Requirements

A 2. (ASIIN 2.2) Ensure a more balanced workload of students during each semester and between the semesters. Indicate the students' self-study time separately in study-related information sources (such as the study plan and the course specifications). Implement a reliable process of monitoring the ECTS credit point allocation in order to take corrective actions in case significant discrepancies should be identified.

Initial Treatment	
Peers	not fulfilled Justification: As far as can be seen from the documentation provided, no changes catering to the intended objectives have been implemented so far. The university is referred to the ECTS user's guide for further information about the ECTS.
TC 08	not fulfilled Justification: The technical committee agrees with the peers.
Secondary Treatment	
Peers	Not fulfilled. Justification: The workload is only given per each semester, not per module. In addition, no distinction has been made between contact hours and self-study hours.
TC 08	Not fulfilled Justification: The Technical Committee follows the assessment of the peers.

A 3. (ASIIN 4.3) Make sure and evidence that the laboratories do meet international hygiene and safety standards.

Initial Treatment	
Peers	partly fulfilled Justification: Since, the Microbiology research lab at faculty Research Park, which has been accredited by EGAC in compliance with the requirements of 150/IEC 17025:2017 in some microbiological tests for food, is used for carrying out the practical work,

	the requirement could be considered fulfilled. However, this is the first time the term Microbiology *research* lab was used while it was named Microbiology lab in front, and it seems unclear if the same rooms are meant.
TC 08	partly fulfilled Justification: The technical committee agrees with the peers.
Secondary Treatment	
Peers	Not completely fulfilled Justification: From the provided pictures it seems as if some progress has been made regarding the infrastructure of the research facilities. However, it is not made clear whether students are actually using this new equipment and in what context.
TC 08	Not completely fulfilled Justification: The Technical Committee follows the assessment of the peers.

A 4. (ASIIN 5.1) Update the module descriptions on a regular basis and ensure that the latest version of the course specifications is available for the students and the teaching staff (preferably on the internet).

Initial Treatment	
Peers	Not completely fulfilled Justification: No evidence has been given that the course specifications are made available for the students ahead of courses, for instance on the internet.
TC 08	partly fulfilled Justification: The technical committee agrees with the peers.
Secondary Treatment	
Peers	Partly fulfilled Justification: Updated module descriptions have been provided, yet they still need to be improved to cover all necessary information, especially with regard to the credit points.
TC 08	Partly fulfilled Justification: The Technical Committee follows the assessment of the peers.

A 5. (ASIIN 5.2) Ensure that a Diploma Supplement is issued containing detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree programme as well as about the individual performance of the student.

Initial Treatment	
Peers	not fulfilled Justification: There is no indication that a Diploma supplement shall be issued containing detailed information as required. Apparently, the university has not yet grasped the meaning of a Diploma Supplement and should be directed to further information on the respective homepage of the EU commission.
TC 08	not fulfilled Justification: The technical committee agrees with the peers.
Secondary Treatment	
Peers	Not fulfilled Justification: A template of the diploma supplement has been filled out, yet the university gave no indication of actually providing the document to its graduates. Also, there are many errors within the documents, e.g. the information regarding the higher education system relate to Germany, not to Egypt, the programme learning outcomes are missing, information appear at the wrong section …
TC 08	Not fulfilled Justification: The Technical Committee follows the assessment of the peers.

Decision of the Accreditation Commission (17.09.2020)

Degree programme	ASIIN-label	Subject-specific label	Accreditation until
Ba Food Processing Technology	Requirement 2,3,4,5 not fulfilled*	EQAS Food	Extraordinary extension for six months

*Despite not all requirements being fulfilled in the secondary treatment, the peers and the Technical Committee 08 recommend an exceptional extension of six months. It has become apparent that failure to fulfill the requirements cannot be blamed on the university or faculty as such, but is instead due to miscommunication with the university. For this reason, the peers and the Technical Committee propose that a video conference be held with as many programme managers responsible for the degree programme as possible in order to give the university the opportunity to process and, at best, fulfil the requirements.

