

ATTACHMENT 2

Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

**Self-Study Report for Programs
(SSRP)**

Department of Food Science and Nutrition

College of Food and Agriculture

King Saud University

1435H/2014G

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Introductory Comments

A program self-study is a thorough examination of the quality of a program. The mission and objectives of the program and the extent to which they are being achieved are thoroughly analyzed according to the standards for quality assurance and accreditation defined by the NCAAA.

A Self Study Report for Programs (SSRP) should be considered as a research report on the quality of the program. It should include sufficient information to inform a reader who is unfamiliar with the program about the process of investigation and the evidence on which conclusions are based to have reasonable confidence that those conclusions are sound.

Conclusions should be supported by evidence, with verification of analysis and advice from others able to offer informed and independent comments.

This SSRP should include all the necessary information for it to be read as a complete self contained report on the quality of the program.

The main branch/location campus must complete the entire SSRP together with the required information from all branch/location campuses that offer the program.

Each branch/location campus must complete an abridged, short version, of the SSRP; including the *Periodic Program Profile*, Profile sections (A-H) and standards 3, 4, and 11. After analysis and inclusion of required information, the main branch campus will submit the complete SSRP with the abridged versions to NCAAA.

The Self Study Report for Programs template is for an Undergraduate Program. For guidance on the completion of this template, please refer to the *Handbook for Quality Assurance and Accreditation* and to the *Guidelines for Using the Template for a Program Self-Study*.



A GENERAL INFORMATION

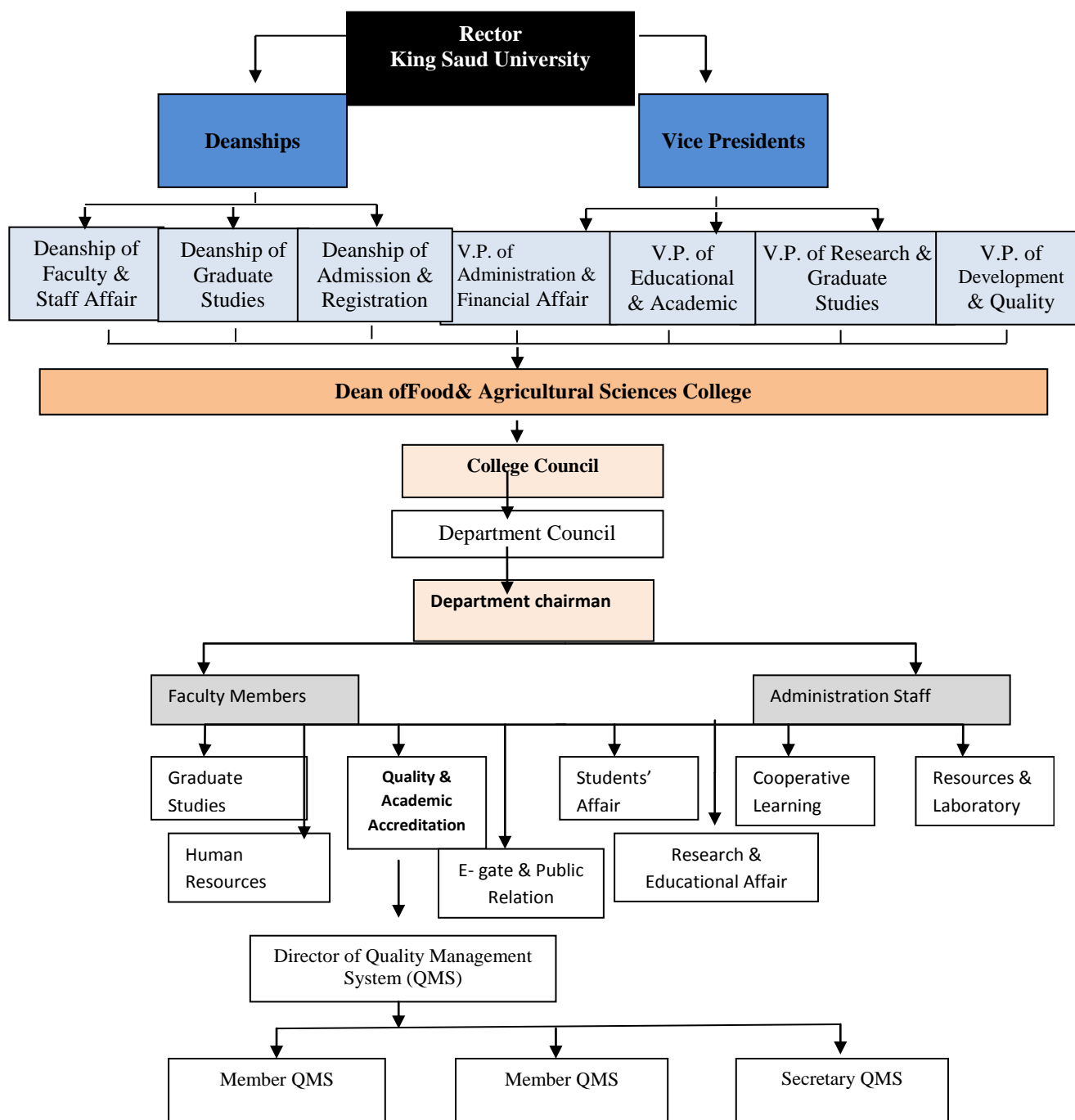
Institution King Saud University (KSU)
Title of College and Department in which the program is offered College of Food and Agriculture Sciences
Title of Program Food Science and Human Nutrition
Date of Report 2013
Name and Contact details for Dean Dr.Fahad Nasser IbrahimBarakah Phone:+966-11-467-8450 Fax No.:+966-11-467-8440 E-mail: barakah@ksu.edu.sa
Name of Person Responsible for Preparation of Report (Head of Department) Dr.Fahad AL-Juhaimi Name and contact details for person to contact for further information about matters discussed in the report and for arrangements for an external review visit. (if different from above) Dr.Fahad AL-Juhaimi, Chairman Phone: +966-11-4678408 Cell: +966-50-3217761 Fax: +966-11-4678394 faljuhaimi@ksu.edu.sa

B. GENERAL PROGRAM PROFILE INFORMATION

1. Program title and code Food Science and Human Nutrition- FSN
2. Credit hours required for completion of the program 135 credits
3. Award (s) granted on completion of the program (for community college programs, add degree granting policy) Bachelor of Agricultural Sciences

<p>4. Major tracks or pathways within the program</p> <p>Food Science or Human Nutrition</p>
<p>5. Professional occupations (licensed occupations, if any) for which graduates are prepared</p> <p>Graduates will occupy positions in the food related industry (quality assurance, research and development, production planning and management, safety and hygiene) and government agencies (food inspectors, ministries, academics, research), or as a nutritionist in the private or public sector and hospital programs.</p>
<p>6. Name of program chair/ coordinator. If a program coordinator or manager has been appointed for the female section as well as the male section, include names of both.</p> <p>Dr.FahadAL-Juhaimi: Department Chair for the program</p>

7. Branches/locations of the program. If offered on several campuses or by distance education as well as on-campus, including details. King Saud University- Main campus
8. Date of approval of program specification within the institution 1965
9. Date of approval by the authorized body (Ministry Of Higher Education “MoHE” for private institutions) and Council of Higher Education for public institutions). 1965
10. Date of most recent self-study (if any) 2012
11. Provide Institutional and Program level administrative flowcharts
Note that a number of other documents giving general information about the program should be provided in addition to the program report. See list at the end of this template.



C. PERIODIC PROGRAM PROFILE TEMPLATE B: COLLEGE DATA

College: Food and Agriculture Sciences Program: Food Science and Human Nutrition

*(On Campus Programs, Distance Learning)

No.	Faculty/ Teaching Staff Names			Nationality	Academic Rank	General Specialty	Specific Specialty	Institution Graduated From	Degree	*Study Mode	List Courses Taught This Academic Year	Full or Part Time	
	Name	M	F									F/T	P/T
1	Fahd Y.I. Al-Juhaimi	X		Saudi	Associate Professor	Food processing	Fruit and vegetable processing	University of Leeds, UK	Ph.D, F.S ¹	On campus	Meat Science and Technology, Principles of Food Science	✓	
2	Hassan A. Alkahtani	X		Saudi	Professor	Food Science and Technology	Food irradiation	University of Nebraska, USA	Ph.D, F.S	On campus	Thermal Processing, Food lipids, Food Processing and Preservation	✓	
3	Abdulrahman A. Al-Saleh	X		Saudi	Professor	Dairy science and technology	Dairy Technology	Michigan State University, USA	Ph.D, F.S	On campus	Dairy Science and Technology	✓	
4	Ali A. Ashatwi	X		Saudi	Associate Professor	Human nutrition	Nutrient and Gene Expression	University of , USA Arizona	Ph.D, H.N ²	On campus	Nutrition during the life cycle, Vitamins and minerals in Nutrition Metabolism	✓	
5	Abdullah H. Alassaf	X		Saudi	Associate Professor	Human nutrition	Vitamins	Oregon State University, USA	Ph.D, H.N	On campus	Nutritional Biochemistry, Lipids and Carbohydrates	✓	



											in Nutrition, Computer applications in Nutrition		
6	Abdelrahman S. Alkhalifah	X		Saudi	Professor	Food science	Food chemistry and analysis	University of , Rhode Island USA	Ph.D, F.S	On campus	Food Analysis, Advanced Food Analysis	✓	
7	Adnan S. Bajabir	X		Saudi	Associate Professor	Food science and nutrition	Dietary protein	Colorado State , USAUniversity	Ph.D, H.N	On campus	Diet planning, Nutrition and disease, Advance food chemistry, Nutritional aspects of energy balance, Protein in human nutrition	✓	
8	Hamza M Abu- Tarboush	X		Saudi	Professor	Food science and nutrition	Human nutrition	University of , USAMissouri	Ph.D, H.N	On campus	Principle of Human Nutrition, Selected Topics in Food and Nutrition, Methods and Aspects of Scientific Research, Nutritional Change During Processing	✓	
9	Majdi A. Osma	X		American	Professor	Human nutrition	Nutritiona l biochemis	University of Arizona, USA	Ph.D, H.N	On campus	Principles of food science and nutrition, Food	✓	

						ty				service management, Protein in nutrition		
10	Mohamed A. Alfawaz	X	Saudi	Professor	Food chemistry and analysis	Food chemistry	Kansas State University, USA	Ph.D, F.S	On campus	Food chemistry, Advance food chemistry, Edible lipids, Food processing and preservation,	✓	
11	Hassan A. Almania	X	Saudi	Professor	Cereal science and technology	Cereal technology	Kansas State University, USA	Ph.D, F.S	On campus	Cereal science and technology, Cereal chemistry and technology,	✓	
12	Ibrahim A. Alsheddy	X	Saudi	Associate Professor	Food science	Meat technology	Kansas State University, USA	Ph.D, F.S	On campus	Principles of Food and Nutrition, Meat science and technology, Food services, Advance meat science, Thermal processing of foods	✓	
13	Mohammed S. Alamri	X	Saudi	Associate Professor	Food Science and technology	Cereal science and technology	North Dakota State University, USA	Ph.D, F.S	On campus	Basic principles in food and nutrition, Principles of food science,	✓	
14	Mustafa A. Gassnim	X	Saudi	Associate Professor	Food science	Food biotechnology	University of Georgia, USA	Ph.D, F.S	On campus	Basis of food science, Food biotechnology	✓	
15	Mossfer M. Aldagal	X	Saudi	Professor	Food science	Food microbiology	Kansas State University, USA	Ph.D, F.S	On campus	Advanced food microbiology, Advance food	✓	

											safety, Food microbiology, Food sanitation and safety, Principles of food science		
16	Mohammed A. Aljasir	X		Saudi	Associate Professor	Food science	Date chemistry and technology	University of Technology, UK	Ph.D, F.S	On campus	Principles of food science, Date science and technology	✓	
17	Reshod A. Al-Shargawi	X		Saudi	Professor	Human Nutrition	Lipid metabolism	University of Arizona, USA	Ph.D, H.N	On campus	Micronutrients, Lipid chemistry and metabolism	✓	
18	Salah A. Almiaman	X		Saudi	Associate Professor	Food science	Fruit science and technology	University of Nebraska, USA	Ph.D, F.S	On campus	Principles of food science, Thermal processing of foods	✓	
19	Amal A. Alhussain		X	Saudi	Assistant Professor	Food science	Food safety	University of Leeds, UK	Ph.D, H.N	On campus	foods Principles of science Sanitation and food safety	✓	
20	Badria Abdelkrim		X	Saudi	Assistant Professor	Human nutrition	Dietary proteins	King Saud University, KSA	Ph.D, H.N	On campus	Basic concepts in food and nutrition	✓	
21	Dina M. Trabuzi		X	Saudi	Assistant Professor	Human nutrition	Clinical nutrition	King Saud University, KSA	Ph.D, H.N	On campus	Nutritional counseling, Community nutrition, Applied nutrition	✓	
22	Eman K. El-Gabri		X	Saudi	Assistant Professor	Food science & nutrition	Human nutrition	King Saud University, KSA	Ph.D, H.N	On campus	Sanitation and food safety, Cooperative learning	✓	
23	Hala M.		X	Saudi	Professor	Biochemi	Human	Cairo	Ph.D,	On campus	Dietary habits	✓	

	Mukhtar					stry	nutrition	University, Egypt	F.S		assessment, Nutrition education, Malnutrition,		
24	Hanan A. Alfawaz		X	Saudi	Professor	Food science	Biochemis try	Cairo University, Egypt	Ph.D, F.S	On campus	Nutrition biochemistry, Micro and macronutrients in food	✓	
25	ManalTawfik		X	Saudi	Assistant Professor	Food science	Food science	King saud University	Ph.D, F.S	On campus	Food analysis, Food biotechnology		
26	Moudi Al-Mussa		X	Saudi	Assistant professor	Applied biological science	Food science	Ghent University, Belgium	Ph.D, Textile	On campus	Food analysis, Food biotechnology	✓	
27	Nawal Al-Bakr		X	Saudi	Associate professor	Apparel and textiles	Apparel and textiles	Kansas State University, USA	Ph.D, H.N	On campus	Essentials of agri economics,	✓	
28	Zubiada A. Bekheat		X	Sudanese	Associate professor	Human nutrition	Lipids	King Saud University, Riyadh	Ph.D, F.S	On campus	Human nutrition, Analysis of nutrients,	✓	
	Research Staff with some teaching assignment												
1	Abdellatif A. Mohamed	X		American	Assistant Professor	Cereal Chemistr y	Starch chemistry	North Dakota State University	Ph.D, F.C	On campus		✓	
2	Hani M. Abdelmajeed	X		Egyptian	Assistant Professor	Microbiol ogy	Food Microbiol ogy	Heinrich Heine, Germany	Ph.D, F.C	On campus	Food microbiology	✓	
3	ShahzadHuss ain	X		Pakistani	Assistant Professor	Food Science and	Cereal technolog y	University of Agriculture, Pakistan	Ph.D, F.C	On campus	-	✓	

					techno logy								
4	Alfakil B. Mohamed	X		Sudanese	Professor	Food Science and Technology	Chemistry and Quality Control of Food	Yamaguchi University, Japan	Ph.D, F.C	On campus	Meat science & technology, Quality control and sensory evaluation of food, Meat sciences, Food products development & sensory evaluation	✓	
5	Kashif Gafoor	X		Pakistani	Assistant Professor	Food Science and Technology	Food bioactive compounds	Kyungpook National University, South Korea	Ph.D, H.N	On campus	Food analysis, analysis of nutrients	✓	
6	Mohamed F. Siraj	X		Egyptian	Assistant Professor	Food Science	Nutrition and Food Sciences	Minufiya university, Egypt	Ph.D, F.C	On campus	Meal planning, Community nutrition	✓	
7	Omar A. Alhaj	X		Jordanian	Assistant Professor	Food Science	Dairy biotechnology	Wales University -UK	Ph.D, F.C	On campus	Principles of food sciences	✓	
8	Alsayed.A. Ismayeel	X		Egyptian	Assistant Professor	Food Science	Biotechnology	Kiel University, Germany	Ph.D, F.C	On campus	Food biotechnology	✓	
9	Hatim A. Salamah	X		Egyptian	Assistant Professor	Food science	Dairy chemistry	Wageningen University, Netherlands	Ph.D, F.C	On campus	Dairy Technology, Dairy chemistry	✓	
1	Abdehakeem Alzahrani	X		Saudi	TA	Food science	Food chemistry	Giessen University Germany	Msc	On campus	Food analysis	✓	
2	Mohamed Hakeem	X		Saudi	TA	Food Chemistr	Fats & oils	Ain Shams Univ.	Msc	On campus	Food processing and preservation	✓	

					y		Cairo, Egypt					
3	Mohamed Aldossari	X	Saudi	A.T	Food Science	-	King Saud University, KSA	Msc	On campus			
4	Ahmad SalamALLAH	X	Saudi	A.T	Food Science	-	King Saud University, KSA	Msc	Study leave			
5	IdreesAbusultan	X	Palestinian	A.T	Food Science	-	King Saud University, KSA	Msc	Study leave			
6	Yousuf I Altoam	X	Sudanese	A.T	Food Science	-	King Saud University, KSA	Msc	Study leave			
7	MousaAlgahtani	X	Saudi	A.T	Food Science	-	AlAzhar University Egypt	Msc	Study leave	Practical in cereal technology	✓	
8	Hassan Gaafar	X	Saudi	A.T	Food Science	-	King Saud University, KSA	Msc	On campus	Practical in food microbiology	✓	
9	Abdelrahman Alahmad	X	Saudi	A.T	Food Science	-	King Saud University, KSA	Msc	On campus			
10	TawfeegAlsalmi	X	Saudi	A.T	Food Science	-	King Saud University, KSA	Msc	Study leave			
11	Faisal Alhammedi	X	Saudi	A.T	Food Science	-	King Saud University, KSA	Msc	Study leave			
12	Mohamed A. Shinaber	X	Saudi	T.A	Food Science	-	King Saud University, KSA	Msc	Study leave			
13	Gadeer M. Alshamari	X	Saudi	Lecturer	Food science	Human nutrition	King Saud University, KSA	Msc	Study leave	Assessment of nutrition status	✓	
14	Ameen M Alkhair	X	Egyptian	Lecturer	Food science	Food safety & quality	Readings University UK	Msc	On campus			
15	SaifAldeen B Ali	X	Sudanese	Lecturer	Food science	Human nutrition	King Saud University, KSA	Msc	Study leave			
16	AdilKhudare	X	Saudi	Lecturer	Food science	Dairy science	Alexandria - Tanta University,	Msc	Study leave	Quality control and sensory evaluation, Dairy chemistry &	✓	

								Egypt			technology, Food product development		
17	Khalid Almasri	X		Saudi	Researcher	Food science	Biochemistry	University of Khartoum Sudan	Msc	On campus	Nutritional biochemistry	✓	
18	Nasir A. Alshibab	X		Saudi	Researcher	Food science	Food safety	King Saud University, KSA	Msc	On campus	-	✓	

¹F.S = Food Science; ²H.N = Human Nutrition; TA = teaching assistant

Number of Graduates in the 2013

	Undergraduate Students	Post Graduate Masters Students	Post Graduate Ph.D. Students
Male	35	8	NA
Female	NA	NA	NA
Totals	35	8	NA

Apparent Student Completion Rate: The number of students who graduated in the most recent year as a percentage of those who commenced those programs in that cohort four, five, or six years previously (e.g. for a four year program the number of students who graduated as a percentage who commenced the program four years previously).

