UNIVERSITY of ALQASIM GREEN
جامعة القاسم الخضراء

Bachelor of food Science & technology

بكالوريوس - علوم وتكنولوجيا الأغذية

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1. Mission & Vision Statement

Vision Statement

The academic staff of the food science and technology Department / collage of food science at Al-Qasim green University believe that students come to understand the discipline of food science through a combination of course work, laboratory experiences, practical experiments, research, and fieldwork. The combination of instructional methods leads students to a balanced understanding of the scientific and practical methods used by food specialist to make observations, develop insights and create theories about the food industry status in the planet and specially Iraq. The College of Food Sciences was established in 2012, and started the academic year 2013-2014 accepting students. The graduate student is granted a bachelor's degree in food science, the graduated student is prepared to work in scientific institutions that work in the field of science Dairy and food technology as well as the food and dairy factories, and a general understanding of domestic food and dairy production.

Mission Statement

The food science collage academic staff pursues a multifaceted charge at Al-Qasim Green University. The Program seeks to provide all students with fundamental knowledge of food technology, as well as quality educational service in terms of undergraduate and postgraduate studies and developing academic and applied research, whether on degrees or solving manufacturing problems, in addition to the guiding role for the service and development of work in the field of food science & technology. The activity of the college extends in addition to the

educational process in other areas, including conducting scientific research, developing appropriate proposals to solve problems related to the field of food technology, and holding training courses at food science and technology. The curriculum and advising have been designed to prepare graduates for their professional future, whether they choose to work as food specialist in food industry or to pursue advanced degrees in the food and dairy sciences or health sciences. The biology program also provides the necessary courses provide a key laboratory science experience for those students seeking to complete the general education requirements.

2. Program Specification

Programme code:	BSc- FST	**ECTS**	240
Duration:	4 levels, 8 Semesters	**Method of Attendance:**	Full Time

Food science and technology is a wonderfully wide-ranging subject, through the courses study in the department, the student obtains sufficient practical knowledge and skills related to the operations of food industries, and the graduate student has the ability to work in laboratories of food industries, food quality control and standardization organizations, including government food factories and the private sector.

Level 1 exposes students to the fundamentals of microbiology, suitable for progression to all programmes within the food science program group. Programme-specific core topics are covered at Level 3 food microbiology and at level 4 industrial microbiology preparing for research-led subject specialist at Levels 4. students also expose to the organic and analytical chemistry, suitable for progression to all programs within the food science and technology. Programmed-specific core topics are covered at Level 2 physical chemistry and biochemistry as well as at level 3 food and dairy chemistry preparing for research-led subject specialist at Levels 4. students also expose to principle of engineering, suitable for progression to engineering of food and dairy factory at level 2. A graduate student is therefore trained to appreciate how research informs teaching, according to the University and School Mission statements.

At Level 2 students are exposed to the principle of food processing, food packaging and nanotechnology, suitable for progression to all programmes within the food science program

group. Programme-specific core topics are covered at Level 3 food technology and dates technology and at level 4 to food development and evaluations, food technology 2, as well as meat technology. preparing for research-led subject specialist at Levels 4. A graduate student is therefore trained to appreciate how research informs teaching, according to the University and School Mission statements.

Level 3 students are exposed to cereal technology, suitable for progression to programmes within the food science program group. Programme-specific core topics are covered at Level 4 bakery & pastries. preparing for research-led subject specialist at Levels 4. A graduate student is therefore trained to appreciate how research informs teaching, according to the University and School Mission statements.

At level 4 the research ethos is developed and fostered from the start via practical, which are either embedded in lecture modules or taught in dedicated practical modules, research seminars and tutorials. There is a compulsory field course in Level 1, which students must pass in order to progress into Level 2, and optional field courses in Levels 2, 3 and 4. At Level 4 all students carry out an independent research project, which may be a xx credit library or data analysis project, or a xx credit field or laboratory based project.

Academic tutorials are held at Levels 1 and 2 with the same tutor, who is also the personal tutor, providing continuity and progressive guidance. Level 1 and 2 tutorials include a number of workshops to teach skills, e.g. library use and presentation skills, followed by assessed exercises, e.g. essays and talks, as opportunities to practice these skills in a subject-specific context. International years and Industrial placements are also offered and individual needs are discussed with the appropriate tutor and accommodated wherever possible.

3. Program Goals

1. Preparing specialized staff and researchers to work in scientific and governmental institutions, and private factories, laboratories and research centers that work in various fields of food science & technology as well as in health institutions affiliated with the Ministry of Health.
2. To provide a comprehensive education in food science & technology that stresses scientific reasoning and problem solving across the spectrum of disciplines within food technology.