K Appendix: Programme Learning Outcomes and Curricula

According to Self-Assessment Report, the Bachelor degree programme Food Processing Technology shall achieve the following **objectives** and **learning outcomes (intended qualifications profile)**:

C.1.1.4 Programme learning outcomes (annex 33)

The program has an acadimic refrence standars (ARS) based on:

1. The national academic reference standars (NARS) (annex 31) that have been adopted by National authority for quality assurance and accreditation of education, Egypt.
2. Additional skills that have been indicated according to requirements needed by program evaluation gaps(stakeholders, academic referees and similar international foreign universities programs) and based on these foreign universities programs.

General Attributes of Agriculture Graduates

A - Graduates of Faculties of Agriculture must be able to:-

1- Recognize the role of Agriculture in society.
2- Utilize agriculture resources.
3- Manage agriculture resources appropriately
4- Participate in managing agricultural business
5- Display appropriate professional commitment & attitudes
6 - Conserve natural recourses and maintain biodiversity
7- Demonstrate awareness of related legal, ethical & socioeconomic issues
8- Prepare for self-management and continuous learning.
9- Engage in research studies

Along with general attributes of agriculture graduates (NARS)

B - The Graduates of Food Science must be able to:

10- Determine food composition and nutrient requirements.
11- Process different food products.
12- Use the mass and energy balances for a given food process.
13- Apply sanitation practices and safety according to legislation and standards.
14 - Evaluate different food and food products.
15- Select suitable packaging materials and storage conditions for different food products.
16- Discuss the major chemical, physical & microbial reactions during storage.
17- Apply statistical principles in food science.
18- Determine food contaminants and discuss spoilage of food.
19- Develop food products.
20- Participate in planning of food plants, operations and maintenance of machines.
21- Use recent technologies in food processing.
22-Use English language with some proficiency in food science field.
23- Carry out training on site to develop the practical skills
24- Use computer models facilities to solve food-processing problems.
25- Evaluate risks management in food processing.

C - Additional skills to fulfill the international standards (For the developed new food processing system):

-Apply soft skills in food industries
-Recognize the establishment and development of small-scale industries in food processing
-Solve special industrial problems in cooperation with food industries
-Acquire the food processing skills in all aspects
-Carry out Training on the production lines in different food factories
- Identify food problems in Egypt, Middle East and world
-Utilize all skills acquired to develop new food products
-Food processing technology program

National Academic reference standards (NARS):

1-Knowledge and understanding skills

Graduate of Faculty of Agriculture must acquire the following knowledge and understanding:

A1- Recognize the basic science related to Agriculture
A2- Recognize the applied sciences related to Agriculture
A3-Understand the terminology in Agriculture farming.
A4- Recognize the principles of quality control management and safety, according to legislations and standards.
A5- Explain risks in agriculture
A6- Identify the suitable method of handling agricultural wastes
A7- Explain the agricultural wastes recycling
A8- Understand Basics of planning for agricultural business
A9- Classify consumer needs and market diversification.
A10- explain the basics of microeconomics, macroeconomics, and international economics
A11- Demonstrate economic aspects national and international in sustainable agriculture
A12- Understand biosafety regulations and practices in agriculture
A13- Identify biodiversity
A14- Maintain natural resources
A15- Explain agricultural legislations and ethics related to human-being health
A16- Understand basics of information economy and experimental economics Along with knowledge and understanding of agriculture graduate,

The Graduates of Food Science must acquire the following knowledge and understanding:

A17- Identify physical & mechanical properties of food and Agric. Products.
A18- Explain the major chemical reactions that occur during food processing and storage.
A19- Identify methods of food reactions control
A20- Identify methods of food preservation and processing for (traditional and non-traditional)
A21- Explain different methods of storage for food products.
A22- Explain food spoilage
A23-Identify pathogen and how to control.
A24- Identify total quality management in food industry
A25- Recognize principles of handling and transportation of food stuff
A26- Define heat and mass transfer
A27- Categorize packaging materials and types
A28- A31- Identify the sanitation practices, contaminants and food spoilage.
A29- Understand organoleptic qualities of food
A30- Identify the national and international food legislation and laws.
A31- Explain quality control & food processing
A32 - Identify the suitable method for treatment of waste water and food plant wastes
A33- Explain different methods of recycling of food wastes.
A34- Explain food recent technologies.
A35- Understand food processing development.
A36- Recognize principles of food processing operations.
A37- Understand food plant operations.
A38- Recognize maintenance of food machinery.
A39- Explain planning of food plants.
A40- Recognize food products technology & production strategies.
A41- Explain how to control technology risks.

Additional skills to fulfill the international standards (For the developed new food processing system):

A42- Understand communication skills
A43-Understand critical thinking, problem-solving, professional skills and interaction skills
A44- Understand Information acquisition skills, time and project management.
A45- Identify small scale industries
A46-Identify food Special industrial topics

A47-Utilize training on sites in food processing issues

2-Intellectual Skills

Graduates of Faculty of Agriculture must be able to:

B1- Collect data to solve agricultural problems

B2- analyze data to solve agricultural problems

B3- Design experiments

B4- Integrate some lines of evidence to elucidate phenomenon and assess risks

B5- Choose the best among alternatives to maximize benefits

Along with Intellectual skills of agriculture graduate, Graduate of food science program must acquire the following Intellectual skills:-

B6- Explain mathematical and statistical principles of food industry

B7- Identify basic processing problems

B8-Select Suitable solution to basic processing problems

B9- Propose suitable design, operations & maintenance procedures for each food plants

B10- Use new technology to develop food products.

Additional skills to fulfill the international standards (For the developed new food processing system):

B11- Choose suitable success skills to food industry

B12-Design food special industrial processes

B13-Select proper solutions for risk management issues.

B14-Design small-scale industries units

B15-Evaluate social and economical impact of small-scale products

B16-Perform training on sites program to develop food products.

3-Professional and practical skills

Graduates of Faculty of Agriculture must be able to:

C1- Apply GP in Agriculture production

C2- Produce safe Agricultural products

C3- Produce functional foods

C4- Use agricultural recourses for sustainable agriculture

C5- Use economic & accounting in preparing Agriculture produced

C6- Analyze data statistically

C7- Plan according to changes in national and international economics

C8- Develop rural community & urban areas according to prioritize issues

C9- Apply Agriculture extension plans

C10- Implements an investigation with limited guidance

Along with Practical Skills of agriculture graduate,
Graduate of food science program must acquire the following Practical Skills:

C11- Analyze food physically, chemically and microbiologically
C12- Determine food composition
C13- Determine storage problems
C14- Apply solutions for storage problems
C15- Use suitable package for processed food
C16- Apply GMP in food industry
C17- Apply sanitation in food processing plans and risk analysis
C18- Use preservation methods in food processing
C19- Determine food deterioration and spoilage
C20- Control food deterioration and spoilage
C21- Determine food additives
C22- Apply quality control and standards in food processing
C23- Apply food safety procedures
C24- Produce foods using traditional methods.
C25- Evaluate meat and fish products
C26- Produce bread and other cereal products
C27- Formulate diets & dietetic requirements
C28- Process edible oils and oil products
C29- Handel fresh vegetables and fruits
C30- Process sweeteners and brewing products
C31- Process functional food
C32- Process sugar and its products

Additional skills acquired in food processing technology program

C33- Operate basic food processing equipments.
C34- Participate in food machinery maintenance
C35- Participate in food plant planning
C36- Use recent technology for development of food products.
C37- Apply training on site to develop the practical skills.

Additional skills to fulfill the international standards (For the developed new food processing system):

C38-Apply Soft skills in food industry
C39-Operate small-scale food industries units
C40-Solve special industrial topics generated from food industries
C41-Implement training on site to develop professional skills.