Students	Undergraduate Programs			Postgraduate Programs	
	Four Years	Five Years	Six Years	Master	Doctor
Male	3/33 = 9%	14/33 = 42%	13/33 = 39%		
Female	NA	NA	NA		
Totals	9%	42%	39%		



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Mode of Instruction – Student Enrolment (excluding preparatory program)

Students	On Campus Programs			Distance Education Programs		
	Full time	Part time	FTE	Full time	Part time	FTE
Male	100%	NA				
Female	NA	NA				
Totals	100%					

Note: FTE (full time equivalent) for part time students assume a full time load is 15 credit hours and divide the number of credit hours taken by each student by 15 (use this formula only for part time students).

Mode of Instruction – Teaching Staff (excluding preparatory program)

Number of Teaching Staff	On Campus Programs			Distance Education Programs		
	Full time	Part time	FTE	Full time	Part time	FTE
Male	100%	NA				
Female	NA	NA				
Totals	100%					

Note: Teaching staff includes tutors, lecturers, and assistant, associate and full professors. This does not include research, teaching, or laboratory assistants. Academic staff who oversee the planning and delivery of teaching programs are included (e.g. head of department, dean for a college, rector and vice rectors).

D. PROGRAM PROFILE DATA

Historical Summary

Provide a brief historical summary of the program including such things as:

- when and why it was introduced
- student Enrolment history
- relationships with industry or professional advisory groups
- graduate employment outcomes
- major program changes.

Include brief comments about what are believed to be the programs main strengths and accomplishments and any significant problems or concerns that are being addressed.

The department was established in 1965 (1385 H), as the first Department of Food Science and Nutrition among the Saudi Universities, and one of the main departments in the College of Agriculture under the name Department of Food Industries including a dairy pilot plant for students teaching. In the year 1981 (1401 H), the number of nutrition modules expanded to include the field of food and nutritional sciences, as the case at some outstanding American and European Universities. In the same year a joint master degree program was established to offer M.Sc. Degree in Human Nutrition. Program offering M.Sc. Degree in Food Science was established in 1992 (1413 H).

In 1996 (1417 H), the department name was changed to department of Food Science and Human Nutrition to reflect all the fields in the department and became as one of the recognized consultancy units in the Kingdom of Saudi Arabia and as a recognized institute in food and nutrition sciences research. Students consequently awarded B.Sc. degree in Food Science and Human Nutrition. The Department of Food Science and Nutrition ranks very high nationally in categories such as the proportion of faculty with a Ph.D. degree and the number of courses taught by full-time tenured track faculty members. Graduates of the program are easily employed at private sector and government agencies including the Saudi Food and Drugs agency, department of Commerce, and public hospitals.

The female undergraduate program was temporally suspended on 2008 (1429H) for restructuring and realignment, but the graduate program is still open. The decision was made by the university administration to do more studies on the female section outcome and its relevance to the market place. Currently, the deanship of programs is gathering data for analysis with respect to the female section.

The FSN department underwent program change in 2010. The program requirements were changed to comply with the Institute of Food Technology (IFT), where courses in statistics, product development, and internship courses were added. In addition, the department permitted students to emphasize food science or nutrition at the 8th semesters (fourth year) of FSN program. The FSN expanded its research activities by using all programed launched by the Deanship of Scientific Research and added a number of experts to the department. The addition of the new staff increased the number of publications and increased the external funds for up to 16 Million Saudi Riyals. The FSN is well connected to the food industry and other public agencies. The field experience that was made mandatory on students before graduation utilizes the food industry in the most [part as well as hospitals. This activity allows for expansion of the relationship with employer from the private or public industry. Therefore, the FSN is in constant contact with these employers so that students are able to train.

Preparatory or Foundation Program

✓

Do you offer a preparatory program **Yes** **No**

If yes, is the preparatory program is offered is it out-sourced? **Yes** ☐ **No** ☒

If a preparatory or foundation year program is provided prior to entry to this program, are all students required to take that program? **Yes** ☒ **No** ☐

NOTE: * Credits granted into the program must be included in the GPA: Yes

If yes, how many Academic credits are granted into the program and included in the * GPA

-31 credits are granted into GPA

What is the total number of credits required by the program? 135

List the courses that are granted into the program.

Year	Course Code	Course Title	Required or Elective	Credit Hours	College or Department
Prep Year					
	ENGL 140	English Language 1	Required	8	English language department
	MATH 140	Mathematics 1	Required	2	Department of mathematics
	CSK 140	Communication Skills	Required	2	
	TEC 140	Computer Skills & Information Tech.		3	College of computer science
	ENGL 150	English Language 2		8	English language department
	MATH 150	Mathematics 2 (calculus)	Required	3	Department of mathematics
	LTS 140	Learning, Thinking and Research Skills	Required	3	
	CHS 140	Health and Fitness	Required	1	College of Health sciences
	ENT 101	Entrepreneurship	Required	1	
2nd Year Semester 1	202 FSN	Principles of Food Science	Required	2 (2+0)	Food science and nutrition dept.
	101 IC	Introduction to Islamic Culture	Elective	2 (2+0)	
	101 PHYS	General Physics (1)	Required	4 (3+1)	Department of Physics
	101 BCH	General Biochemistry	Required	4 (3+1)	Department of Biochemistry
	102 BOT	Botany	Required	3 (2+1)	Department of Botany
	106 STAT	Bio Statistics	Required	2 (2+0)	Department of Statistics
	205 AGECE	Principles of Agricultural Economics	Required	3 (3+0)	Department of Agri-economics

2nd Year Semester 2	206 FSN	Principles of Human Nutrition	Required	2 (2+0)	Food Science and Nutrition Dept.
	316 FSN	Food Chemistry	Required	3 (3+0)	Food Science and Nutrition Dept.
	103 ZOO	Principles of Zoology	Required	3 (2+1)	Department of Zoology
	103 CHEM	General Chemistry (1)	Required	3 (3+0)	Department of Chemistry
	104 CHEM	General Chemistry Lab	Elective	1 (0+1)	Department of Chemistry
	211 PLPT	Agricultural Microbiology	Required	3 (2+1)	Dept. of Plant Production
	332 ZOO	General Physiology	Required	3 (2+1)	Department of Zoology
3rd Year Semester 1	315 FSN	Nutritional Biochemistry	Required	3 (3+0)	Food Science and Nutrition Dept.
	317 FSN	Food Analysis	Required	3 (1+2)	Food Science and Nutrition Dept.
	323 FSN	Food Microbiology	Required	4 (3+1)	Food Science and Nutrition Dept.
	IC 102	Islam and Community Structure	Elective	2 (2+0)	
	106 ANPR	Animal Production Systems	Required	2 (2+0)	Department of Animal Production
	108-1 CHEM	Introductory Organic Chemistry	Required	4 (3+1)	Department of Chemistry
3rd Year Semester 2	325 FSN	Sanitation and Food Safety	Required	2 (2+0)	Food Science and Nutrition Dept.
	352 FSN	Food Processing and Preservation	Required	3 (2+1)	Food Science and Nutrition Dept.
	372 FSN	Assessment of Nutritional Status	Required	2 (1+1)	Food Science and Nutrition Dept.
	376 FSN	Diets Planning	Required	2 (1+1)	Food Science and Nutrition Dept.
	456 FSN	Quality Control and sensory Evaluation of Foods	Required	2 (1+1)	Food Science and Nutrition Dept.
	103 IC	Economic System in Islam	Elective	2 (2+0)	
	201 PPS	Principles of Plant Production	Required	3 (2+1)	Department of Plant Production
	470 CHS	Nutrition and Disease	Required	3 (3+0)	College of Health Science

4th Year Semester 1	FSN 400	Cooperative Learning	Required	12	Food Science and Nutrition Dept. in collaboration with outside organizations
4th Year Semester 2 1st option	104 IC	Principles of Political System in Islam	Elective	2 (2+0)	
	Supporting Courses for Cooperative Learning in Food Science Fields Choose 15 credit hrs				
	420 FSN	Food Biotechnology	Required	2 (2+0)	Food Science and Nutrition Dept.
	422 FSN	Food Service	Required	2 (2+0)	Food Science and Nutrition Dept.
	433 FSN	Dairy Science and Technology	Required	4 (2+2)	Food Science and Nutrition Dept.
	435 FSN	Dates Science and Technology	Required	2 (2+0)	Food Science and Nutrition Dept.
	437 FSN	Cereal Science and Technology	Required	4 (2+2)	Food Science and Nutrition Dept.
	439 FSN	Meat Science and Technology	Required	4 (2+2)	Food Science and Nutrition Dept.
	471 FSN	Development of Food Products	Required	2 (1+1)	Food Science and Nutrition Dept.
	320 AGEN	Principles of Food Process Engineering	Required	3 (2+1)	Food Science and Nutrition Dept.
4th Year Semester 2 2nd option	104 IC	Principles of Political System in Islam	Elective		
	Supporting Courses for Cooperative Learning in Human Nutrition Fields Choose 15 credit hrs				
	361 FSN	Nutrition during the Life Cycle	Required		Food Science and Nutrition Dept.
	422 FSN	Food Service	Required		Food Science and Nutrition Dept.
	464 FSN	Community Nutrition	Required		Food Science and Nutrition Dept.
	465 FSN	Applied Nutrition	Required		Food Science and Nutrition Dept.
	472 FSN	Problems of Nutrition in Developing Countries	Required		Food Science and Nutrition Dept.
	477 FSN	Micronutrients	Required		Food Science and Nutrition Dept.
	481 FSN	Selected Topics in Food and Nutrition	Required		Food Science and Nutrition Dept.
	104 PA	Principle of General	Required		Food Science and

		Administration			Nutrition Dept.
	463 SOC	Medical Social Work	Required		
Include additional years if needed					

Statistical Summary

NOTE:FOR ALL TABLES IN THIS SECTION A SEPARATE TABLE MUST BE USED FOR EACH BRANCH/LOCATION CAMPUS.

Student Enrolment(Not including preparatory or foundation programs)

Students	On Campus Programs			eLearning Education Programs		
	Full time	Part time	*FTE	Full time	Part time	*FTE
Male	90 ¹					
Female						
Total						

¹These students were enrolled in the FSN program but not necessarily all will continue. Program managers are using Food Chemistry course (FSN 316) as indicator for those who will continue in the program. The students were assigned to the department by the Registrar Office of KSU.

NOTE: To calculate effective full time equivalents (FTE) for part time students assume a notional full time load is 15 credit hours and divide the number of credit hours taken by each student by 15. (Use this formula only for part time students)

Confirmed Enrolment at the beginning of the current academic year

Level/Year of Study	Male	Female	Total
First Year	90	NA	90
Second Year	48	NA	48
Third Year	49	NA	49
Fourth Year	49	NA	49
Fifth Year (if applicable)			
Sixth Year (if applicable)			
Total	236	NA	236 Total number of students in the FSN

Faculty: FTE is calculated as 12 credit hours. The number should not include research, teaching or laboratory assistants.

No. of Staff	On Campus			eLearning Education		
	Full time	Part time	FTE	Full time	Part time	FTE
Faculty	16	NA		NA	NA	NA
Teaching staff	18	NA		NA	NA	NA
Total	34					

NOTE: The number of faculty and teaching academic staff should include:

- Faculty: Assistant, Associate and Full Professors whether involved with teaching, research or both teaching and research.
- Teaching staff: Lecturers, Teaching Assistants, Practical Preceptors

- The number should not include Technicians and Laboratory Assistants.

Faculty and Teaching Staff Highest Qualifications

	Ph.D.		Masters		Others		Total	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Male	18	52.9	16	47.1	NA	NA	34	100
Female	NA	NA	NA	NA	NA	NA	NA	NA
Total	18	52.9	16	47.1	NA	NA	34	

Average Faculty Workload and Class Enrolment

- a. Calculate the average number of credit hours taught by the **full-time faculty** for the past year and calculate the average number of students enrolled per class taught.

Full-time Faculty	Average Credit Workload 1st Semester	Average Credit Workload 2nd Semester	Average Class Enrolment 1st Semester	Average Class Enrolment 2nd Semester
Male	12	12	30	50
Female	NA	NA	NA	NA
Average.				

Provide Analysis – Analyse the entire table and provide detailed class Enrolment analysis of the different instructional levels.

1. Workload Analysis:

According to regulations, full professors are required 9 hours/semester, while 12 were set for associate and 14 for assistant professor. The average teaching load of faculty is distributed between teaching and graduate students advising as well as internship advising. In fact, an average of 7 credits come from teaching and the other three are gathered from the other two sources i.e., graduate students and internship advising

2. Class Enrolment Analysis:

The enrolment of students during the second semester is higher because these students didn't register because of the prerequisite of some course as it will be explained later in this report. Although class enrolment looks high relative to the teaching load, it is due to the diversity of teaching load (load is comes from sources other than teaching). In addition, a class might have more than one section taught by more than one instructor.

3. Class Enrolment Level Analysis (Level means post or under graduate levels and year to year levels):

The variation in the enrolment level is due to the first two years spent at the prep year and the completion of college requirements. At FSN department, the year to year enrolment is very consistent because these students, once they become part of the department their registration is regulated by the number of credits they can take and by class pre-requisites. For instance, students are not allowed to register at the 7th semester (internship) before they complete 70 credit hours. Graduate students can register for courses first and then for thesis credit hours.

Average Credit Workload – Add the total number of credit hours taught by each individual teaching faculty member, add them all together, and divide by the full-time or part-time number of faculty members.

Average Class Enrolment – Add the total number of students enrolled in all of the classes taught by each individual teaching faculty member and divide the total by the number of classes taught. Add all the totals together and divide by the total number of faculty members.

b. Calculate the average number of credit hours taught by the **part-time faculty** for the past year and calculate the average number of students enrolled per class taught.

Part-time Faculty	Average Credit Workload 1st Semester	Average Credit Workload 2nd Semester	Average Class Enrolment 1st Semester	Average Class Enrolment 2nd Semester
Male	NA			
Female				
Average				
<p>Provide Analysis – Analyse the entire table and provide detailed class Enrolment analysis of the different instructional levels.</p> <p>1. Workload Analysis: NA</p> <p>2. Class Enrolment Analysis: NA</p> <p>3. Class Enrolment Level Analysis (Level means post or under graduate levels and year to year levels):NA</p>				

- c. Calculate the average number of credit hours taught by the **full-time teaching staff** for the past year and calculate the average number of students enrolled per class taught.

Full-time Teaching Staff	Average Credit Workload 1st Semester	Average Credit Workload 2nd Semester	Average Class Enrolment 1st Semester	Average Class Enrolment 2nd Semester
Male	17	17	30	50
Female	NA	NA	NA	NA
Average	17	17	30	50
<p>Provide Analysis – Analyse the entire table and provide detailed class Enrolment analysis of the different instructional levels.</p> <p>1. Workload Analysis: All credit hours for teaching staff are allocated for teaching labs and elaboration of the lectures given by faculty members of the department</p> <p>2. Class Enrolment Analysis: The number of students enrolled in lab are accommodated by the teaching staff, but when the number of students is high, more than one lab session will be held</p> <p>3. Class Enrolment Level Analysis (Level means post or under graduate levels and year to year levels): The variation in the enrolment level is due to the first two years spent at the prep year and the completion of college requirements. At FSN department, the year to year enrolment is very consistent because these students, once they become part of the department their registration is regulate by the number of credits they can take and by class pre-requisites. For instance, students are not allowed to register at the 7th semester (internship) before they complete 70 credit hours. Graduates students can register for courses first and then for thesis credit hours.</p>				

- d. Calculate the average number of credit hours taught by the **part-time teaching staff** for the past year and calculate the average number of students enrolled per class taught.

Part-time Teaching Staff	Average Credit Workload 1st Semester	Average Credit Workload 2nd Semester	Average Class Enrolment 1st Semester	Average Class Enrolment 2nd Semester
Male	NA	NA	NA	NA
Female	NA	NA	NA	NA
Total				
<p>Provide Analysis – Analyse the entire table and provide detailed class Enrolment analysis of the different instructional levels.</p> <p>1. Workload Analysis: NA</p> <p>2. Class Enrolment Analysis:</p>				

NA

3. Class Enrolment Level Analysis (Level means post or under graduate levels and year to year levels):

NA

e. Self-Study Process

Provide the following:

- Provide a summary description of the procedures followed and administrative arrangements for the self- study.
- Provide a quality assurance organization flowchart.
- Describe membership and terms of reference for committees and /or working parties.