3. Conducting applied research to solve industrial problems also improving the production quality of work in factories and companies working in food processing and preservation felid.
4. To prepare students for a wide variety of post-baccalaureate paths, including graduate school, professional training programs, or entry level jobs in any area of food science and technology.
5. Preparing specialized staff to work in the health control departments and food adulterations by providing the graduates by the necessary skills to manage the Quality Control Department through the most important modern systems such as ISO, HACCP, GMP.
6. Holding training courses to raise the scientific and practical experience of workers in food science and technology felids.
7. Holding scientific conferences and seminars specialized in food safety and human nutrition, food and dairy science and technology, and cooperating with local as well as national and international facilities.
8. Providing specialized scientific consultations and appropriate solutions to the problems facing food processing in our beloved country.

4. Student Learning Outcomes

Through different Modules in the department, students acquire sufficient practical knowledge and the skills for the food industry operations. Also obtain information on the historical, technical and social aspects of food technology and utilize basic knowledge toward realizing food components concepts. The Department offers a Bachelor of Science & technology in food with a concentration in food and dairy science, processing, food preservation, quality control and assurance, nanotechnology, food microbiology, bakery technology, meat technology and human nutrition. Additionally, modules curriculum and experiences are designed to prepare students, for entry into professional health programs, graduate studies, technical careers and education. Graduate student has the ability to work in food and dairy factories including government food factories and private sector, also they have the ability to work in food quality control, food assurance, food inspection and validation in the border areas.

Outcome 1

Identification of Complex Relationships

Graduates will be able to illustrate the structure and function of food components as well as Interaction and changes that accrue in food components.

Outcome 2

practical and Laboratory Studies

Graduates will be able to perform laboratory experiments and practical procedures, by using scientific equipment and computer technology while observing appropriate safety protocols.

Outcome 3

Scientific and technical Knowledge

Graduates will be able to demonstrate a balanced concept of how scientific and technological knowledge develops, including the following concepts

Graduates' students will be able to perform laboratory experiments regarding food microbiology. Through the preparation of microbial cultures or quality control test such as direct microbial count as well as total plate count etc.

Graduates' students will be able to perform laboratory experiments regarding food and dairy chemistry. Through variety of lab explements regarding food quality or food manufacturing process.

Graduates' students will be able to perform laboratory experiments regarding general, food and industrial microbiology. Through the preparation of microbial cultures or quality control test such as direct microbial count as well as total plate count etc.

Graduates' students will be able to perform laboratory experiments regarding food analysis. Through different lab experiments such as moisture, ash, protein, fat, carbohydrate and vitamin method of determinations.

Graduates' students will be able to perform full production operations and procedure while observing appropriate safety protocols regarding food processing & technology. Through the

understanding of principles and fundamentals of food manufacturing by knowing the methods of food preservations and production for all food and dairy industries. Through a well-designed module such as (principle of food processing, food technology 1&2, dairy technology, dates technology, meat and fish technology, cereal, bakery & pastries technology and nanotechnology application in food and dairy products).

Graduates will be able to demonstrate a balanced knowledge of human nutrition and how modern scientific development affected our heath and eating habits.

Outcome 5

Data Analyses

Graduates will be able to demonstrate scientific quantitative skills, such as the ability to conduct simple and complex data analyses.

Outcome 6

Critical Thinking

Graduates will be able to use critical-thinking and problem-solving skills to develop a research project paper or to solve industrial problems and improving the production quality and quantity in food and dairy factories.

5. Academic Staff

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6. Credits, Grading and GPA

Credits

Koya University is following the Bologna Process with the European Credit Transfer System (ECTS) credit system. The total degree program number of ECTS is 240, 30 ECTS per semester. 1 ECTS is equivalent to 25 student workload, including structured and unstructured workload.

Grading

Before the evaluation, the results are divided into two subgroups: pass and fail. Therefore, the results are independent of the students who failed a course. The grading system is defined as follows:

GRADING SCHEME مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group (50 - 100)	A – Excellent	امتياز	90 – 100	Outstanding Performance
	B - Very Good	جيد جدا	80 – 89	Above average with some errors
	C – Good	جيد	70 – 79	Sound work with notable errors
	D – Satisfactory	متوسط	60 – 69	Fair but with major shortcomings
	E – Sufficient	مقبول	50 – 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				
NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

Calculation of the Grade Point Average (GPA)

1. The GPA is calculated by the summation of each module score multiplied by its ECTS, all are divided by the program total ECTS.