General skills:

D1- Write technical and professional reports
D2- Present information's technically and professionally
D3- Show satisfactory English language
D4- Use appropriate audiovisual aids in a presentation and in document preparation
D5- Work in a team and understand group behavior
D6- Demonstrate basic management capabilities.
D7- Use software packages in variety of food processing activities
D8- Use information technology for trade and communication
D9- Demonstrate self and long life learning
D10- Show satisfactory leadership qualification.

Regarding the EQAS Food Label, the following learning outcomes matrix has been presented:

Referring to subject specific students (SSC) and LO for EQAS-food, the food processing processing program has cover the five areas: i.e.

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 program modules that cover the five areas:

	Courses cover the field	
1. Food Safety and Microbiology -Essential to produce safe foods; microbiology, toxicology and applied safety management belong to this group of outcomes.	**a. Raw materials of microbial origin** **b. Physiology and biochemistry of microbial products** **c. Food laws and legislations** **d. Food safety** **e. Food production and quality assurance** **f. Food Safety, Risks &Technology** **g. Food contaminants &hygiene** **h. Food Biotechnology &Functional Foods** **i. Food quality control and sanitation**	**Please see ARS and NARS for each course**
2. Food Chemistry and Analysis -Analysis of foods, chemical composition, physical properties and sensory characteristics of foods.	**a. Food chemistry and analysis** **b. Biochemistry** **c. General and analytical chemistry** **d. Physiology and biochemistry of plant products** **e. Physiology and biochemistry of animal products** **f. Physiology and biochemistry of microbial products** **g. Enzymes in food processing** **h. Food Evaluation and standards** **i. Sensory evaluation and rheological characteristics** **j. Treatment of water and food processing wastes**	

3. 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.	a. Principles of food processing b. Raw materials of plant origin c. Raw materials of animal origin d. Engineering principles and food properties e. Food processing operation & equipment's f. Food plant planning g. Maintenance of food plants machinery h. Processing of cereal and cereal products i. Processing of oils and fats j. Processing of fruits & vegetables k. Processing of meat and meat products l. Processing of sugars, special products & functional food m. Small scale food industries n. Packaging and packages materials o. Food product development and marketing p. Global trends and innovation in food processing q. Special industrial topics r. Feasibility studies s. Food business and economics	
4. Quality management and food law	a. Food laws and legislation b. Fast Foods Safety Risk & Management c. Food Management &Marketing d. Food business, marketing & management e. Business management and food production strategies	
5. Generic Competences - Communication abilities, ethics and personal	a. International issues b. Human rights c. Soft skills	

The ILOs of these above modules as indicated by NARS and ARS comply with SSC and EQAS-food (ASIIN).

The following **curriculum** is presented:

Time table: Level 1- semester 1

	المجموعة الثانية (Group 2)									المجموعة الاولى(Group 1)								
	NO. ECTS Units	practical	Theoretical	Module 2 weeks 8 to 14)(الأسبوع من 8 – 14)	NO. ECTS Units	practical	Theoretical	Module 1 (weeks 1 to 6) الاسبوع من 1- 6)	day		NO. ECTS Units	practical	Theoretical	Module 2 weeks 8 to 14)(الأسبوع من 8 – 14)	NO. ECTS Units	practical	Theoretical	Module 1 (weeks 1 to 6) الاسبوع من 1- 6)	day
Week Sixteen (exam)	6	6	2.5	Physics ,thermodynamics ,and electricity	6	6	2.5	Biology	Saturday	Week Sixteen (exam)	6	6	2.5	Biology	6	6	2.5	Physics, thermodynamics, and electricity	Saturday
	6	6	2.5	General and analytical chemistry	3	3	1.5	Statistics	Sunday		3	3	1.5	Statistics	6	6	2.5	General and analytical chemistry	Sunday
					3	3	1.5	English language (1)			3	3	1.5	English language (1)					
	4	4	2	applied mathematics	4	4	2	principles of food processing	Monday		4	4	2	principles of food processing	4	4	2	applied mathematics	Monday
	6	6	2.5	Physics ,thermodynamics ,and electricity	6	6	2.5	Biology	Tuesday		6	6	2.5	Biology	6	6	2.5	Physic, thermodynamics, and electricity	Tuesday
	6	6	2.5	General and analytical chemistry	3	3	1.5	Statistics	Wednesday		3	3	1.5	Statistics	6	6	2.5	General and analytical chemistry	Wednesday
					3	3	1.5	English language (1)			3	3	1.5	English language (1)					
	4	4	2	applied mathematics	4	4	2	principles of food processing	Thursday		4	4	2	principles of food processing	4	4	2	applied mathematics	Thursday