For this self-study (2013) a special task force committee was appointed and headed by the department chair. Multiple meetings were held (9-12 hrs/week) for reviewing gathered information, statistics, surveys and documents related to the program and the related 11 NCAAA standards. Although the present self-study was initiated based on the previous study and on the multiple external review bodies input, it was intended to reflect the many changes and developments that took place in the department in the period between the two studies. Multiple smaller task forces and groups worked to help prepare the evidences for this self-study. An overseeing committee comprised of the chair, three faculty members, and a secretary, was appointed by the department chair to manage the SSR write-up. The overseeing committee of the department ordered the formation of a subcommittee for every one of the 11 standards. Each subcommittee is headed by a faculty member supported by two other members and a secretary. Instructions were given to subcommittees how to prepare the SSR portion of the standard assigned to them. After two weeks, meetings were called and chaired by the department chair for every subcommittee separately (for each standard). Progress was discussed during these meeting and more instructions were provided for them and were given 3 weeks to submit their write-up. As the subcommittees started submitting their write-up, a weekly meeting were held for the overseeing committee to assess progress made. Soon after that, the overseeing committee started assembling the SSR portions that deals with the general information at the beginning and the end of the SSR.

The whole process for preparing and submitting the first draft was about 4 months. Throughout the SSR writing process, the NCAAA guidelines were followed and all relevant information was included in the write-up. The flow chart below showed the members of the overseeing committee and their responsibilities. The QMS team at FSN designated a special room and database for QMS documentation and data accessibility. Although the QMS team is directing the activity of the process, all faculty members of the department are involved at some level. Other administrative staff members at the department are involved as well.

Food Science and Nutrition Department
Quality Management System

Dr.Fahad Aljuhaimi¹
 FSN, Department Chair



Dr. Abdellatif A. Mohamed²
 FSN, Director of Quality
 Management System (QMS)



Tariq Noorulhassan³, QMS member
 Dr.Kashif Ghafoor⁴, QMSmember
 Mr. Adil Khudare⁵, QMS Secretary

¹Department Chair overseas the whole process and assign responsibilities to QMS team members

²Coordinates the QMS daily activities including data collection and analysis, and communication with CFAS and KSU. Responsible for writing the SSR and the periodic reporting on the QMS progress.

³In charge for gathering information related to students activities including registered, graduated, statistical interpretation of student activities during studding and after graduation.

⁴Responsible for gathering information regarding teaching and non-teaching staff activities at FSN

⁵Manages student survey and executes statistical analysis and provides clerical support

E. MISSION, GOALS AND OBJECTIVES

1. Mission Statement of the Program (Insert the Mission Statement).

The vision of the Department of Food Science and Nutrition is to ***"achieve excellence in teaching and learning, scientific research and community service in the areas of food and human nutrition"***.

The mission of the Department of Food Science and human Nutrition is to ***"effectively contribute to the development of the areas of food and human nutrition. In Addition, the department is focused on community service through human resources qualification, creating an environment of excellence in scientific research, deepening the knowledge and dissemination of food and nutrition awareness, as well as providing advisory services and exchange of experiences with partners."***

Use the following table and write clear, measurable goals and objectives of the program and align each one with quality performance indicators and the target benchmark.

NOTE: A SEPARATE TABLE MUST BE USED FOR EACH BRANCH/LOCATION CAMPUS (This table is not referring to KPIs or the program KPIs).

2. Goals	3. Objectives for each goal	4. Performance Indicators	5. Target Benchmarks*
1. To prepare food scientists and nutritionists who possess knowledge, skills and determination that will make certain that they are proficient to perform their duties safely and effectively.	1. Recruit high achieving students to the program 2. Provide undergraduate, graduate, and professional curricula and programs that enhance disciplinary knowledge and analytical, creative thinking, and leadership skills 3. Enhance existing research programs and develop new research initiatives by 4. Coordinate, support, and target additional resources to maintain and enhance areas of research excellence and contribute to local and regional economic development 5. Increase outreach	1. Students overall evaluation of the quality of their learning experiences at the institution. (Average rating of the overall quality of the program on a five point scale in an annual survey of final year) 2. Proportion of courses in which student evaluations were conducted during the year. 3. Proportion of programs in which there was independent verification within the institution of the standards of student achievement during the year. 4. Ratio of students to teaching staff. 5. Students overall rating on the quality of their	1. FSN department is targeting 4 out of 5 (80%) positive response 2. The department is targeting 100% course evaluation annually 3. The target for independent evaluation of students standard was set as 50% 4. Ratio of students to teaching staff target was set as 1:19 5. Students rating of course quality was fixed at 4 out of 5 (80%) positive response

	and engagement activities and public knowledge and support of the Department of Animal and Food Sciences	courses.	
2. To ensure that graduates have appropriate scientific base for lasting learning and further training in any topic of food science or nutrition.	<p>1. The time spent in the program will be comparable with the type and number of courses offered every semester.</p> <p>2. Courses content will be in line with the direct application in the marketplace together with supporting courses</p> <p>3. The program follows Institute of Food (IFT) Technology of Chicago recommendations for food and nutrition including curriculum design and other aspects of food and nutrition.</p>	<p>1. Percentage of students entering programs who successfully complete first year.</p> <p>2. Proportion of students entering undergraduate programs who complete those programs in minimum time.</p> <p>3. Proportion of students entering post graduate programs who complete those programs in specified time.</p> <p>4. Proportion of graduates from undergraduate programs who within six months of graduation are:</p> <p>(a) employed</p> <p>(b) enrolled in further study</p> <p>(c) not seeking employment or further study</p>	<p>1. Percentage of students entering programs who successfully complete first year, target was set at 4.5/5 (90%).</p> <p>2. The overall rating of graduates on the quality of their program from answering the question "I am satisfied with my experience in this college" (the target is 80%)</p> <p>3. Proportion of students entering graduate programs who complete those programs in the specified time which is four years (the target is 2.5/5 (50%))</p> <p>4. The overall rating of students on the quality of internship from answering the Question; The activities taught me life-long learning (the target is 85%)</p>
3. To provide national studies related to food and human nutrition, and diversify sources of funding for the department or community service.	<p>1. The department encourages faculty to seek funding by submitting grant proposals to different agencies.</p> <p>2. Provide suitable space for research and hire trained staff in research labs.</p> <p>3. Establish safety lab procedures and strictly follow OSHA safety recommendation.</p>	<p>1. Average overall rating of adequacy of facilities and equipment in a survey of teaching staff.</p> <p>2. Number of refereed publications in the previous year per full time equivalent member of teaching staff. (Publications based on the formula in the Higher Council Bylaw excluding conference presentations)</p> <p>3. Proportion of full time member of teaching staff</p>	<p>1. The overall rating of faculty by answering the question; "Were you consulted and participated in the decision making process in the department regarding academic and administrative issues such as self-evaluation?" (Target is 85%)</p> <p>2. The overall rating of faculty by answering the question; "Does the department facilitate for faculty professional development such as computer training, providing scientific</p>

		<p>with at least one refereed publication during the previous year.</p> <p>4. Number of papers or reports presented at academic conferences during the past year per full time equivalent members of teaching staff.</p> <p>5. Research income from external sources in the past year as a proportion of the number of full time teaching staff members.</p>	<p>journals, and electronic library?" (85% target)</p> <p>3. The target for published refereed papers is at least one</p> <p>4. The proportion of faculty members with at least one paper and attend conference was set as 80% (4 out of 5)</p> <p>5. The department is targeting 4 out of 5 faculty members to attract external funding for research.</p>
<p>4. To help graduates develop systematic and critical thinking and problem solving skills when managing problems and dealing with issues related to food and nutrition throughout the community of the kingdom of Saudi Arabia as well as disseminate nutritional awareness.</p>	<p>1. A number of courses were designed to help students develop critical thinking skills</p> <p>2. After internship, students are required to write a detailed report and present their activity in front of a team of faculty members and defend their observations over what they did and what it means.</p> <p>3. faculty members are assigned a number of students to visit on site during their internship training and meet with their internship supervisor</p>	<p>1. Proportion of full time teaching and other staff actively engaged in community service activities.</p> <p>2. Effect of internship education programs provided as a percentage of the number of credits required by FSN department.</p> <p>3. Student evaluation of academic and career counselling. (Average rating on the adequacy of academic and career counselling on a five point scale in an annual survey of final year)</p>	<p>1. The proportion of faculty involved in community service is set at 30 to 70% (3-3.5 out of 5)</p> <p>2. The overall rating of alumni on program quality including the internship program from answering the question: "The program encourages critical thinking and the development of innovative skills." Target was set at 4 out of 5 students agree (80%).</p> <p>3. The overall rating of alumni on the quality from answering the Question: "When I compare myself with graduates from other universities I found my knowledge and skills comparable." FSN is targeting 4 out of 5 positively response.</p>
<p>*Benchmarks related to questionnaires targets 60-85% positive response but at this point the department is not reaching that target. In addition, other benchmarks are used by comparing the program with other international programs.</p> <p>Provide a list of the strengths and recommendations for improvement based on an assessment of this data.</p>			

GOALS refer to the major program aims, ambitions, and purposes (**What** the program is attempting to accomplish?)

OBJECTIVES refer to specific action points the program has in place to achieve each goal (**How** is the program attempting to accomplish the goals).

PERFORMANCE INDICATORS refer to the measurement criteria used to evaluate each objective.

TARGET BENCHMARK refers to the intended or desired outcome that is anticipated when each goal is complete.

SUMMARY ANALYSIS refers to a study comparing all the target benchmarks with the actual outcomes determined

by the performance indicators (Examine all the goals together and compare and contrast the expected target results with the actual results provided by the performance indicators.). The summary analysis is an overall assessment of the success that the program in achieving its goals.

2. Program Evaluation in Relation to Goals and Objectives for Development of the Program

NOTE:

- I. Reports on these items should be expanded as necessary to include tables, charts or other appropriate forms of evidence, including trends and comparisons with past performance, or with other institutions where relevant.)
- II. Information should be provided on performance indicators that relate directly in alignment with the mission, goals and objectives

1. State goal/objective

To prepare food scientists and nutritionists who possess knowledge, skills and determination that will make certain that they are proficient to perform their duties safely and effectively.

Target benchmark or standard of performance

FSN department is targeting 4 out of 5 (80%) positive response regarding students experience at KSU, 100% course evaluation annually, 2.5/5 or 50% for independent evaluation of students' achievement, 1:17 ratio of faculty to student, and 4 out of 5 (80%) positive response for course quality.

Result achieved or actual benchmark

About 3.2 out of 5 students were satisfied with their experience in the department (64%), whereas 100% course evaluation every semester was done. FSN department reached 1:14 faculty student ratio rather than 1:17. Survey results showed that students' satisfaction with course quality was 3.7/5. The internship program benefit was highly appreciated by the graduates who gave it score of 4.1/5 (81%).

Comments and analysis

The department didn't meet the target of the overall experience of students of the department who participated in the survey. To meet its goal, the department needs to look at possible reasons for the 64% satisfaction rather than 80% including comparing data related to students experience at the institution with the experience at the department.

The department met its target by surveying all courses taught at the department level. The data is analysed statistically and discussed by faculty members for possible indicators. The department exceeded its target for faculty student ratio which can reflect well on faculty availability for students and for carrying other activities related to other objectives of the department such as research projects and bringing external funding and community service. Students' opinion on course quality was close to their overall experience about the department. One can infer from this data that courses quality played a major role on students' opinion of the department.

The low score of the number of students who finish the program within the specified time which is 4 years could be attributed to the inability of the students to take summer courses. This could be addressed by opening at least two summer courses. In addition, students come to department after they complete the prep year and take some courses at the science department which are considered prerequisite for courses within the department that could be another reason for the delay. As a final note, about 70% of the students complete the program within 4

years and one semester (Figures E1 and E2). In figure E1, it can be concluded that, most students graduate in more than 4 years, but in the year 2013/2014 first semester, 75% of the students graduated on time unlike previous years where the graduation was around 20% on the first four years and more than 50% graduated in around 5 years (10 semesters).

2.State goal/objective

To ensure that graduates have appropriate scientific base for lasting learning and further training in any topic of food science or nutrition.

Target benchmark or standard of performance

This objective was measured by soliciting feedback from alumni and major stake holders in the marketplace regarding the performance of the graduates. The performance of the graduates who seek higher degrees is another way to assess the program. These measures will allow program managers to measure the relevance of the program to the local economy of the Kingdom and the academic foundation of the students seeking higher degrees. The benchmark target set for this objective was based on a survey of FSN graduates with regard to the following question: "Are you satisfied with your experience in this college?" (FSN target is 4/5 or 80%)? "Were you able to complete the programs in four years?" (FSN target is 2.5/5 or 50%). "Is the time you spent at FSN taught me life-long learning?" (Target is 4.3/5 or 85%).

Result achieved or actual benchmark

Based on the results of the feedback received, alumni thought that the department did prepare them for the marketplace. On the question of lifelong learning, 3.33/5 were satisfied, where only 17% of students completed the program in 4 years. Alumni survey showed their overall satisfaction by a score of 3.1/5 (62%).

Comments and analysis

The highest grade of the survey was given to the questions related to benefits of the internship program, the good reception of alumni when visiting the department, and that the department is considered a good scientific reference for alumni. The lowest score was noted for questions related to not very strong enough relationship between faculty and students, the department does not solicit alumni opinion on issues related to the program, and that alumni do not participate in department's activities.

Graduates of the program who are sent by the department for higher education abroad are performing well and reporting to the department when receiving their degrees and join the staff. This is a good indicator of the solid undergraduate education are getting at FSN department. In addition, FSN alumni who seek higher education on their own find no problems in getting acceptance at different universities in the USA, UK, Canada, or Australia.

The analysis of the alumni survey points to several areas that need improvement:

1. Stay in contact with alumni and keep them informed and involved in FSN activities.
2. Facilitate for stronger relations between faculty and students
3. Increase the activities that help the students to become more innovative and creative in their thinking.
4. Expand the survey to cover more alumni who are in the marketplace or seeking higher education.

Fig E.1: Total number of students graduated in 8, 9, 10, 11, 12, 13, and 14 semesters in the six years (1423H to 1428H)

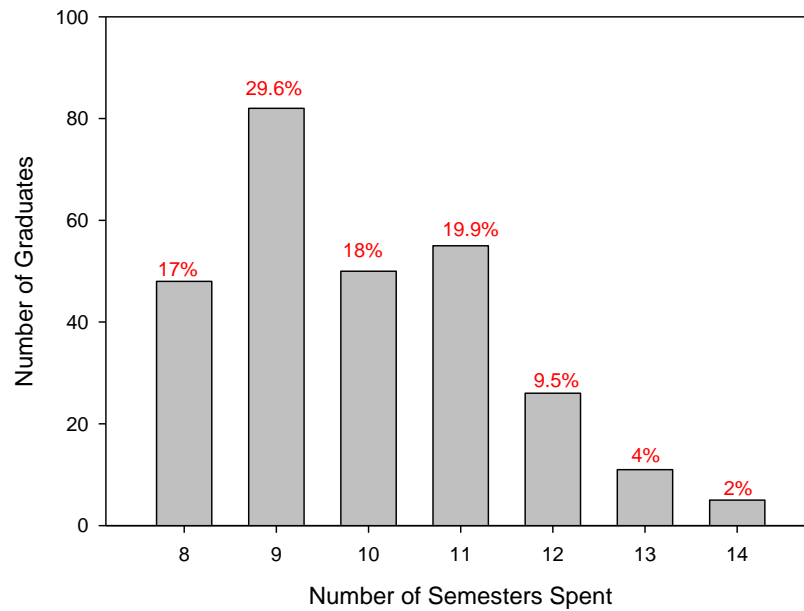
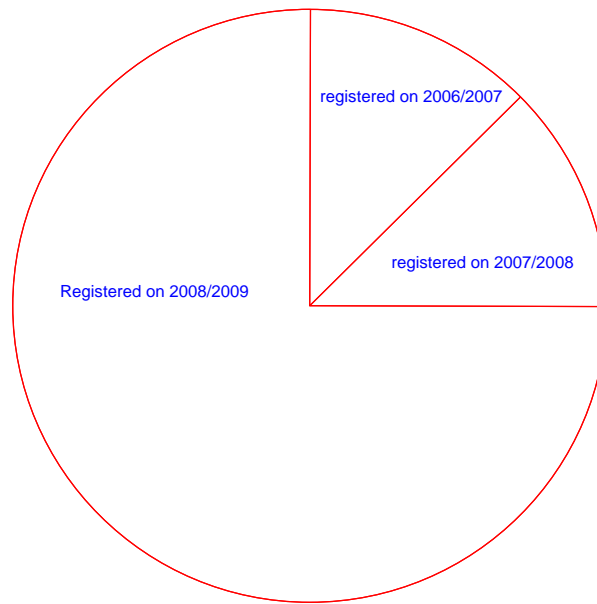


Fig E.2: Profile of Students who Graduated on 2013/2014 and registered on 2007/2008, 2008/2009, and 2009/2010



3. State goal/objective

To provide national studies related to food and human nutrition, and diversify sources of funding for the department or community service.

Target benchmark or standard of performance

The overall rating of faculty by answering the question: "Were you consulted and participated in the decision making process in the department regarding academic and administrative issues such as self-evaluation?" Target was set at 4.3/5 (86%), whereas, faculty development program by the department targeted 4.3/5 (86%). At least one referred paper per faculty per year was targeted; meanwhile up to 4/5 (80%) faculty members were expected to attract external funding.