   GPA of a 4-year B.Sc. degrees:

   GPA = [(1st module score x ECTS) + (2nd module score x ECTS) + ……] / 240

7. Curriculum/Modules

Semester 1 | 30 ECTS

Semester	No.	Module Code	Module Name in English	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
One	1	UOQ1101	Arabic language	63	37	100	4.00	S	
	2	COFS1102	Physics	64	61	125	5.00	B	
	3	COFS1103	Organic chemistry	94	81	175	7.00	C	
	4	UOQ1104	Computer	64	36	100	4.00	B	
	5	COFS1105	Mathematics	33	67	100	4.00	B	
	6	COFS1106	Microbiology	94	56	150	6.00	C	
				412	338	750	30.00		

Semester 2 | 30 ECTS

Semester	No.	Module Code	Module Name in English	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
Two	1	UOQ1207	English Language	63	37	100	4.00	S	
	2	COFS1208	Analytical Chemistry	94	81	175	7.00	C	COFS1103
	3	COFS1209	Biostatistics	94	31	125	5.00	B	COFS1105
	4	COFS12010	safty and Biosecurity	78	47	125	5.00	B	
	5	UOQ12011	Human Rights and Democracy	48	27	75	3.00	S	
	6	COFS12012	Principles of Engineering	79	71	150	6.00	C	
				456	294	750	30.00		

Semester 3 | 30 ECTS

Semester	No.	Module Code	Module Name in English	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
Three	1	COFS23013	Biochemistry	94	56	150	6.00	C	COFS1208
	2	FST23014	Biotechnology	94	81	175	7.00	C	COFS1106
	3	FST23015	Health and Food Safety	79	71	150	6.00	C	COFS1106
	4	COFS23016	Food Factory Management and producte Marketing	49	76	125	5.00	C	
	5	FST23117	Computer Applications in Food Factory	94	56	150	6.00	C	UOQ1104
				410	340	750	30.00		

Semester 4 | 30 ECTS

Semester	No.	Module Code	Module Name in English	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
Four	1	FST24018	food Packaging	48	77	125	5.00	C	
	2	FST24019	Principles of Food processing	79	71	150	6.00	B	FST23015
	3	COFS24020	Physical Chemistry	94	56	150	6.00	C	COFS1102
	4	FST24021	Nanotechnology	94	81	175	7.00	C	FST23014
	5	COFS24022	Engineering of food and dairy factory	79	71	150	6.00	C	COFS12012
				394	356	750	30.00		

Semester 5 | 30 ECTS

Semester	No.	Module Code	Module Name in English	SSWL	USSWL	SWL	ECTS	Module Type	Prerequisite Module(s) Code
				hr/sem	hr/sem	hr/sem			
Five	1	FST35023	Food Chemistry	79	71	150	6.00	C	COFS23013
	2	FST35024	Cereal Technology	94	56	150	6.00	C	FST23015
	3	FST35125	Food Microbiology	94	56	150	6.00	C	COFS1106
	4	FST35026	Water Purification and Treatment of Food Factory Waste	79	71	150	6.00	C	
	5	FST35027	Care and Storage	94	56	150	6.00	C	FST24019
				440	310	750	30.00		

Semester 6 | 30 ECTS

Semester	No.	Module Code	Module Name in English	SSWL	USSWL	SWL	ECTS	Module Type	Prerequisite Module(s) Code
				hr/sem	hr/sem	hr/sem			
Six	1	FST36028	Quality control and Assurance	79	71	150	6.00	C	0
	2	COFS36029	Dairy Chemistry	94	56	150	6.00	C	FST35023
	3	FST36030	Dates Technology	79	71	150	6.00	C	FST24019
	4	FST36131	Food technology 1	79	71	150	6.00	C	FST24019
	5	FST36132	Food Analysis	94	56	150	6.00	C	FST35023
				425	325	750	30.00		

Semester 7 | 30 ECTS

Semester	No.	Module Code	Module Name in English	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
Seven	1	COFS47033	Research methodology	33	17	50	2.00	S	
	2	FST47034	Food Additives	94	56	150	6.00	C	FST36132
	3	FST47035	food Development and Evaluation	94	56	150	6.00	C	FST36131
	4	FST47036	Enzymes	79	46	125	5.00	C	FST23014
	5	FST47037	Human Nutrition	48	77	125	5.00	C	COFS23013
	6	FST47038	Dairy Technology	79	71	150	6.00	C	FST36131
				427	323	750	30.0		

Semester 8 | 30 ECTS

Semester	No.	Module Code	Module Name in English	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
Eight	1	COFS48139	Research projects	33	67	100	4.00	B	COFS47033
	2	FST48140	Food technology 2	94	56	150	6.00	C	FST36131
	3	FST480141	Industrial Microbiology	79	71	150	6.00	C	FST35125
	4	FST48042	Meat Technology	94	56	150	6.00	C	FST35023
	5	FST48143	Bakery & Pastries	94	56	150	6.00	C	FST35024
	6	UOQ48044	Professional Ethics	33	17	50	2.00	S	
				427	323	750	30.0		

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ملاحظة: هذا النموذج تم وضعه وتقديمه من قبل مديرية ضمان الجودة في وزارة التعليم العالي والبحث العلمي