* هذه المقررات (الموديولز) والمواعيد قابله للتغيير طبقا لنتائج الطلاب ومتطلبات الدراسه

*These courses (modules) and dates are subject to change according to students' results and study requirements

Total workload/student/semster= 30 ECTS units

Time table: Level 1- semester 2

المجموعة الثانية (Group 2)								المجموعة الاولى(Group 1)							
Module 4 weeks 8 to 14)((الأسبوع من 8 – 14)		NO. ECTS Units	practical	Theoretical	Module 3 (weeks 1 to 6) (الاسبوع من 1- 6)	day		NO. ECTS Units	practical	Theoretical	Module 4 weeks 8 to 14)((الأسبوع من 8 – 14)		NO. ECTS Units	practical	Theoretical	Module 3 (weeks 1 to 6) (الاسبوع من 1- 6)	day
Stored grain and food stuff pests		4	4	2	Business management and food production strategies	Saturday	Week Sixteen (exam)	4	4	2	Business management and food production strategies		4	4	2	Stored grain and food stuff pests	Saturday
		3	3	1.5	Fundamental of economics			3	3	1.5	Fundamental of economics						
Biochemistry		4	4	2	Application of computer science	Sunday		4	4	2	Application of computer science		6	6	2.5	Biochemistry	Sunday
Genetics		7	6	2.5	Raw materials of plant origin	Monday		7	6	2.5	Raw materials of plant origin		4	4	2	Genetics	Monday
Stored grain and food stuff pests		4	4	2	Business management and food production strategies	Tuesday		4	4	2	Business management and food production strategies		4	4	2	Stored grain and food stuff pests	Tuesday
		3	3	1.5	Fundamental of economics			3	3	1.5	Fundamental of economics						
Biochemistry		4	4	2	Application of computer science	Wednesday		4	4	2	Application of computer science		6	6	2.5	Biochemistry	Wednesday
Genetics		7	6	2.5	Raw materials of plant origin	Thursday		7	6	2.5	Raw materials of plant origin		4	4	2	Genetics	Thursday

- Elective courses

1- Stored grain and food stuff pests (E)
2- Business management and food production strategies (E)
3- Application of computer science (E)
4- World food problems (E)