Result achieved or actual benchmark

Regarding the participation of the faculty on the decision making through committees within the department, the faculty were 76% satisfied with the process, whereas about 71% was given to the question of the availability of training and professional development for the faculty. At 75%, the faculty are satisfied with the facilities in the department such as class rooms and teaching as well as research labs. External funding target was 1.9/5 (38%) of faculty are actively bringing external funding.

Comments and analysis

Although faculty are consulted about decision making specially lab equipment purchasing, some improvement regarding faculty participation on the decision making could be targeted in the future. External funding is given based on competition with other colleges for the allocated funds; therefore, more faculty participation increases chances for grant award.

4. State goal/objective

To help graduates develop systematic and critical thinking and problem solving skills when managing problems and dealing with issues related food and nutrition throughout the community of the kingdom of Saudi Arabia as well as disseminate nutritional awareness.

Target benchmark or standard of performance

The overall rating of alumni on the quality of from answering the Question: "When I compare myself with graduates from other universities I found my knowledge and skills are comparable" (target was 4 out of 5). The overall rating of alumni on the quality of from answering the Question: "The curriculum of the program help me in my career" (4.5 out of 5 was targeted). The department targeted alumni opinion whether the program help them develop critical thinking (target was 4 out of 5).

Result achieved or actual benchmark

With 64% score, graduates of the program thought that they received knowledge that help them to develop their critical thinking and problem solving skills, 3.6 out of 5 thought that the program helped them in their career, and 4 out of 5 were able to compare themselves with graduates from other universities.

Comments and analysis

What the department needs to do is to provide more academic advice to their students and communicate to them the availability of this service. Alumni thought that computer application in their field was not to their satisfaction as well as less choices between courses offered, and academic advise was not offered as expected (only 1.7/5 (34%) were satisfied). To improve results, more computer application and broaden the course choices for students. Program managers can also do better job on providing more information to their seniors regarding the marketplace and put more emphasis on the courses that are directly related to local commodities.

F. PROGRAM CONTEXT

1. Describe the significant elements in the external environment (including any important recent changes)

General economic, political, social, and market changes and trends in the region:

The key factors and trends associated with the regional context pertaining to education are summarized as follows:

1. *The major issues of oil depletion and high population growth.*
Low Saudi school outcomes: In a 2007 Trends International Math and Science Study (TIMSS) of 8th graders, Saudis ranked 62nd out of 64 countries in Math, and 51st out of 56 countries in Science, and 80% of Saudi 8th graders showed 'little to no Math skills' in TIMSS. This data have a direct effect on the types of students apply for Food Science and Nutrition program. These facts had overall effect of the readiness of students who enter the program. The direct effect on FSN can be felt on the introductory year which is mandated by KSU and takes 36 credits out of the 135 credits required by FSN for program completion. This fact put pressure of the program and the type of courses should be offered.
2. *Shifting Saudi demographics and job market needs:* In the KSA there is a large youth population (over 40% are below the age of 15), with a high youth unemployment rate despite the strong demand for highly-skilled labour (30% of Saudi youth are unemployed). This fact of course pushed more youth to get a college degree and start competing for opportunities. This was felt in the number of students attending FSN.
3. *Increasing support for the Saudi higher education sector:* A substantially larger budget for the educational sector reaching SAR 120 billion in 2009 compared to SAR 94 billion in 2007. In addition, 2009 has seen the establishment of King Abdullah University of Science and Technology, which is the first Saudi post-graduate university. The effect of this support was clearly felt at FSN. The labs are much more equipped than before, more training programs for faculty members, a number of programs that connect FSN faculty with their peer in the international arena, more teaching assistants were sent abroad for higher degrees.
4. *Entry of competing outstanding international universities into the region:* Qatar has attracted institutions such as Cornell University, Carnegie Mellon and Georgetown University; and the UAE has attracted the London Business School, the Sorbonne, and INSEAD. This creates a competitive environment for Saudi universities. So that KSU can compete in the region, a number of programs were established to put KSU at a higher position internationally such as visiting scientist and the attraction program. These programs allowed FSN to work with experts in the area of food and nutrition and generate a good number of publications and presentations at international conferences.
5. *Desired shift in the Kingdom towards a knowledge-based economy:* The national leadership has clearly emphasized the importance of creating a competitive knowledge-based economy (e.g., professional knowledge services, healthcare, engineering, education), and has designated Saudi's six economic cities to focus on knowledge industries. This requires appropriate activities at the university level in the Saudi Kingdom such as research projects and growth on the number of graduate students. The department of FSN is in line with this prospective and is actively working with food companies and hospitals to determine their needs. This contact is translated to knowledge given to students during studying and after. The internship program is one

of these activities that allow students to get hands on experience.

More specific changes and trends related to food science and nutrition education:

The rapid demand for food security, quality, and availability, necessitated the adaption of more market oriented food science and nutrition program. The growth of the food industry in the Kingdom played a vital role in shaping the program, as well. The food industry in Saudi Arabia grew to 871 companies that employ over 58,000 workers. These companies include dairy, dates, bakery, meat, snake foods, packaging, and others. The changing life style of the population demanded new ways of food service such as ready to eat meals. In terms of quality and availability, the program introduced new ways and experience in food processing and preservation for specific products such as fresh dates, where dates technology is developing to extend fresh date's season to meet consumer's demands. In the area of nutrition, the program is directed to meet the nutritional needs of the community such as the participation of the graduates in hospitals as team members. The fast growth on the number of hospitals in the kingdom is another good reason for the expansion and development of the nutrition program.

At the University level:

Major changes and improvements have taken place at the university level that has affected the program in a very positive way. KSU's major transformation into a smaller, more active, more compact and research-oriented institution based on the KSU 2030 vision, is having tremendous implications, calling for a new mindset, procedures, human, informational, and resource organizational systems, that are beginning to unfold and take shape.

In June 2009 and in its continuous search for excellence, KSU embarked in an ambitious project by redefining its future strategic directions. This has resulted in a new 2030 vision and mission as well as key strategic objectives included in the new Strategic Plan for the University. The new vision of KSU is : *"To be a world-class university and a leader in building the knowledge-based society"* and the new mission is: ***"To provide distinctive education, produce creative research, serve the society and contribute in building the knowledge-based economy and community through learning, a creative thinking environment, an optimal use of technology, and effective local and international partnerships"***.

To pursue the goals of enhancing students' skills, and supporting their competitiveness in the labour market, KSU initiated the Preparatory Year Program that emphasizes English language skills, computer skills, thinking skills, communication skills and entrepreneurship. Furthermore, the University leadership's ambitions for quality and improvement led to the creation of new deanships, including:

1. The Deanship of Quality: FSN participated in a number of workshops meant to certify faculty members in the KSU Quality management System (QMS). The department has established its quality committee of 5 members and started implementing KSU QMS.
2. The Deanship of Skills Development: Faculty members at FSN participated in the training sessions offered by the deanship in the areas of teaching skills, use of technology, and others.
3. The Deanship of E-Transactions and Communications: The department benefited from E-learning in its communication within the department and throughout the university such as students registration

KSU has embarked on several vigorous initiatives to improve its academic performance, scholarship and research outcomes. Examples of such initiatives include (1) the research chairs' program, which currently includes 92 committed chairs, in addition to several specialized research institutes and centres of excellence, (2) the International Twinning Program, and (3) an ambitious excellence rewarding system, which includes various awards on academic scholarship and research achievements. Some impacts of such vigorous improvement initiatives have already been felt university-wide and have resulted in a significantly improved international standing where KSU is currently ahead of all Saudi, Gulf and Arab universities in three major academic rankings, namely Webometrics, QS Time, and Shanghai Jiatong. FSN participated in the outcome of these programs by receiving financing for more than 6 projects supported by King Abdelaziz City for Science and Technology (KACST) and two visiting scientists. Noting the documented results from various professional tests, KSU graduates are currently rated the best across the Kingdom. Furthermore, KSU graduates constitute the highest rate among Saudi universities in regard to both admission and degree completion at international leading universities at part of the King Abdullah Scholarship Program. The KSU Teaching Assistants studying abroad for Master and Ph.D. degrees have been noted for their outstanding performance and competitive status. The FSN department continuously sending teaching assistants for higher degrees fully financed by the Ministry of Higher Education. Many of these graduates are returning to constitute a highly skilful workforce at the University. These are supported by the drive to develop skills and knowledge in society through a Science Park that includes:

The Riyadh Techno Valley Project (RTV).

Research Excellence Centres.

Satellite Labs.

Technology Incubators.

KSU has recognized the importance of Strategic Planning and Management and has made milestone achievements in this regard, including the development of the KSU 2030 Strategic Plan, which has resulted in newly established implementation entities such as the University Advisory Council, Project Management Office as well as new streamlined university organization structure. In addition, KSU has completed an ambitious project to develop procedure manuals for all academic units, which would enhance and streamline various administrative processes at the University. KSU has also established the new administrative system Madar, which has, to a great extent, facilitated information exchange within the University and automated performance statistics and report generation services. Furthermore, the University has actively encouraged all units within its campus to obtain the ISO 9001 as a quality assurance measure. Extensive discussions on the University strategic directions have taken place across KSU at all levels, including a specific invitation by the Rector to all faculty, students and staff to actively participate in the quality improvement process currently taking place. The department of FSN implemented the Madar system for its communication within the university. The department is taking advantage of the ongoing training programs within the university for its faculty and administrative staff.

In order to maintain the strategic focus and effectiveness in meeting its strategic objectives, KSU has exercised its leading role in deriving a national higher education initiative, which has resulted in the spin-off, in 2009, of three regional universities (Al-Kharj; Al-Majmaah and

Shaqra) from the geographically distributed colleges originally associated with KSU. Such undertaking has resulted in a leaner, more focused institution with more efficient academic programs.

KSU has initiated several strategic infrastructure programs, with large investments, in order to position itself—as a leading regional and international institution—and to better deal with the associated challenges and competitions. In this regard, the University has initiated a large endowment fund program toward being self-sufficient in terms of undertaking high-investment projects.

Quality Management has also been placed top on the agenda of KSU, which reflects its continual strive for excellence. In this respect, several far-reaching accomplishments have been realized, including (1) the development of the KSU Quality Governance Structure, (2) the development of the Quality Model for KSU (a pioneering original work by KSU which has been presented at international conferences and submitted for journal publication) all faculty members of FSN attend at least one conference and publish a good number of peer reviewed papers in ISI journals, (3) the implementation of the KSU-QMS, FSN department has established its QMS unit (4) completion of the KSU-KPI project which yielded an innovative KPI map providing measures of performance for all activities at the University (academic, financial, management, customer), FSN department developed its KPIs (5) the development of the Management Information System (MIS), and (6) the launch of the Data Warehouse Project, which ensures active participation by various departments within KSU in the performance data compilation and assessment.

2. Enrolment Management and Cohort Analysis (complete tables on the following pages)

Cohort Analysis refers to tracking a specific group of students who begin a given year in a program and following them until they graduate (How many students actually start a program and stay in the program until completion).

A **cohort** refers to the total number of students enrolled in the program at the beginning of each academic year, immediately after the preparatory year. No new students may be added or transfer into a given cohort. Any students that withdraw from a cohort may not return or be added again to the cohort.

Cohort Analysis Table 1 provides complete tracking information for the most recent cohort to complete the program, beginning with their first year and tracking them until graduation (students that withdraw are subtracted and no new students are added).

Cohort of the Academic Year tables refer to current cohort tracking that is in progress. A separate cohort tracking table should be provided for each year.

3. Analyze the mission, goals, content, and methods of delivery of the program and describe any implications for changes that may be required in as a result of changes noted under 1 and 2.

The mission of the Department of Food Science and Human Nutrition ***is to effectively contribute to the development of the areas of food and human nutrition. In Addition, the department is focused on community service through human resources qualification, creating an environment of excellence in scientific research, deepening the knowledge and dissemination of food and nutrition awareness, as well as providing advisory services and***

exchange of experiences with partners".

The FSN department had a tremendous effect on issues related to food and human nutrition in terms of education, private sector support, and public awareness of nutrition:

In the area of food science, the department's graduates are employed by a good number of food industries within the Kingdom such as dairy, baking, fruits processing, and snack foods companies. The graduates work in production area or as quality control monitors. FSN graduates are also comprise a good part of some government agencies such the Food and Drug Administration, consumer protection, and weighs and means agencies. They work as inspectors and analysts. In the area of nutrition, FSN graduates are employed by different hospitals and private sector as nutritionists dealing with meal planning and overall human health issues.

In the area of research, FSN is working on research projects that support farmers of different crops so that to increase the profitability of farming which is critical for food security of the Kingdom. For instance, projects on extending dates shelf life are carried out at FSN department, developing methods to test for non-halal components found in imported food ingredients and other projects. What makes these types of projects important is that the Kingdom of Saudi Arabia is the biggest producer of dates and quit few food ingredients are imported from abroad. A number of faculty members are consultants to these governments agencies mentioned above as well as appearing on different media outlet for consumer benefit and education on food related issues. The department is actively conducting contact with high schools within the Riyadh area and encouraging high schoolers to pay attention to the issues of food and nutrition such as be aware of food security importance for the country existence and help them understand the important role of the food scientist in the community. In addition, high schoolers are made aware of the importance of nutrition for their own wellbeing and for the overall health care quality in the Kingdom, thus they should make good nutritional choice and be mindful of obesity and its health implications for them.

NOTE: A SEPARATE TABLE MUST BE USED FOR EACH BRANCH/LOCATION CAMPUS.

Enrolment Management and Cohort Analysis (Table 1)

Student Category	2007 – 08	2008 -09	2009- 10	2010 - 11	2011 - 12	2012 - 13
Total cohort enrolment	52					
Retained till year end		52				
Withdrawn during the year and re-enrolled the following year			0			
Withdrawn for good				0		
Graduated successfully					44	

Provide a Cohort Analysis of the Academic Years (for the last 5 years).

The prep year was introduced on 2009 and implemented to all departments at KSU. According to the registration system at KSU, after completing the prep year, students are assigned to the specific

college by the registerer's office and not by their choice nor the college. After students arrive at the college, they will take courses at the science department and will fulfil college requirements as well, and then start taking courses at FSN. Therefore, FSN department started keeping track of students by those who register FSN 316 which is offered at the 4th semester for the students. The department used FSN 456 offered at the 6th semester and the FSN 422 offered at the 8th semester as indicators of the student's progress. In Table 1, the number of registered students is not necessarily is the number of assigned to the department by the registerer's office. For instance they may assign 90 students to FSN and only 50 to 60 students become FSN students in their 4th semester. Thus, the cohort are students who register FSN 316 course. A quick look at Table 1, one can see graduation rate at 84.6%.

*** PYP - Preparatory Year Program**

Cohort of the Academic Year: 2008 – 2009 (Table 2)

Total student Enrolment at the beginning of year		53				
Progressed through the year			53			
Withdrawn during the year and re-enrolled the following year				0		
Withdrawn for good					0	
Graduated successfully						58 (53 cohort)

Provide Analysis

The data in Table 2 showed more graduates than registered students, which is due to students delayed from their actual graduation time. This could also be compared to Table 1 where graduation rate was not 100%. In the event that the department exclude delayed students from the AY 2008-2009, 100% of the students completed the first year.

Cohort of the Academic Year: 2009 – 2010 (Table 3)

Total student Enrolment at the beginning of year			52			
progressed through the year				45		

Withdrawn during the year and re-enrolled the following year					0	
Withdrawn for good						0
Graduated successfully						
Provide Analysis Table 3 showed that one student did not register during the AY 2009-2010 and about 14% of the of the 52 students did not pass to the next rear, which is normal. The reason for the drop on the students in AY 2009-2010 is that the students did not pass the exam. That makes the passing percent of this course at 86%. That will explain if the number of students in the following years AY 2010-2011 or 2011-2012 was higher.						

Cohort of the Academic Year: 2011 – 2012 (Table 4)

Total student Enrolment at the beginning of year				48		
progressed through the year					48	
Withdrawn during the year and re-enrolled the following year						0
Withdrawn for good						
Graduated successfully						
Provide Analysis As shown above, the fluctuation of the number of students taking FSN 316, which could be due to not fulfilling the prerequisite of the course CHE 101 at the science department. The number of graduates was not listed here because these students didn't graduate yet, but a complete table of registered and graduated students is listed in Standard 4, section 4.4, and Table 4.4.1.						

G. PROGRAM DEVELOPMENTS

1. Provide a list of changes made in the program in the period since the previous self-study or since the program was introduced. This should include such things as courses added or deleted or significant changes in their content, changes in approaches to teaching or student assessment, or program evaluation processes etc.

The department was established in 1965 (1385 H), as the first Department of Food Science and Nutrition among the Saudi Universities, and one of the main departments in the College of Agriculture under the name Department of Food Industries including a dairy pilot plant for students teaching. In the year 1981 (1401 H), the number of nutrition modules expanded to include the field of food and nutritional sciences, as the case at some outstanding American and European Universities. In the same year a joint master degree program was established to offer M.Sc. Degree in Human Nutrition. Program offering M.Sc. Degree in Food Science was established in 1992 (1413 H). In 1996 (1417 H), the department name was changed to department of Food Science and Human Nutrition to reflect all the fields in the department and became as one of the recognized consultancy units in the Kingdom of Saudi Arabia and as a recognized institute in food and nutrition sciences research. Students consequently awarded B.Sc. degree in Food Science and Human Nutrition.

The Department of Food Science and Nutrition ranks very high nationally in categories such as the proportion of faculty with a Ph.D. degree and the number of courses taught by full-time tenured track faculty members. The female undergraduate program was temporarily suspended on 2008 (1429H) for review, but the graduate program is still active. The decision was made by the university administration. Currently, the administration is collecting data and doing overall evaluation on the undergraduate female section.