Total workload/student/semster= 30 ECTS units

Time table: Level 2- semester 1

المجموعة الثانية (Group 2)								المجموعة الاولى(Group 1)								
Theoretical	Module 6 weeks 8 to 14)((الأسبوع من 8 – 14)	NO. ECTS Units	practical	Theoretical	Module 5 (weeks 1 to 6) (الاسبوع من 1- 6)	day		NO. ECTS Units	practical	Theoretical	Module 6 weeks 8 to 14)((الأسبوع من 8 – 14)	NO. ECTS Units	practical	Theoretical	Module 5 (weeks 1 to 6) (الاسبوع من 1- 6)	day
2.5	Raw materials of animal origin	5	5	2	Introduction to dairy science	Saturday	Week Sixteen (exam)	5	5	2	Introduction to dairy science	6	6	2.5	Raw materials of animal origin	Saturday
2.5	Raw materials of microbial origin	5	5	2	Food Biotechnology	Sunday		5	5	2	Food Biotechnology	7	6	2.5	Raw materials of microbial origin	Sunday
2.5	Physiology and biochemistry of plant products	5	5	2	Fast foods	Monday		5	5	2	Fast foods	6	6	2.5	Physiology and biochemistry of plant products	Monday
2.5	Raw materials of animal origin	5	5	2	Introduction to dairy science	Tuesday		5	5	2	Introduction to dairy science	6	6	2.5	Raw materials of animal origin	Tuesday
2.5	Raw materials of microbial origin	5	5	2	Food Biotechnology	Wednesday		5	5	2	Food Biotechnology	7	6	2.5	Raw materials of microbial origin	Wednesday
2.5	Physiology and biochemistry of plant products	5	5	2	Fast foods	Thursday		5	5	2	Fast foods	6	6	2.5	Physiology and biochemistry of plant products	Thursday

ourses : 1- Introduction to dairy science (E) 2- Fast foods (E) 4- Technology risks management (E) 3- Food Biotechnology (E)
load/student/semster= 30 ECTS units

Time tabe: Level 2- semester 2

المجموعة الثانية (Group 2)

Week Sixteen (exam)	NO. ECTS Units	practical	Theoretical	Module 8 weeks 8 to 14)((الأسبوع من 8 – 14)		NO. ECTS Units	practical	Theoretical	Module 7 (weeks 1 to 6) (الأسبوع من 1- 6)	day
Week Sixteen (exam)	6	6	2.5	Physiology and biochemistry of animal products		4	4	2	engineering principles and food properties	السبت
	3	3	1.5	Special industrial topics (E)		3	3	1.5	Sensory evolution and rheological characteristics(E)	الاحد
	3	3	1.5	English language(2)						
	6	6	2.5	Physiology and biochemistry of industrial Micro		3	3	1.5	Food quality control and sanitation(E)	الاثنين
	6	6	2.5	Physiology and biochemistry of animal products		4	4	2	engineering principles and food properties	الثلاثاء
	3	3	1.5	Special industrial topics (E)		3	3	1.5	Sensory evolution and rheological characteristics(E)	الاربعاء
	3	3	1.5	English language(2)						
	6	6	2.5	Physiology and biochemistry of industrial Micro		3	3	1.5	Food quality control and sanitation(E)	الخميس

المجموعة الاولى(Group 1)

Week Sixteen (exam)	NO. ECTS Units	practical	Theoretical	Module 8 weeks 8 to 14)((الأسبوع من 8 – 14)		NO. ECTS Units	practical	Theoretical	Module 7 (weeks 1 to 6) (الأسبوع من 1- 6)	day
Week Sixteen (exam)	4	4	2	engineering principles and food properties		6	6	2.5	Physiology and biochemistry of animal products	Saturday
	3	3	1.5	Sensory evaluation and rheological characteristics(E)		3	3	1.5	Special industrial topics (E)	Sunday
						3	3	1.5	English language(2)	
	3	3	1.5	Food quality control and sanitation(E)		6	6	2.5	Physiology and biochemistry of industrial Micro.	Monday
	4	4	2	engineering principles and food properties		6	6	2.5	Physiology and biochemistry of animal products	Tuesday
	3	3	1.5	Sensory evolution and rheological characteristics(E)		3	3	1.5	Special industrial topics (E)	Wednesday
						3	3	1.5	English language(2)	
	3	3	1.5	Food quality control and sanitation(E)		6	6	2.5	Physiology and biochemistry of industrial Micro.	Thursday

- Elective courses: 1- Food quality control and sanitation (E) 2- Special industrial topics (E) 3- Global trends and innovation in food processing (E) 4- Sensory evaluation and rheological characteristics (E)) Total workload/student/semster= 30 ECTS units