The FSN department underwent program change in 2010. The program requirements were changed to comply with the Institute of Food Technology (IFT), where courses in statistics, product development, and internship courses were added. In addition, the department permitted students to emphasize food science or nutrition at the 8th semesters (fourth year) of FSN program. The FSN expanded its research activities by using all programs launched by the Deanship of Scientific Research and added a number of experts to the department. The addition of the new staff increased the number of publications and increased the external funds for up to 16 Million Saudi Riyals.

2. Comparison of planned and actual enrollments table.

Year	Planned Enrollment	Actual Enrollment
2007	73	80
2008	35	49
2009	34	48
2010	56	52
2011	48	53
2012	90	50
2013	85	34

Provide analysis and an explanation report if there are significant differences between planned and actual numbers.

The planned registration was done by the Registrar's Office and not by student's choice. Since students who are assigned to the department may not attend, one can see the fluctuation on the numbers. The actual enrolment at FSN department was taken from the number of students who register in FSN 316, which is the first indication that the student will be FSN major. The higher number of actual enrollment compared to the planned is due to the prerequisite courses for FSN 316 taken at the science department; therefore, the difference is due to students not fulfilling FSN 316 requirements.

H. Evaluation in Relation to Quality Standards (Refer to *Standards for Quality Assurance and Accreditation of Higher Education Programs*)

NOTE FOR SECTION H

Response reports should be provided under each of the quality sub-standards set out in the ***Standards for Quality Assurance and Accreditation of Higher Education Programs***.

- To ensure a full understanding of the SSRP, explanatory reports are included in order to give background information or explanations of processes relevant to the standard or sub-standard concerned.
- The reports should summarize the process followed in investigating the performance in relation to each standard and sub-standard.

- A vital element of the SSRP is to provide specific data, show trends, support conclusions, and make appropriate comparisons with other programs selected to provide benchmarks for evaluation of performance. This data may include key performance indicators, other statistical information, figures derived from survey results, student results or anything that provides clear evidence about the matter being evaluated. A simple assertion that something is good, or needs improvement, is not sufficient without evidence to back it up.
- Integrated into this SSRP are KPI tables for measurement of quality. Each KPI table is placed at a specific point where quality assurance must be demonstrated. Programs may use NCAAA KPIs or develop their own KPIs to complete them.

NOTE: Programs are required to use 50% or more of the suggested NCAAA KPI's.

Standard 1. Mission and Objectives *(Overall Rating, Four Stars)*

The mission of the program must be consistent with that for the institution and apply that mission to the particular goals and requirements of the program concerned. It must clearly and appropriately define the program's principal purposes and priorities and be influential in guiding planning and action.

Provide an explanatory report about the development and use of the mission for each of the following sub-standards:

1.1. Appropriateness of the mission

The Department of Food Science and Nutrition at King Saud University serves three main purposes: Food Science education (both, undergraduate and graduate), research, and community service. It is through these three main arms that FSN serve the community and promote economic growth. The mission of the department was established 1975 to cover the following areas: To educate and train future food Science and nutrition professionals in an innovative learning environment and to explore new areas of research and produce significant scientific contributions to the world. The mission was also drafted to provide high quality service to the Saudi community and to integrate education, research, and industrial practice in an inclusive environment.

1.2. Usefulness of the mission

The mission of the program is: "Effective contribution to the development of areas of food and human nutrition and community service through staff training, human resources advancement, creating an environment for excellence in scientific research, deepening the knowledge and disseminating food and nutrition awareness, and providing consultation and advisory services and exchange experiences with our partners". The mission and vision statements as approved by the department's faculty staff is shown as (Annex 1).

The vision of the department is:

"To achieve Excellence in teaching, learning, scientific research, and community service in areas of food and human nutrition". The vision and mission statements of the department, which are presented and displayed throughout the department's facilities, are identified with the following values are: creativity, excellence, teamwork, honesty, accountability, and lifelong learning
The department has established an academic program that contributes to the local economy by

establishing a research program based on the use of locally produced raw materials such as dates. The program covers the nutritional information needs of the Saudi society as well as prepares students to serve in public agencies in the area of food and nutrition. The department prepares students interested in graduate studies locally or abroad.

1.3. Development and review of mission.

The vision and mission of department were developed through consultative process between faculty members and stakeholders. The first draft was developed by the department council. The draft took into account the mission and vision of the college and the institution. The draft was presented for review by the council after a round of revisions and finally approved. Stakeholders, such as the private sector were informed about the mission and vision of the department. The following actions were taken in preparing for this standard. The information used to write this report were taken from a survey done by the department's staff, where a questionnaire was presented and the outcome data was collected, analyzed, and reported. Survey form regarding faculty opinion on the mission and the vision of the department is listed as (Annex 2).

The objectives of the Department of Food Science and Nutrition are to attract and qualify outstanding students in areas of food and human nutrition. Graduates are to be excellent in scientific research, disseminate nutrition awareness, provide national studies related to food and human nutrition, diversify sources of funding for the department, and community service.

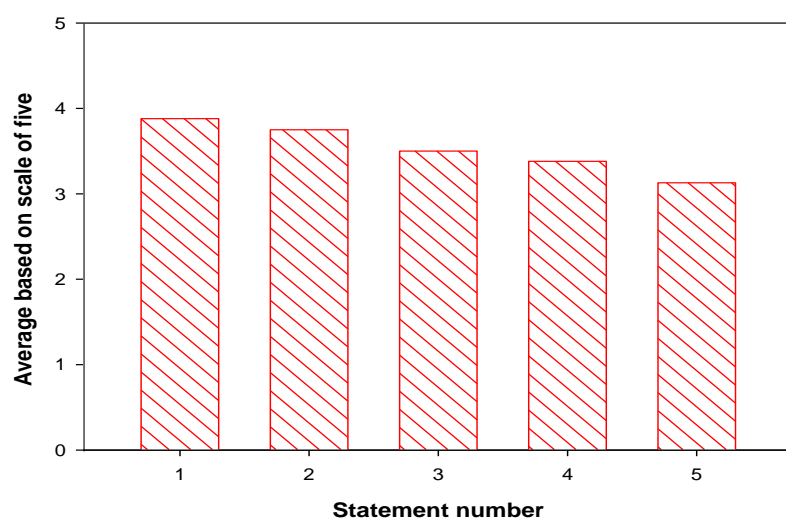
The vision, mission, and objectives of the Food Science and Nutrition Department were evaluated by regularly executing surveys by using approved and pre-designed forms. The data collected from these surveys is statistically analyzed and graphs were be made. The forms used in the survey and the data results, as well as the wording of the mission were presented to the Department of Food Science and Nutrition committee and were approved after discussion. In addition, a permanent accreditation committee was form to deal with both, international and national accreditation issues.

The surveys included the following statements to faculty and employees of the department regarding the mission and vision.

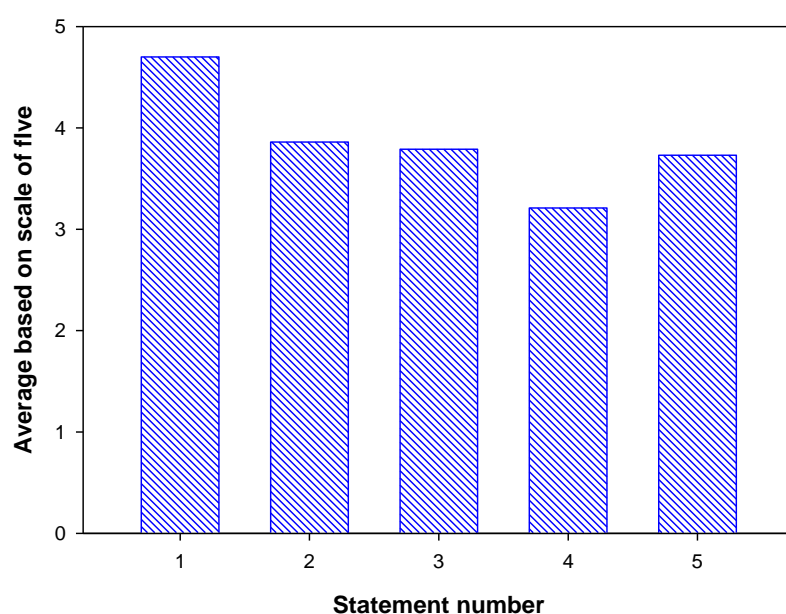
1. the mission and vision is in accordance with the outcome of the department and the institution
2. The mission and vision of the department, college and the institution are announced and presented in different locations of campus.
3. The mission is used as guideline for strategic planning
4. The is relationship between the mission and daily business of the department and the institution
5. The mission of the department is used in regular basis for the decision making

The following graphs represent survey results of faculty and employee members of the FSN. The x-axis represents the number of statements presented above and the Y-axis represents the average response of members on scale of five.

**Faculty of Food Science and Human Nutrition Survey
Regarding the Use of the Mission**



Employees of Food Science and Human Nutrition Survey Regarding the Use of the Mission



1.4. Use made of the mission statement

The mission was used as guide to articulate the strategic objectives. The mission statement together with these objectives help in materializing the department vision to become world-class educational leader in the area of Food Science and Human Nutrition that offers national as well as international

services. This was done via fostering learning and creative thinking environments and supporting an optimal use of technology, while maintaining effective international partnerships to further advance KSU ambitions and aspirations in all fields as articulated by the 2030 program.

1.5. Relationship between mission, goals, and objectives.

It is clearly evident that, the mission of the FSN program at KSU is reflected on the main program objectives which are briefly: To prepare food scientists and nutritionists who possess knowledge, skills and determination. Only then, graduates are proficient to perform their duties safely, effectively and to ensure that graduates have appropriate scientific base for lasting learning and further training in any topic of food science or nutrition. In addition, the mission is bound for providing national studies related to food and human nutrition. Moreover, members of the department are encouraged to diversify sources of funding, and perform community service. The program is also expected to help graduates develop critical thinking and problem solving skills on issues related food and nutrition throughout the community and disseminate nutritional awareness. (the full strategic objectives of the program are detailed in section C).

In order to prepare a food scientist or nutritionist to meet the needs and expectations of the food industry and the nutritional well-being of the Saudi society, future graduates of the program must possess knowledge, skills, and attitudes that define their basic capability. Additionally, the department is projected to meet rapid changes in the Saudi population eating habits and overall change in their lifestyle. Graduates of this program need to be able to continuously learn and develop skills to accommodate new changes in technological knowledge and best practices of the field. All these objectives will prepare the graduates to be a food scientist or nutritionist who will be able to meet the needs, changes, and challenges of the future in Saudi Arabia, which is the mission of the program.

Provide a description of the process for investigation and preparation of report on this standard.

The FSN department formed a committee from within FSN department who reviewed the process by which the mission was created and its relevant documents in details. Some members in the QMS team have been members of the strategic plan team. The committee has seen the mission and vision clearly displayed around the department and the hallways of the College of Food and Agriculture Sciences and the website of the department. The committee confirmed that the mission clearly stated in the orientations manuals of staff, students, and new employees.

In addition, the committee has reviewed responses to the question: "do you know the mission of the department?"

Annex 1. The mission and vision statements as approved by the department's faculty staff

Annex 2. Survey form regarding faculty opinion on the mission and the vision of the department.

Choose **ONE OR MORE** KPIs that best supports that the program meets this standard. Each KPI should use a separate KPI table. Insert the KPI in the table below, add the actual KPI benchmark with the other benchmarks, and provide an analytical interpretation that describes the outcome (most benchmarks are numerical and others may be descriptions that verify quality using a rubric).

KPI: Code# 1.1 Stakeholders evaluation of the mission statement and objectives	
Target Benchmark	The average ratings of staff to the question in the staff and employees of FSN satisfaction survey: target was set at 4/5 <i>Q1. Was the mission made available and used as guideline for the strategic program planning?</i>

Actual Benchmark	3.7/5 agreed with statement
Internal Benchmark	The average ratings of staff and employees of FSN to the statement in the satisfaction survey: <i>I know the vision, mission, and objectives of the department</i> The internal benchmark was 4.6
External Benchmark	
New Target Benchmark	4/5 agree with statement: <i>I know the vision, mission, and objectives of the department</i>
<p>Analysis:</p> <p>The faculty awareness and application of the vision and mission of the department averaged at 3.7 out of 5, whereas employees responded by yes at 3.7 out of 5 aware of the mission vision of the FSN department. The relatively low response of the faculty regarding the vision and mission was due to the second part of the question because it has to do with strategic planning for the program. As mentioned above, FSN faculty members drafted the mission/vision of the department, so they are aware of it and 5/5 score is met, but as stated in the second part of the question regarding its use in the strategic planning for the program is effected by external issues under the university jurisdiction or the college such as financing and students registration, thus the score fell short of the targeted benchmark.</p>	

*Overall Evaluation of Quality of Mission, Goals and Objectives. Refer to evidence obtained and **provide a report** based on that evidence; including a list of particular strengths, recommendations for improvement, and priorities for action.*

The department of science and nutrition serves three main purposes: educate students at the undergraduate and graduate levels, perform research for knowledge-based economy support, and community service. Therefore, the mission of the department is to educate, research, and support the overall wellness of the population in the Kingdom. The mission of the FSN is to train and prepare students able to meet the demand of the food industry, hospitals, research centers, and government agencies. Simultaneously, the vision of FSN is to be a leading department in the region that has impact on the food and nutrition and work together with other institutions and agencies for the wellbeing of the population and for food security of the Kingdom. The department emphasizes high values such as accountability, excellence, team work, and lifelong learning. The mission of the department was translated into strategic points, such as: develop appropriate curriculum, improve student support and services, improve the recruitment and retention of qualified staff, design a strong and relevant faculty development, further improve research facilities, and expand the graduate program. As an integral part of KSU, FSN mission and vision has to match those of King Saud University.

Strengths

- 1 The vision, mission, and objectives are clear and appropriate
- 2 The mission captures the main function of the department
- 3 The mission is aligned with the college and the university mission
- 4 The mission has been developed after intense consultation with internal and external Stakeholders
- 5 The mission is well dispersed throughout the department
- 6 The mission has been the bases for all strategic and operational plans for the department

Recommendations for improvement

- 1 The mission needs more distribution and to be communicated to private industry
- 2 More benchmarking of indicators from the educational plan needs to be presented
- 3 There is a need to find more ways to express the mission in daily activities
- 5 The involvement of the department alumni as links with the job market so as to better prepare students for workforce.

Priorities of actions:

1. provide more support for implementing strategic plan and objectives set by the department's council
2. Increase community awareness of the mission of the department through direct interaction with those in the field of food and nutrition
3. Better utilize alumni and current students in raising the consciousness of the mission of FSN

Standard 2. Program Administration *(Overall Rating, Four Stars)*

Program administration must provide effective leadership and reflect an appropriate balance between accountability to senior management and the governing board of the institution within which the program is offered, and flexibility to meet the specific requirements of the program concerned. Planning processes must involve stakeholders (e.g. students, professional bodies, industry representatives, teaching staff) in establishing goals and objectives and reviewing and responding to results achieved. If a program is offered in sections for students resources for the program must be comparable in both sections, there must be effective communication between them, and full involvement in planning and decision making processes. The quality of delivery of courses and the program as a whole must be regularly monitored with adjustments made promptly in response to this feedback and to developments in the external environment affecting the program.

2.1 Leadership

Figure 1 shows the organizational structure of the Food Science and Nutrition Department. The University provides strong support to the leadership at the department level. Departments Heads and deputy Heads and other academic administrators attend several Leadership Development Programs arranged by the Deanship of Skills and Development, while new staff members participate in the New Staff Members Program. Departments also encourage leadership development skills through various teams and committees within their structure. Leadership experiences are available to students through KSU organization as part of student life and implementation of a Class Leader program.

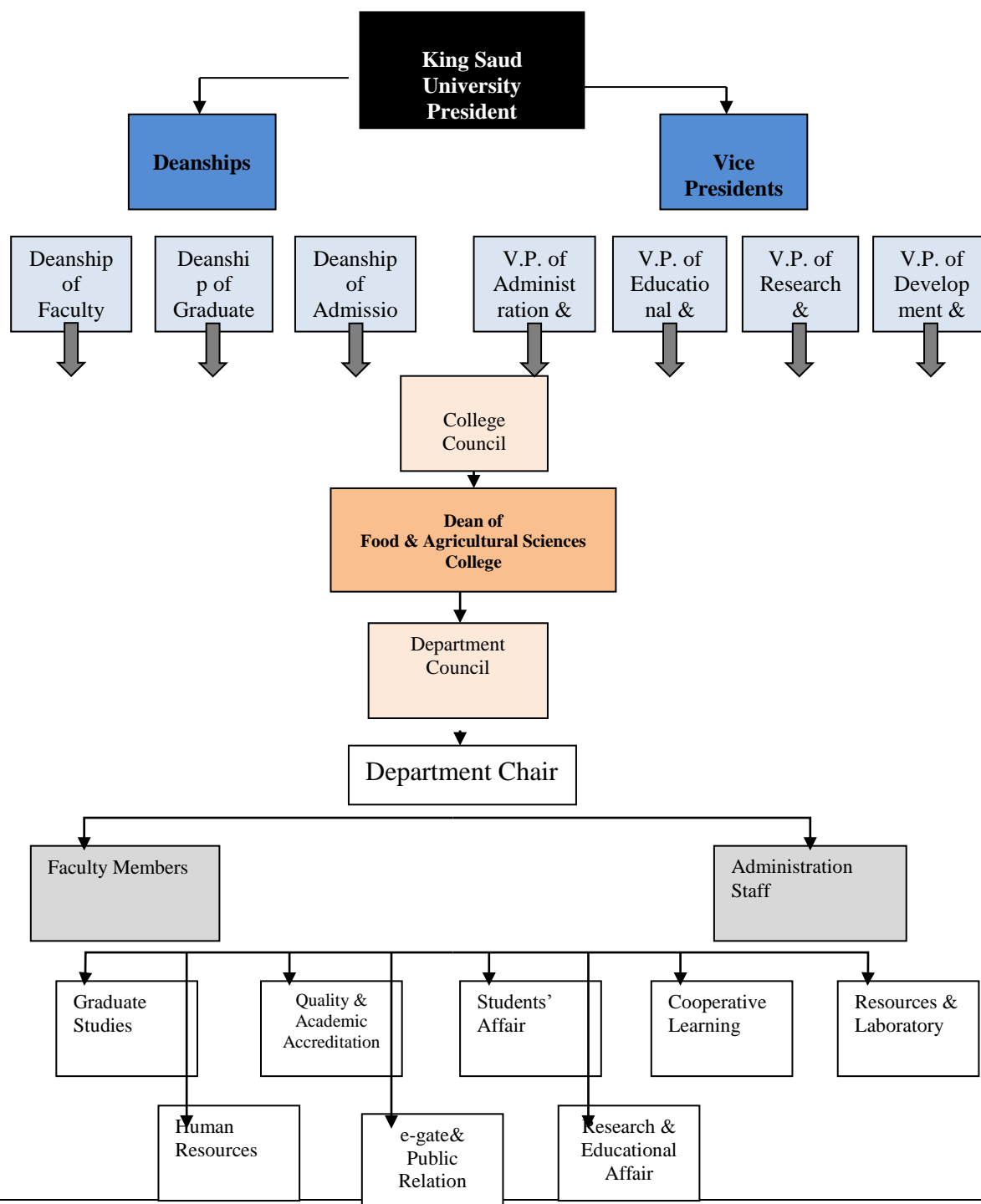
The University Rector established formal appointment procedures for departments Head through nomination. A new procedure for delegation of authority at all levels of KSU's management has been developed and approved. Responsibilities of department heads are clearly stated in a detailed guidebook which provides full explanation of their roles and responsibilities. In addition to development and approval of a well-defined program for senior academic managers at the University, specific management training programs and professional development initiatives in collaboration with the leadership training centre at the College of Business, have been initiated.