Time tabe: Level 3- semester 1

Week Sixteen (exam)	(Group 2) المجموعة الثانية									Week Sixteen (exam)	(Group 1)المجموعة الاولى								
	NO. ECTS Units	practical	Theoretical	Module 10 weeks 8 to 14)((الأسبوع من 8 – 14)	NO. ECTS Units	practical	Theoretical	Module 9 (weeks 1 to 6) (الاسبوع من 1- 6)	day		NO. ECTS Units	practical	Theoretical	Module 10 weeks 8 to 14)((الأسبوع من 8 – 14)	NO. ECTS Units	practical	Theoretical	Module 9 (weeks 1 to 6) (الاسبوع من 1- 6)	day
	4	4	2	Food processing operation &equipments	4	4	2	Food plant planning	Saturday		4	4	2	Food plant planning	4	4	2	Food processing operation &equipments	Saturday
	4	4	2	Small scale food industries	4	4	2	Processing of fruits &vegetables	Sunday		4	4	2	Processing of fruits &vegetables	4	4	2	Small scale food industries	Sunday
	4	4	2	Processing of cereal and cereal products	4	4	2	Enzymes in food processing			4	4	2	Enzymes in food processing	4	4	2	Processing of cereal and cereal products	
	4	4	2	Food processing operation &equipments	4	4	2	Food plant planning	Monday Tuesday		4	4	2	Food plant planning	4	4	2	Food processing operation &equipments	Monday
	4	4	2	Small scale food industries	4	4	2	Processing of fruits &vegetables			4	4	2	Processing of fruits &vegetables	4	4	2	Small scale food industries	Tuesday
	4	4	2	Processing of cereal and cereal products	4	4	2	Enzymes in food processing	Wednesday		4	4	2	Enzymes in food processing	4	4	2	Processing of cereal and cereal products	Wednesday

المجموعة الثانية (Group 2)											المجموعة الاولى(Group 1)										
	NO. ECTS Units	practical	Theoretical	Module 12 weeks 8 to 14)((الأسبوع من 8 – 14)	NO. ECTS Units	practical	Theoretical	Module 11 (weeks 1 to 6) (الأسبوع من 1- 6)	day		NO. ECTS Units	practical	Theoretical	Module 12 weeks 8 to 14)((الأسبوع من 8 – 14)	NO. ECTS Units	practical	Theoretical	Module 11 (weeks 1 to 6) (الأسبوع من 1- 6)	day
Week Sixteen (exam)	4	4	2	Maintenance of food plants machinery	4	4	2	Processing of oils and fats	Saturday	Week Sixteen (exam)	4	4	2	Processing of oils and fats	4	4	2	Maintenance of food plants machinery	Saturday
	4	4	2	Processing of meat and meat products	4	4	2	Processing of sugars ,special products & functional food	Sunday		4	4	2	Processing of sugars ,special products & functional food	4	4	2	Processing of meat and meat products	Sunday
	2	2	1.5	International issues	-	2	1	English 3			-	2	1	English 3	2	2	1.5	International issues	
	3	3	1.5	Human nutrition and applied dietetics	3	3	1.5	Food product development and marketing	Monday		3	3	1.5	Food product development and marketing	3	3	1.5	Human nutrition and applied dietetics	Monday
	3	3	1.5	Soft skills (1)	3	3	1.5	Food Safety	Tuesday		3	3	1.5	Food Safety	3	3	1.5	Soft skills (1)	Tuesday
	4	4	2	Maintenance of food plants machinery	4	4	2	Processing of oils and fats	Wednesday		4	4	2	Processing of oils and fats	4	4	2	Maintenance of food plants machinery	Wednesday
	4	4	2	Processing of meat and meat products	4	4	2	Processing of sugars ,special products & functional food			4	4	2	Processing of sugars ,special products & functional food	4	4	2	Processing of meat and meat products	
	2	2	1.5	International issues	-	2	1	English 3			-	2	1	English 3	2	2	1.5	International issues	
	3	3	1.5	Human nutrition and applied dietetics	3	3	1.5	Food product development and marketing	Saturday		3	3	1.5	Food product development and marketing	3	3	1.5	Human nutrition and applied dietetics	Saturday
	3	3	1.5	Soft skills (1)	3	3	1.5	Food Safety			3	3	1.5	Food Safety	3	3	1.5	Soft skills (1)	

* هذه المقررات (الموديولز) والمواعيد قابله للتغيير طبقا لنتائج الطلاب ومتطلبات الدراسه

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Total workload/student/semster= 30 ECTS units

Time tabe: Level 4 - semester 1

المجموعة الثانية (Group 2)

	NO. ECTS Units	practical	Theoretical	Module 14 weeks 8 to 14)((14 – 8 الأسبوع من)	NO. ECTS Units	practical	Theoretical	Module 13 (weeks 1 to 6) (6 -1 الاسبوع من)	day
Week Sixteen (exam)	4	4	2	Food chemistry and analysis	3	3	1.5	Treatment of water and food processing wastes	Saturday Sunday
					2	3	1	Human rights	
	3	3	1.5	Packaging and packages materials	3	3	1.5	Food laws and legislations	
	4	4	2	Soft Skills (2)	4	4	2	Food business, marketing &management	Monday Tuesday
	-	2	1	4 English					
	4	4	2	Food chemistry and analysis	3	3	1.5	Treatment of water and food processing wastes	Wednesday
					2	3	1	Human rights	
	3	3	1.5	Packaging and packages materials	3	3	1.5	Food laws and legislations	
	4	4	2	Soft Skills (2)	4	4	2	Food business, marketing &management	Saturday
	-	2	1	4 English					

(Group 1)المجموعة الاولي

	NO. ECTS Units	practical	Theoretical	Module 14 (weeks 8 to 14) (14 – 8 الأسبوع من)	NO. ECTS Units	practical	Theoretical	Module 13 (weeks 1 to 6) (6 -1 الاسبوع من)	day
Week Sixteen (exam)	3	3	1.5	Treatment of water and food processing wastes	4	4	2	Food chemistry and analysis	Saturday Sunday
	2	3	1	Human rights					
	3	3	1.5	Food laws and legislations	3	3	1.5	Packaging and packages materials	
	4	4	2	Food business, marketing &management	4	4	2	Soft Skills (2)	Monday Tuesday
					-	2	1	4 English	
	3	3	1.5	Treatment of water and food processing wastes	4	4	2	Food chemistry and analysis	Wednesday
	2	3	1	Human rights					
	3	3	1.5	Food laws and legislations	3	3	1.5	Packaging and packages materials	Thursday
	4	4	2	Food business, marketing &management	4	4	2	Soft Skills (2)	Saturday
					-	2	1	4 English	

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Time tabe: Level 4- semester 2

Module 16 weeks 8 to 14)((الأسبوع من 8 – 14)	Module 15 (weeks 1 to 6) (الاسبوع من 1- 6)									
		NO. ECTS Units	practical	Theoretical	المجموعة الثانية (Group 2)		NO. ECTS Units	practical	Theoretical	المجموعة الاولى (Group 1)	day
Final training	Week Sixteen (exam)	4	4	2	Project		4	4	2	Project	Saturday
		3	3	1.5	Elective course 1		3	3	1.5	Elective course 1	Sunday
		3	3	1.5	Elective course 2		3	3	1.5	Elective course 2	
		3	3	1.5	Elective course 3		3	3	1.5	Elective course 3	Monday
		3	3	1.5	Elective course 4		3	3	1.5	Elective course 4	Tuesday
		4	4	2	Project		4	4	2	Project	Wednesday
		3	3	1.5	Elective course 1		3	3	1.5	Elective course 1	
		3	3	1.5	Elective course 2		3	3	1.5	Elective course 2	
		3	3	1.5	Elective course 3		3	3	1.5	Elective course 3	Saturday
		3	3	1.5	Elective course 4		3	3	1.5	Elective course 4	

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Total workload/student/semster= 30 ECTS units