The department board is the main governing body of the department. It is chaired by the department head (chairman) and attended by faculty members of the department. The role of the chairman is mostly administrative rather than academic. The board works to provide effective leadership in the interest of the

department (program) as a whole through policy development, adopted regulations, and accountability processes. The Agriculture Institute of Canada (AIC) has granted academic accreditation to the College of Food and Agriculture Sciences (CFAS) academic programs including Food Science and Human Nutrition program in 2010 for seven years. The CFAS has been granted the ISO 9001:2008 (from 09 June 2010 till 08 June 2013) by Bureau Veritas Certification. All academic issues are discussed in monthly meetings, pre-scheduled in alignment with the college council meetings and all decisions are reached through voting. Although the department (program) is considered a single academic unit or a program in the college and the university, KSU has a unified academic system for applying teaching curricula and research programs.

KSU upholds and protects its integrity by abiding by laws and regulations. The innovative management structure of KSU is to ensure unified academic policy-setting governance within the university, to strength the academic integrity of each department, guarantee non-conflicting academic policies, and ensure equal opportunities, privileges, and rewards. The integrity is further ensured by follow-up systems and internal financial auditing.

4. Insert program administrative flowchart



2.2 Planning Process

The department (program) is within the organization structure of the college. The college has developed a comprehensive strategic plan which has already been approved by both the college council and the university. The strategic plan (including vision, mission, strategic objectives, initiatives, and implementation projects) has

been formulated through SWOT analyses, as well as, many meetings and interviews with staff, employees, faculty, graduate and undergraduate students, and external stakeholders (Saudi Food and Drug Authority, Ministry of Agriculture, Ministry of Health, Ministry of Municipality and Rural Affairs, Saudi Agricultural Development Fund, and some other food and agriculture organization in Riyadh, and some members of the private food and agriculture companies)

The approved strategic plan is available on the college website, listed as Annex 2.1 as well as on the electronic board throughout the college building. The strategic plan was benchmarked with five Agricultural colleges in five different American universities (University of Florida, Ohio State University, Oklahoma State University, Penn State University, and Purdue University) for best practices and gap analysis.

Annex 2.2.1 College Strategic Plan

2.3 Relationship Between Sections for Male and Female Students

Not Applicable

2.4. Integrity

The department of Food Science and Human Nutrition upholds and protects its integrity by preserving the laws and regulations of the Civil Service Laws, the Ministry of Higher Education's policies, bylaws and regulations, Financial Bylaws, Student Academic Regulations, and other regulating agencies as well as academic policies for faculty. The department maintains its integrity by ensuring that students are provided with a course syllabus that outlines the course expectations and grading procedures. The department cooperates with the college of Food and Agriculture in the event of complaints and student/staff grievances through committees in colleges and students' rights bylaws, which have established clear policies and procedures for student grievances. Codes of ethics and responsible behaviour have been developed to deal with matters such as conduct and reporting on research, performance evaluation, student assessment, committee decision making, and the conduct of administrative and service activities in the department.

Overall, the image of the KSU is well represented by the department internally and externally. For instance, Internally the department is executing research projects that make dates farming more profitable by developing new products, whereas externally faculty members the department attend international conferences and deliver oral and poster presentation. The above decisions regarding civil servant laws, financial auditing, students right laws, and leadership meeting with students and staff are indicated by the following Annexes:

Annex 2.4.1 Sample of financial auditing documents (Finance unit).

Annex 2.4.2 Student rights bylaws.

Annex 2.4.3 List of meetings of the leadership with students and staff members.

2.5 Internal Policies and Regulations

The department's policies and regulations associated with the program are made accessible to faculty, staff and students, and follow-up procedures were used to certify they are understood and complied with. The policies and regulations related program management are periodically reviewed and amended as needed in the light of changing circumstances. The decisions made by reviewing committees on procedural or academic matters are recorded and referred to when future similar issues occur. The policies and regulations were summarized in following Annexes:

Annex 2.5.1 His Excellency, the Rector generalization for all staff members to share suggestions in development of some University Policies.

Annex 2.5.2 KSU Organizational Structure.

Provide Description of process for investigation and preparation of report on this standard.

The SSR committee used the following to prepare this standard:

The accreditation committee of the Food Science and Nutrition department surveyed faculty and employees by distributing a questioner regarding the program administration. In addition, annual departmental report during 2011-2012 academic year and the department self-assessment, and the strategic plan of the department which is located on the department website, were used as well. Previous independent reviewer's report which was used for National Commission for Academic Assessment and Accreditation (NCAAA) and the international accreditation report by the Agriculture Institute of Canada (AIC) were used in preparing for this standard. Finally, the 2011 AIC report for the academic year 2011 was also used to complete Standard 2 of the report.

Overall Evaluation of Quality of Mission, Goals and Objectives. Refer to evidence obtained and provide a report based on that evidence; including a list of particular strengths, recommendations for improvement, and priorities for action.

Since the last review, the FSN department has been making noticeable progress on its management and administrative structure and processes. Several initiatives, which are currently taking place, indicate that the department is keen on enhancing its Quality Management System (QMS) activity. The department established its official QMS team and assigned responsibility to each team member. The department finalized the new academic plan by including the requirements of the Institute of Food Technology of Chicago (IFT). As requested by the Deanship of Academic Affairs, the department submitted its strategic plan as part of the overall College of Food and Agriculture Sciences plan. The strategic plan is intended to move the department to higher status by applying higher standards. The department follows KSU's policies and procedures defined by categories of rules and regulations in effect at the University. Deanships of the University are keen on promoting a positive organizational climate at the department level through specifying regulations for administrative staff, faculty members and students.

Strengths:

- Adaptation and application of the ISO 9001: 2008 in all college departments including the food science and nutrition department. The ISO certificate was renewed on September, 2010 as pointed out by (Annex 2.6.1).
- The administrative structure of the college is defined with clear responsibilities, authorities, job descriptions, and reporting lines.
- The selection process of candidates for either the college dean or the department head (chairman) is carried out by committees at college and university level, respectively, where fair competition and equal opportunities are guaranteed.
- College's Deans, Vice Deans, Department's heads and some faculty attend several leadership development programs arranged by skills development deanship at the university and by outside institutions collaborating with the university.
- The integrity of the department, college and university is protected by abiding by all laws, regulations, and policies of the Ministry of Higher Education. The integrity is further ensured by follow-up systems and internal financial auditing.
- The academic administrator of the college and departments follow an open-door policy for faculty, employees, students, and public.
- The university leadership support for the college's development projects (academic accreditation, ISO 9001: 2008, completion of work on the new college building, future establishment of new educational farm on main campus and new animal experiment and research station in (Al-Amaria area) is evident.

Recommendations for improvement

- 1- The need for periodic studies dealing with issues relevant to organizational climate, job satisfaction and confidence in future development.
- 2- Proper recognition of distinguished staff members and employees is deficient.
- 3- Budget allocation for both the college and the department.

Priorities for Action

- 1- Conduct a periodic study dealing with issues relevant to the organizational structure, work environment, job satisfaction and confidence in future development in order to be able to measure the improvement in these areas. That can be accomplished by developing strategic plan, and reviewing civil service laws, and frequent contact between leadership and staff, which is pointed out by the following Annexes 2.2, 2.4.1 to 2.4.4, as well recognizing staff success and effort.
- 2- Develop a plan for proper recognition of distinguished staff members and employees.
- 3- Include budget allocation for both the college and the department.

Annexes

Annex 2.2. The College of Food and Agriculture Sciences Strategic Plan

In file

Annex 2.4.1 Collection of policies of the University and Civil Servant laws.

Website of Ministry of Civil Services:

<https://eservices.mcs.gov.sa/econtent/Default.aspx?indx=1>

The Deanship of faculty and personnel affairs: <http://dfpa.ksu.edu.sa/>

Annex 2.4.2 Sample of financial auditing documents (Finance nit).

Annex 2.4.3 Student rights bylaws.

In file

Annex 2.4.4 List of meetings of the leadership with students and staff members.

In file

Annex 2.5.1 His Excellency the Rector generalization for all staff members to share Suggestions in development of some University Policies.

In file

Annex 2.5.2 KSU Organizational Structure.

In file

Annex 2. 6.1. The CFAS has been granted the ISO 9001:2008 (from 09 June 2010 till 08 June 2013) by Bureau Veritas Certification.

In file

Standard 3. Management of Program Quality Assurance *(Overall Rating, Three stars)*

Teaching and other staff involved in the program must be committed to improving both their own performance and the quality of the program as a whole. Regular evaluations of quality must be undertaken within each course based on valid evidence and appropriate benchmarks, and plans for improvement made and implemented. Central importance must be attached to student learning outcomes with each course contributing to the achievement of overall program objectives.

Provide an explanatory report that describes and analyzes the quality assurance processes used in the program, particularly relating to indicators and benchmarks of performance and verification of standards for each of the following sub-standards.

3.1 Commitment to Quality Improvement in the Program

Quality education and continuous improvement have been embraced by the Food Science and Nutrition department as part of King Saud University and its commitment to quality by both management and faculty. The drive towards quality education and the beginning of an ongoing effort of quality improvement necessitates the establishment of appropriate tools and a mechanism to measure and monitor quality. Therefore, the Department of Food Science and Human Nutrition has established quality assurance committee for managing overall quality as well as academic accreditation. This committee is in contact with two other quality management committee one at the KSU level and at the other at the College of Food and Nutrition Sciences. The quality assurance / SSR steering-committee of the department held a number of meetings with staff members and established sub-committees, where each committee was assigned the responsibility to draft and present a final copy of one of the 11 standards write-up. In addition, letters were sent to public and private authorities to request their opinions about new program of Food Science and nutrition as shown in (Annex 1).

To improve the quality program of Food Science and Human Nutrition department, some letters were sent to public and private authorities to request their opinions on the current and new programs of Food Science and Nutrition department (see Annex 2 and 5). The opinion of the employers of FSN graduates can be summarized by their answer to the following question: "Are you willing to hire FSN at KSU graduates?" The answer was 3.63/5 i.e., 73% of employer said that they are willing to hire FSN graduates. Because quality management is a team work and requires participation of all members of the department including teaching staff, all members of the department are involved one way or another in quality management. The number of staff members and employers of the department are sufficient to carry their teaching duties and perform administrative tasks (Annex 6). Staff members are extensively involved in the quality improvement processes with their participation required in all sorts of activities.

Training programs relating to quality have been provided by the Deanship of Quality with some colleges having specified Quality activities for department members (Annex 1). There is a strong commitment to quality improvement amongst leadership of the department. The leadership of the department follows closely the work of all committees involved in quality, commits members of the quality team for workshops, and communicates with deanship of quality at the college and institution levels. This dedication of the leadership has resulted in awareness of quality improvement and its penetration to all levels with an understanding of the need for increased documentation of program and individual efforts. This includes keeping proper up-to-date NCAAA requirements, continuously perform necessary surveys of student and other members of the department. The leadership designated an employee and office space for quality management at the department which is responsible for keeping the records and analyzes the data.

3.2 Scope of Quality Improvement Processes

The scope of quality improvement process was to relieve the loads off the faculty and administrators by introducing computerized process for data generation and information sharing between institution and departments as well as between departments. The Quality Management System (QMS) of KSU is expected to be the main platform of this improvement. The QMS is now implemented on three departments on campus and gradually will cover all departments. The QMS is expected to aid on the routine reports prepared by departments such as annual program report. The QMS is projected to assist on the scoring of process based and results based values.

At the department level, Education Committee has been formed which deals with program planning such as learning outcome and facilities and students service among other issues. Therefore, the department staff, employers, graduates and alumni participated in the evaluation of FSN program to point out the strengths and weakness of the program. Due to the importance of quality improvement, the quality committee distributes questionnaires, which included course evaluation, program evaluation and student experience followed by data analysis (Annex 3). Students' learning outcomes are considered priority in the evaluation processes which is directly influenced by the program quality.

In order to improve the quality outcome of the department, the FSN introduced the field and internships training a requirement for students' graduation as specified by the new plan of the department. On 2011/2012 the internship program has started and continues to evolve. Student should take one whole semester of internship required for graduation (Annex 4). The program's quality management performance is impeded in other 5 standards such as; Standard 5: Student Administration and Support Services; Standard 6: Learning Resources; Standard 7: Facilities and Equipment; Standard 8: Financial Planning and Management; Standard 9: Employment Processes, and Standard 11: Institutional Relationships with the Community (Annex 13).

One of the key initiatives in the quality drives is the venture to go for external accreditation from international accreditation agencies. The department has received accreditation form of Agriculture Institute of Canada (Annex 7). The evaluations and reports provide an overview of performance for the program as a whole and for all courses. At the Program level, the "Quality committee" deals with program planning, delivery and evaluation. This includes student learning outcomes, facilities and supporting services. All quality planning, reports and surveys were discussed and approved by the faculty board as evidenced in the annual report of the department (Annex 14).

3.3 Administration of Quality Assurance Processes

At the department, college, and university level, quality has become an integral part of the daily practice of the staff. The department committee for quality and development is chaired by the department head and the vice dean for quality and development. The Committee, comprised of department's staff, has the responsibility to manage the quality aspects of the program. The committee is devised to different sub-committees that hold meetings to discuss the aspects of each of the standards. The department obtains forms, such as course evaluation, program evaluation and student experience from the National Commission for Academic Accreditation and Assessment (NCAAA) in order to frequently evaluate the program. These questionnaires are distributed to the students and the data is statistically analysed. The results are kept and showed on the web site and in a form of brochures as indicated by (Annex 8 and 9). Finally, annual reports are considered for any future action aimed at improving or maintaining quality as indicated in (Annex 14).

3.4 Use of Performance Indicators and Benchmarks

The department of Food Science and Human Nutrition has identified a number of KPIs as guidance. Almost all the KPIs are related to quality and suggested ways for improvement. These KPIs selected by the leadership of the program and have been identified as part of the KPIs approved by university which will be assessed every

year and used on a comparative basis, as these are commonly accepted quantifiable KPI used in most international quality assessment. In addition, benchmarking includes the verification of standards of achievement by students in relation to other institutions and the requirements of the National Qualifications Framework. The department program was evaluated and certified by the Agricultural Institute of Canada (AIC) in 2010 (Annex 7). Annual report included staff member's evaluation, scientific publications, teaching load, and others are documented and presented to KSU leadership as well as the AIC as detailed in (Annex 14).

3.5 Independent Verification of Evaluations

Prior to requesting accreditation by Agricultural Institute of Canada, the department has sent letters to public and private institutions as well as the private sector requesting their input regarding the Food Science and Human Nutrition program. An example of the letter is shown as (Annex 1). Some of the received comments suggested adding or removing courses depending on local market needs. In addition, opinion about the program was requested from external independent reviewers such as Institute of Food Technology (IFT). As recommended by the reviewers, the program quality was modified accordingly.

Improvements in quality are appropriately acknowledged and great achievements are recognized. The quality management system committee of Food Science and Human Nutrition program deals with the evaluation of the program's planning and delivery which includes student learning outcomes, facilities, and services. To achieve that, learning through course offered, program evaluation surveys, and evaluation of the staff, were designed to ensure the quality aspects of the program (inputs, process and learning outcomes). All quality planning, reports, and surveys were discussed by faculty board of the department for input and improvement. The evaluations and reports provide an overview of performance for the program as a whole. At the course outcome evaluation level, exams of some courses are checked by independent faculty member from within the department. Students' presentations at the end of the field experience are graded by a number of faculty members who are present during presentation.

Provide a description of the process for investigation and preparation of report.

The quality management system committee, led by the department's chair, regularly reviews the program's course reports and students' course evaluation surveys as a mean of emphasis and continuous quality management. Students' experience in the department, course evaluation, alumni view of the department is all means of quality management as shown by (Annex 2). All Quality Management data was assessed (Job, descriptions, KPI and policies and procedures and Quality report) and statistical data related to the general and specific KPIs were identified by specified staff members in the department as in (Annex 3). Previous strategic plan and annual report were inspected as documented by (Annex 11 to 13).

Choose **ONE OR MORE** KPIs that best supports that the program meets this standard. Each KPI should use a separate KPI table. Insert the KPI in the table below, add the actual KPI benchmark with the other benchmarks, and provide an analytical interpretation that describes the outcome (most benchmarks are numerical and others may be descriptions that verify quality using a rubric).

KPI(3.1): Students overall evaluation on the quality of their learning experience at the institution	
Target Benchmark	The department is targeting 4 out of 5 students to have positive learning experience
Actual Benchmark	3.83/5

Internal Benchmark	3.27/5 (Agriculture Engineering, KSU)
External Benchmark	
New Target Benchmark	4.5/5
Analysis: The actual benchmark for student's satisfaction with the overall quality of their learning was 3.83/5 which is a score that needs improvement in terms of looking at other questions on the same survey that are more detailed and directly concern the FSN. When students were asked about the quality and the organization of the FSN program, the response was 4/5 satisfied. The data could indicate that students are not given the choice which department to attend and that was reflected on their response. Some things, like registration, adding/dropping courses, and conflict between courses scheduling time, are all issues that can reduce the overall score of student's experience.	
KPI (3.2): Proportion of courses in which students evaluation were conducted during the years	
Target Benchmark	The department of FSN targeted and implemented 5/5 (100%) course evaluation every year
Actual Benchmark	5/5 (100%) was met
Internal Benchmark	5/5 (Agriculture Engineering, KSU)
External Benchmark	
New Target Benchmark	5/5
Analysis: The department met its target of "all course" evaluation every semester every year. The data is collected and analyzed statistically by the quality management team at the FSN and presented to the department's council. The data of the last 7 years is saved in records. The data is also available to the college dean's office and other institution officials. The department is keen to continue surveying students and meet the set target.	
KPI (3.3): proportion of programs in which there was independent verification within the institution of standards of student's achievements during the year.	
Target Benchmark	Comply with the requirements of the Deanship of Quality Development of KSU (DQD) and the college of Food and Agriculture Sciences (CFAS) requirements for quality
Actual Benchmark	Complete compliance with the requests of both agencies by providing

	required reports periodically.
Internal Benchmark	Comply strictly with both agencies
External Benchmark	
New Target Benchmark	Continue to comply strictly with both agencies
<p>Analysis:</p> <p>The FSN department is reviewed by the deanship of quality development (DQD) as well as the quality office of the college of Food and Agriculture Sciences. As an internal independent monitor of the quality of the program, it is very important to stay current with DQD requirements. Periodically, information is given to the DQD upon request or regularly as FSN annual report. The CFAS requires departments to maintain data of different reports and other issues related to quality such as course report for all courses at end of every semester, updated course specification, program specification and other documents related NCAAA. The CFAS also requires departments to form Quality Management System (QMS) team which is answerable to the coordinator of quality of CFAS. The DQD requires FSN to annually present survey results of program quality and all other NCAAA requirements. Therefore, it is critical to monitor and maintain this KPI due to its importance as internal independent reviewer.</p>	
<p>KPI (3.4): proportion of programs in which there was independent verification of standards of student's achievements by people external to the institution during the year.</p>	
Target Benchmark	The department to fulfill the requirements of the Institute of Food Technology (IFT) of Chicago as target
Actual Benchmark	The department fulfilled all IFT requirements
Internal Benchmark	
External Benchmark	IFT requirements
New Target Benchmark	Maintain IFT requirements and become a member of IFT
<p>Analysis:</p> <p>The department added a number of courses such as product development and statistics to meet IFT requirements. The FSN added internship to its requirements and established a complete program for internship that requires students to spend about one semester in training and earn 12 credits. The training was preceded with a two weeks workshop to familiarize the students with the food industry and prepare them for the industrial environment. All students are required to complete this training before graduation. Students are also required to present their experience in front of a team of faculty and get scored for that. The fulfillment of IFT requirements is a continuous process which requires FSN to monitor IFT activities and comply with any new requirements. Once the department become a member of IFT, it will much easier to keep the program up-to-date.</p>	
<p>Overall Evaluation of Management of Program Quality Assurance. Refer to evidence obtained and <i>provide a</i></p>	

report based on that evidence; including a list of particular strengths, recommendations for improvement, and priorities for action.

The FSN department has made progress in quality management by establishing official/permanent Quality Assurance committee. The department is keen to maintain quality by developing both **indirect** and **direct** assessments methods. Indirect methods include analysis of all courses surveys of current students, graduating students, alumni, and employers with regards to program quality, course quality, learning outcome, and overall experience of students and employers. The outcome of these surveys showed that the program seems to come close to meeting its target concerning overall students' experience. This data is shown in details as part of the standard 4, whereas with reference to external and internal verification of the program quality, FNS did meet its target.

In addition to indirect learning outcome assessment, the FSN department has established direct assessment of the program, which is directly connected to the broad goals of the program. Based on the need for creating direct learning outcome and program outcome, the Department of Food Science and Human Nutrition (FSN) faculty redefined the broad goals of the program as stated in section E of the SSR (2014). The purpose for the redefining the broad goals to a more specific goals and learning outcomes was to facilitate for direct measurable assessment of our program's outcomes. Therefore, we consider starting the process of direct assessment of our program at the basic level and continue following the progress for the next five years. The redefined goals are listed below, followed by the specific courses offered by FSN and designed to achieve the particular goal as well as the assessment method, direct measure of success, and the analysis and use of the finding. The FSN goals were grouped into five major groups. Each group will represent one the goals of the program; (A) **Food Chemistry and Analysis**, (B) **Food Microbiology and Safety**, (C) **Food Processing**, (D) **Quality Control**, and (E) **Human Nutrition**.

"The Redefined Program Goals" of the Program Outcome and Learning Outcomes of the FSN at KSU are listed below as A, B, C, D, and E. For each goal, a number of expected outcome are listed, which will be used as KPIs as will be discussed in standard 4.1.

A. Graduates can demonstrate and apply knowledge of the core competencies in food chemistry and analysis.

Food Chemistry and Analysis

Outcome A.1. Explain the chemistry underlying the properties of various food components.

Outcome A. 2. Discuss the major chemical reactions that occur during food processing and storage.

Outcome A. 3. Select appropriate techniques to solve specific problems in food analysis.

Outcome A. 4. Correctly use appropriate laboratory techniques in food chemistry and food analysis.

B. Graduates understand and apply knowledge pertaining to the microbiology of relevant microorganisms in food systems.

Food Microbiology and safety

Outcome B.1. Discuss the important pathogens and spoilage microorganisms in foods, the most likely sources of these organisms, and the conditions under which they grow.

Outcome B.2. Explain the effects of common food processing systems and food storage conditions on survival and growth of microbial contaminants.

Outcome B.3. Discuss the response of microorganisms to environmental stress factors, and the principles of sanitation practices to control microorganisms.

Outcome B.4. Discuss the role of beneficial microorganisms in foods and their use in fermentation processes.

Outcome B.5. Correctly use appropriate laboratory techniques to enumerate, isolate, and identify microorganisms in foods.

Outcome B.6. Explain spoilage and deterioration mechanisms in foods.

C. Graduates are competent in both the principles and application of food processing and engineering concepts.

Food Processing

Outcome C.1. Discuss the basic principles of food preservation methods, including high and low temperature, drying and water activity control, high pressure, extrusion, fermentation, and aseptic processing.

Outcome C.2. Identify and describe the appropriate unit operations required to produce different types of food products.

Outcome C.3. Perform mass and energy balances for a given food process.

Outcome C.4. Discuss the properties and uses of various packaging materials

D. Graduates are able to apply the principles of Quality Control in Food Science to identify, define, and analyze technical problems and develop solutions to these problems.

Quality Control

Outcome D.1. Discuss basic principles and practices of cleaning and sanitation in food processing operations, as well as requirements for water utilization and waste management.

Outcome D.2. Interpret statistical data as used in food science applications.

Outcome D.3. Conduct appropriate sensory evaluation tests to answer specific questions regarding food attributes or consumer preferences.

Outcome D.4. Describe techniques that can be used to monitor quality of raw ingredients and final products.

E. Graduates are able to apply the principles of human Nutrition and health aspects of food materials and identify, define, and analyze technical problems and develop solutions to these problems.

Human Nutrition

Outcome E.1. Apply principles of biochemistry, physiology, and metabolism

Outcome E.2. Summarize nutrients, supplements, requirements and deficiencies

Outcome E.3. Describe and discuss obesity and nutrition throughout life cycle

Outcome E.4. Recommend dietary patterns and formulate nutrition therapy for chronic disease

Outcome E.5. Demonstrate dietary analysis

The FSN faculty developed the following **five years** plan for program assessment based on the specific goals outlined above. The assessment starts on 2014-2015 and ends on 2018-2019. Every year, one or two outcomes will be chosen for assessment according to the five years program outlined below.

2014-2015 Program assessment plan

Outcomes to be assessed:

Outcome A. 1 and 2. A.1. Discuss the major chemical reactions that occur during food processing and storage. A.2. Explain the chemistry underlying the properties of various food components.

Outcome A. 3 and 4. A. 3. Select appropriate techniques to solve specific problems in food analysis.

A.4. Correctly use appropriate laboratory techniques in food chemistry and food analysis.

Assessment Method

Student performance on a problem solving laboratory exercise will be used to measure achievement of this outcome. Tasks will be designed to assess the ability to select appropriate analytical methods for specific processed food products and use them effectively to show understanding of food chemistry the chemical principles of analytical methods.

Direct measures of success

FSN 316 Food Chemistry and **FSN 317** Food Analysis: A laboratory problem solving exercise will integrate most materials learned in the food chemistry class and food analysis class and lab, including quantitative and qualitative skills, in the form of a class project.

Students will conduct nutritional analysis of a specific food product to measure For example fat, protein, carbohydrate, dietary fiber, vitamin C and calcium content for labelling purposes. Each student will then make an oral 5-10 minute *PowerPoint* presentation justifying the selection of the methods used and showing the meaning of the results. In addition, each student will submit a written summary report that includes a concise presentation of the final results and the calculations showing how they were obtained from the laboratory data. The following will be evaluated based on the presentation and written summary report. The evaluation will be according to the two rubrics listed below:

Rubric 1

Validity of the method used	Data reliability	Validity and clarity of calculations	Overall understanding
0-25 points	0-25 points	0-25 points	0-25 points

Rubric 2

	Beginner	Intermediate	Expert
Method selection and lab skills	Some of the methods employed are appropriate but some mistakes were made either in the use of methodology or the execution of the testing methodology	Most of the methods used are suitable and are for the most part well applied. Some of the methods used may not be the best choice or some minor details of the methodology incorrectly used	The methods used are what would be recommended by a professional. The methods are correctly implemented and the student understands why experimental procedures were selected.
Data reliability	The data is unreliable and poorly characterized orally and/or in writing	Most of the data is reliable and adequately presented orally and in writing	The data analysis is correct and appropriate methods are employed. The data is effectively presented orally and in writing
Clarity of calculations	How the final data was discussed is not obviously shown	How the final data was calculated is clearly shown for the most part	How the final data was calculated is very clearly shown
Overall understanding	Understanding of the principles of each selected analysis is not shown	Some understanding of the principles of each analysis is clearly shown	Outstanding understanding of the principles of each analysis is clearly shown

Criteria: an average rating of **80%** comprehension for the entire class with at least **20%** of the class demonstrating **90%** or higher comprehension and ability, will indicate satisfactory achievement.

2015-2016 Program assessment plan

Outcomes to be assessed:

Outcome B. 5. Correctly use appropriate laboratory techniques to count, isolate, and identify microorganisms in foods.

Outcome B.6. Explain spoilage and deterioration mechanisms in foods.

Assessment Method

Student performance on a problem solving using laboratory exercise will be used to measure achievement of this outcome. Tasks will be designed to assess students' ability to select appropriate

isolation and identification methods of microorganisms. Students will be given a processed food sample with specific type of microorganism (pathogenic or not) and request them to isolate and identify.

Direct measures of success

FSN 323 Food microbiology and **FSN 325** Food safety: A laboratory problem solving exercise will integrate most materials learned in the food microbiology class and food safety classes and lab, including quantitative and qualitative skills, in the form of a class project or a selected experiment from current material.

Students will conduct microbiological analysis of a specific food product to measure. For example the type of bacteria, bacterial load, identify the microorganism, and decide whether they should be in the product. Each student will then make an oral 5-10 minute presentation justifying the selection of the methods used and showing the meaning of the results. In addition, each student will submit a written summary report that includes a concise presentation of the final results and they were obtained from the laboratory data. The following will be evaluated, based on the presentation and written summary report. The evaluation will be according to the two rubrics listed below:

Rubric 1

Validity of the method used	Data reliability	Validity and clarity of bacterial identification	Overall understanding
0-25 points	0-25 points	0-25 points	0-25 points

Rubric 2

	Beginner	Intermediate	Expert
Method selection and isolation / identification lab skills	Some of the methods employed are appropriate but some errors are made either in the use of methodology or the application of the testing methodology	Most of the methods used are appropriate and are for the most part well implemented. Some of the methods used may not be the best choice or some insignificant details of the methodology incorrectly applied	The methods used are what would be recommended by a professional. The methods are correctly implemented and the student understands why experimental procedures used and what they are.
Data reliability	The data is unreliable and	Most of the data is reliable and	Appropriate data analysis and

	poorly represented orally and/or in writing	adequately presented orally and in writing	methods are correctly employed. The data is successfully presented orally and in writing
Validity and clarity of bacterial identification	How the final bacterial identification data was analyzed is not clearly shown	How the final identification data was presented, is evidently shown for the most part	How the final data was collected is very clearly shown
Overall understanding	Understanding of the principles of each analysis is not shown	Some understanding of the principles of each analysis is clearly shown	Excellent understanding of the principles of each analysis is clearly shown

Criteria: an average rating of **80%** comprehension for the entire class with at least **20%** of the class demonstrating **90%** or higher comprehension and ability, will indicate satisfactory achievement.

2016-2017 Program assessment plan

Outcomes to be assessed:

Outcome C.2. Identify and describe the appropriate unit operations required to produce different types of food products.

Assessment Method

Student performance on exam essay questions designed to apply food science principles to solve food industry related problems and issues will be used to measure success in achieving this outcome.

Questions will be used that will assess application and synthesis of basic concepts to solve problems, data analysis and interpretation skills and creative thinking in the areas of Food Processing (FSN 352), Product Development (FSN 471), Food Analysis and Formulation (FSN 317).

Direct measures of success

1. **FSN 352** Principles of Food Processing: A problem solving question integrating food processing class and laboratory materials; 2. **FSN 471** Products Development: A problem solving question related to product reformation, nutritional analysis and labelling; 3. **FSN 317** Food analysis: A problem solving question related to product reformation, nutritional analysis and labelling will be included in the final exam.

Rubric 1

Identified key components of the problem	Identifies a feasible approach/strategy to	successfully executes the problem solving	capability to integrate food processing and
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	solve the problem	strategy	product development principles
0-25 points	0-25 points	0-25 points	0-25 points

Rubric 2

	Beginner	Intermediate	Expert
Identified key components of the problem	Does not identify key components needed to approach the problem	Identifies the most important component of the problem to be solved	Accurately identifies the problem
Identifies a feasible approach/strategy to solve the problem	Does not point out viable strategic approach to the problem	Develops an acceptable approach but not the best	Develops the most ideal approach to work out the problem
successfully executes the problem solving strategy	Has significant difficulties in applying problem solving strategy	Somewhat effective in executing the developed strategy for solving the problem	Effectively executes problem solving strategy
capability to integrate food processing and product development principles	Has significant difficulties integrating food processing and product development principles	Capable of integrating food processing and product development principles	Successfully integrated food processing and product development principles

Criteria: an average rating of **80%** comprehension for the entire class with at least **20%** of the class demonstrating **90%** or higher comprehension and ability, will indicate satisfactory achievement.

2017-2018 Program assessment plan

Outcomes to be assessed:

Outcome D.1. Discuss basic principles and practices of cleaning and sanitation in food processing operations, as well as requirements for water utilization and waste management.

Assessment Method

Student performance on laboratory exercise reports and exams will be used to evaluate the achievement of this outcome. Questions will be designed to check student ability to analyze data on the basis of statistical principles in the laboratory exercise reports and exams.

Direct Measures

FSN 456. Quality Control and Sensory Analysis; **FSN 317** Food Analysis; **FSN 323** Food Microbiology. Laboratory exercise and group project reports will be used to determine that students can collect, analyze, evaluate, and interpret the data obtained in one quality attribute of foods, such as sensory evaluation or testing the quality of raw materials.

Rubric 1

Identifies a specific topic	Support for specific topic	Thoroughness of research	Organization of writing and style
0-25 points	0-25 points	0-25 points	0-25 points

Rubric 2

	Beginner	Intermediate	Expert
Identifies the specific the topic of the quality attribute	Difficult to identify or states the evident of the required topic and delivers unclear structure	Topic may be unclear or vague with little report structure	Topic is clear, insightful and provides rational and sound structure for the report
Support for specific topic	Report is difficult to identify or understand; conflicting ideas are presented but not seriously considered or integrated into the paper	Support for topic is generally clear and appropriate, but rambles occasionally; conflicting ideas are identified but not seriously considered or integrated into the paper	Backing for topic is classifiable, reasonable and sound
Thoroughness of research	Failure to support statements through evidence; evidence is poorly analyzed, poorly incorporated or improper	Evidence is given in support of most points, but some may be inappropriately placed	Every point is supported with at least one example from primary resources.
Organization of writing and style	Lacks effective organization of ideas with limited transitions or connections; conclusion is confusing, unrelated to the topic or; Many errors in spelling, grammar, paragraph and sentence structure	Evident organizational structure with some lapses; a few unclear statements may exist between major divisions of the report; conclusion summarizes points but does not provide closure; Sporadic errors; clear but wordy and redundant	Logical organizational pattern; clearly organized ideas with appropriate presentation between major sections of the report; conclusions briefly summarize results and provides closure; Spelling, grammar, paragraph, and sentence structure are correct and clear

Criteria: an average rating of **80%** comprehension for the entire class with at least **20%** of the class demonstrating **90%** or higher comprehension and ability, will indicate satisfactory achievement.

2018-2019 Program assessment plan

Outcomes to be assessed:

Outcome E.1. Apply principles of biochemistry, physiology, and metabolism

Assessment Method

Students will be requested to evaluate nutritional status of a diabetic person and explain the cause of the situation and from a physiological and biochemical approach.

Direct Measures

FSN 315 Nutritional Biochemistry; **FSN 465** Applied Nutrition. A problem solving question integrating applied nutrition and biochemistry. Question will be directed to test students' ability to integrate biochemical knowledge and human nutrition.

Rubric 1

Identified key components of the topic	Identifies a feasible approach/strategy to approach the topic	successfully executes the approach/strategy	capability to integrate biochemical knowledge application in nutrition
0-25 points	0-25 points	0-25 points	0-25 points

Rubric 2

	Beginner	Intermediate	Expert
Identified key components of the topic	Does not identify key components needed to approach the issue	Identifies the most important component of the problem to be solved	Accurately identifies the issue
Identifies a feasible approach/strategy to approach the topic	Does not point out viable strategic approach to the problem	Develops an acceptable approach but not the best	Develops the most ideal approach to work out the problem
successfully executes the approach/strategy	Has significant difficulties in applying problem solving strategy	Somewhat effective in executing the developed strategy	Effectively executes problem solving strategy
capability to integrate biochemical knowledge application in	Has significant difficulties integrating Biochemical knowledge to human nutrition	Capable of integrating food processing and product development principles	Successfully integrated biochemical knowledge to principles of human nutrition

nutrition			
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Criteria: an average rating of **80%** comprehension for the entire class with at least **20%** of the class demonstrating **90%** or higher comprehension and ability, will indicate satisfactory achievement.

Strengths

1. The faculty members of the Food Science and Nutrition department are highly qualified for teaching, research, and community outreach programs. Annually, a good number of manuscripts were submitted to and published in prestigious international journals. Most of the journals are under internationally recognized publishing companies such as Elsevier, Blackwell, Wiley, and others. The cvs of all staff member are loaded on the department's web site: www.colleges.ksu.edu.sa/Food Science and Nutrition.
2. Staff members' are evaluated periodically according to self-assessment reports that are used against related evidence such as comments from stakeholders.
3. Faculty members' involvement in the quality improvement processes and gave a strong support to the program.
4. Quality assurance processes apply standard forms and survey instruments across the institution including the addition of any unique elements needed to meet the particular requirements of programs.

Recommendation for improvement

1. The gathered results of statistical analysis of quality and performance of the program should be used as guide for future plans for quality improvement.
2. The quality improvement and program planning recommendations should be imbedded in the daily administrative processes. Continue the use of standard forms and survey instruments for quality assurance processes and include any new unique needs of the program to ensure quality assurance followup.
3. Make certain the information on key performance indicators that are selected for the program is provided regularly.
4. It is recommended, a clear process for verification of standard of students' achievement at the program level be established.
5. Maintain annual direct assessment as planned for the next 5 years

Priorities for Action

1. To hire qualified staff in the Academic Quality unit and provide needed training.
2. To ensure that specific indicators are identified for monitoring performance and make certain that appropriate benchmarks are selected for comparative evaluation of the achievement of goals and objectives and quality of performance.
3. Develop and maintain a database for quality and updates any quality development in the program.
4. To include quality assurance measures in all departmental quality committee meetings.
5. The interpretations of evidence of quality performance should be done by specialized personnel.
6. To ensure that the program administrators and teaching and other staff are committed to maintaining and improving the quality of the program.
7. To ensure that the necessary quality assurance activities are applied to all aspects of program planning and delivery includes provision of related services and to all teaching and other involved staff.

Annexes

Annex 3.1. Some letters sent to public and private authorities to request their opinions about new

program of Food Science and nutrition. In file

Annex 3.2. Student satisfaction, Course evaluation, Program evaluation and student experience forms. In file

Annex 3.3. Statistical analysis form of program evaluation, of student experience, and course evaluation.

In file

Annex 3.4. New and current program of Food Science and Nutrition department In file

Annex 3.5. Statistics about number of staff members and employers_In file

Annex 3.6. Statistics of B.Sc. and postgraduate students._In file

Annex 3.7. Accreditation form of Agriculture Institute of Canada. In file

Annex 3.8. Copy of Food Science and Nutrition department website. In file

Annex 3.9. Names list of staff members of different quality committees and some meeting related to these committees._In file

Annex 3.10. Index of Food Science and Nutrition department and some educational brochures._In file

Annex 3.11. Accreditation files of Agriculture Institute of Canada In file

Annex 3.12. Strategic plan of Food Science and nutrition department_In file

Annex 3.13. Reports committees related to Standard 5: Student Administration and Support Services, Standard 6: Learning Resources, Standard 7: Facilities and Equipment, Standard 8: Financial Planning and Management, Standard 9: Employment Processes and Standard 11: Institutional Relationships with the Community. In file

Annex 3.14. Annual reports of Food Science and Nutrition department. In file

Standard 4. Learning and Teaching. (Overall Rating, Four Stars)

Student learning outcomes must be clearly specified, consistent with the National Qualifications Framework and requirements for employment or professional practice. Standards of learning must be assessed and verified through appropriate processes and benchmarked against demanding and relevant external reference points. Teaching staff must be appropriately qualified and experienced for their particular teaching responsibilities, use teaching strategies suitable for different kinds of learning outcomes and participate in activities to improve their teaching effectiveness. Teaching quality and the effectiveness of programs must be evaluated through student assessments and graduate and employer surveys with evidence from these sources used as a basis for plans for improvement.

Provide an explanatory report about the organizational framework and process arrangements followed to demonstrate that the sub-standards are met (For example, use information provided in reports of survey summaries, KPIs and benchmarking analysis, indirect and direct learning outcome assessments or in annual program reports).

The standards for learning and teaching are the most important parts of the program self-study. Information provided includes indicators used as evidence of performance and priorities and strategies for improvement. Reference will be made to the results of processes followed. For example if steps were taken to evaluate the standards of student achievements and academic progress against appropriate external benchmarks, the following questions need to be addressed: what was done? What conclusions were reached?. Any information provided in reports of surveys or special investigations or in annual program reports will be summarized. This section was written in a form of stating the measures that make the learning and teaching comparable to internationally known organizations and international reviewers specialized in the field. This section will include the weaknesses and suggestions for improvement of the learning and teaching.

Provide a description of the quality assurance response processes used to verify the organizational framework and processes for learning and teaching are valid (For example if steps were taken to check the standards of student achievement against appropriate external benchmarks, what was done, and what conclusions were reached?).

The evaluation was done based on dialogue, debate and discussion within the Department of Food Science and Human Nutrition. The evaluation reports, surveys information and documents were reviewed according to the following classification of the records:

- Program specific learning outcomes
- Course specifications
- Course and program reports
- Independent evaluation of the program; 2008 (external developmental review); 2010(Agriculture Institute of Canada (AIC) granted accreditation for 7 years)
- Workshops held by KSU and Academic quality unit
- Survey results (FSN students)
- Policies and procedures are in accordance with those of the College of Food and Agriculture Sciences and KSU.

Subsection 4.1 Student Learning Outcomes *(Overall Rating, Four Stars)*

Describe the processes used for ensuring the appropriateness and adequacy of intended student learning outcomes from the program. Include action taken to ensure consistency of the intended student learning outcomes with professional or occupational employment requirements as indicated by expert advice or requirements of professional bodies or relevant accrediting agencies with the National Qualifications Framework. (Note that evidence on the standards of student achievement of these intended learning outcomes should be considered in sub-standard 4.4 below)

Indirect Assessment Results, Analysis, and Suggestions

The process of identifying students' learning outcome has been derived from the program mission as well as the outcomes adapted worldwide. Therefore, the department has established a curriculum development committee responsible for the curriculum update and review according to the need of the local economy and the marketplace. The curriculum update was done through involvement of stakeholders in reviewing the curriculum. Since the new curriculum included internship which requires support from private companies (stakeholders), KSU administration signed agreements with these companies so that to implement students' internship program.

The intended learning outcomes of FSN department program are compared with the outcomes specified with the Institute of Food Technologists (IFT) and adapted by many food science and nutrition programs throughout the world especially USA. Specifically, FSN can compare with Iowa State University, the department of Food Science and Human Nutrition, the college of Agricultural and Life Sciences <http://www.fshn.hs.iastate.edu/undergraduate-programs/outcomes/learning-outcomes/#food-science>. FSN department meet most of the specified outcomes by IFT and Iowa State University. In addition, The accreditation given by AIC indicates compliance with learning outcomes of Canadians Universities. Those three (IFT, Iowa State University, and AIC) are strong evidence that FSN meets international standards.

The mission of the program is: To prepare food scientist and nutritionists who would be able to meet and respond to the changing world-economy and food security needs and expectations of the Saudi community. The mission has been discussed thoroughly and extensively within the department and made public for comments then finalized to take its current format. The mission is displayed in many places in the department facility. The overall learning outcome of students is measured based on the continuous assessment, through exams (tests, quizzes and final exams), reports of projects, presentations delivery, and active participation during classes. To ensure that students were taught the appropriate knowledge; individual course objectives and intended learning outcomes were defined, during course specification and assessment method, alumni feedback, and the "Academic Quality Unit" so that to ensures continuous quality management of each course.

Use the below table to **provide all the program learning outcomes** required for graduation with the appropriate assessment methods and teaching strategies in alignment. Use the learning outcomes in the NQF domains of learning, assessment methods, and teaching strategies identified in the Program Specifications. If there are no learning outcomes required for the psychomotor domain then omit the fifth learning domain.

	NQF Learning Domains and Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		

1.1	Define the subject matter of food science and nutrition	Lectures, tutorials, assignments, summarizing paper, presentations, and essay questions, and internet search.	Exams, quizzes, Midterms, finals, papers, projects, and special assignment.
1.2	List the subjects and the areas of knowledge required		
1.3	Describe knowledge in analysis, design and development of subject application.		
1.4	Outline the concepts of Food Science Technology and Human Nutrition.		
1.5	Application and communication of knowledge to the intended.		
2.0	Cognitive Skills		
2.1	Apply and communicate knowledge to the intended.	Lectures, tutorials, assignments, summarizing paper, presentations, and essay questions, and internet search.	30% of final grade to be based on practical exams and seminar Seminars. The remaining 70% are allocated for written exams
2.2	Develop comprehensive awareness of analytical skills, new product development, food industry problem solving, and meal planning for special cases.		
2.3	Differentiate understand the reason for choosing different food processing methods as well as the effect of processing on the nutritional value of foods		
2.4	Predict the quality of the final food product when specific method of process was used		
3.0	Interpersonal Skills and Responsibility		
3.1	Interpret a situation and decide possible source of problems and demonstrate ability to communicate the problem to others	Lectures, labs, practical assignments requiring problem solving, case studies and discussions.	Observation, Self-evaluation, Peers' evaluation, and Email communication between student and staff
3.2	Demonstrate ability to recognize food production problems. Judge a nutrition situation related disease such as malnutrition		
4.0	Communication, Information Technology, Numerical		
4.1	Interpret real malnutrition cases and food-production problem solving	Out of class activities, such as hospital	Report evaluation and exams
4.2	design and develop new food products	Field experience such as Food industry visits	Report evaluation and exams
5.0	Psychomotor (if applicable)		
5.1	Perform diagnostics of food products or a nutrition situation using proper instrumentation and provide a technical report explaining the situation and possible solution or recommendation	Group sessions and case study.	Report evaluation and exams

Describe the general performance of the program learning outcomes; including external KPIs with benchmarks and analysis assessments from students and employer surveys and a summary of the direct assessment of student learning achievements (How well are the students learning?).

The FSN department leadership has agreed on a number of outcomes that all graduates should be able to accomplish with a great deal of success. The outcomes are in accordance with the **National Qualification Framework (NQF)** and divided into major and specific outcomes. The major outcomes include communication, critical thinking, and socio-ethics of their profession. The specific outcomes are strictly related to technical knowledge on food science or human nutrition and the ability of the student to apply technical rules to their respective profession. Students are expected to demonstrate how to locate, interpret, evaluate and use professional literature to make decisions and apply principles from the various facets of food science or human nutrition and related disciplines to solve practical, real-world problems.

Table 4.1.1. This table documents what courses required for cognitive skill achievement of FSN Department outcomes is assessed. The method of assessment is listed on the learning outcomes in

Graduates of FSN will be able to:	Courses required by FSN to meet department's learning outcome	
Cognitive Skills	Food Science	Nutrition
1. Apply and communicate knowledge to the intended	FSN 202 Intro to Food Science FSN 206 Intro to nutrition	FSN 202 Intro to Food Science FSN 206 Intro to nutrition
2. Develop comprehensive awareness of analytical skills, new product development, food industry problem solving, and meal planning for special cases.	FSN 316 Food chemistry FSN 317 Food Analysis FSN 323 Food Microbiology FSN 325 Food Safety	FSN 316 Food chemistry FSN 317 Food Analysis FSN 323 Food Microbiology FSN 325 Food Safety
3. Differentiate understand the reason for choosing different food processing methods as well as the effect of processing on the nutritional value of foods	FSN 352 Food processing FSN 456 Quality control FSN 433 Dairy technology FSN 437 Cereal technology FSN 439 Meat technology FSN 471 Product development FSN 422 Food service	FSN 472 Nutrition assessment FSN 361 Nutrition during life FSN 422 Food service FSN 464 Community nutrition FSN 465 Applied nutrition FSN 477 Micronutrients FSN 472 Nutrition in developing countries

the NQF domains listed above

Students who successfully finish the courses listed on this table did meet the learning outcome of the department. It is worth mentioning that, many of these courses are prerequisites of others. In addition to the course listed above, the department requires 12 credits of internship training for completion of the program. Direct exams, reports, presentations, and projects are the main forms of assessments of students' achievements.

A number of measureable indicators (KPs) were incorporated to assess the learning outcomes (LO's) which are directed in a form of surveys towards current student opinion, faculty performance, and alumni. These KPIs are rated on 5 points scale:

1. Students overall evaluation of the quality of their learning experiences at the institution, target 4/5.

2. Proportion of courses in which student evaluations were conducted during the year, target 4/5.
3. Proportion of programs in which there was independent verification of student's achievement within the institution target 2.5/5.
4. Ratio of students to teaching staff, target 19:1 which is external benchmark 17:1 of 4 US universities (University of IL, Michigan State university, Ohio state university, and University of Wisconsin).
5. Students overall rating on the quality of their courses, target 4/5.

The results achieved(actual benchmark) relative to internal and external benchmarks are; About 3.2 of scale of 5 were satisfied with their experience at KSU (64%), whereas 4/5 thought that their experience in the department was good. The FSN evaluates 100% of the courses every semester and process the collected data. FSN department reached 1:14 faculty student ratio which exceeds the target (1:17).

Comments and analysis

The department did not meet the target of the overall experience of students at KSU who participated in the survey. To meet its goal, the department needs to look at possible reasons for the 64% satisfaction rather than 80% including comparing data related to students experience at the institution with the experience at the department. The department met its target by surveying all courses taught at the department. The data is analyzed statistically and submitted to the faculty members responsible for the course for possible indicators. The department exceeded its target for faculty student ratio which can reflect well on faculty availability for students and for carrying other activities related to other objectives of the department such as research projects and brining external funding and community service. Students' opinion on course quality was close to their overall experience about the department. One can infer from this data that courses quality played a major role on students' opinion of the department.

Another set of KPIs were related to LO's with respect to students appropriate scientific base at the end of their education:

1. Percentage of students entering programs who successfully complete first year, target was 4.5/5 and actual 5/5 (100%).
2. The overall rating of students on the quality of internship from answering the Question; The activities taught me life-long learning, target is 4.2/5 (85%) and actual 4.1/5 (82%).

Comments and analysis

Based on the 2013 graduation, 42% of the students graduated after five years while 39% graduated after 6 years and 10% in four years, while the remaining graduated in more than 6 years. The number of students finished the first year successfully was 100% which exceeded the targeted number. The delay in graduation could be attributed to pre-requisite courses offered by the science department or due to the internship program which requires one whole semester (12 credits) to complete. Since students are assigned to the department by the registrar office and not by their choice, this could have adverse effect on their starting time after acceptance. This can be observed by the number of the registered students (around 90) and the number of those who actually start the program (around 50). The internship program benefit was highly appreciated by the students who gave it score of 4.1/5 (81%). The low score in the number of students who finish the program within the specified time which is 4 years could be attributed to the inability of the students to take summer courses. This could be addressed by opening at least two summer courses. In addition, students come to department after they complete the prep year and take some courses at the science department which are considered prerequisite for courses within the department that could be another reason for the delay. As a final note, about 70% of the students complete the program within 4 years and one semester.

More KPIs:

With respect to alumni satisfaction with the learning outcome of their education at FSN 3.2/5 (64%) graduates of the program thought that they received knowledge that help them to develop their critical thinking and problem solving skills, 3.6 out of 5 thought that the program helped them in their career, and 4 out of 5 were able to compare themselves with graduates from other universities.

Comments and analysis

The program managers need to provide more academic advice to their students and communicate the services available to them. Alumni thought that computer application in their field was not to their satisfaction as well as less choices between courses offered, and academic advise was not offered as expected (only 1.7/5 (34%) were satisfied). To improve results, more computer application should be provided and broaden the course choices for students. The department could also do a better job in providing more information to their seniors regarding the marketplace and put more emphasis on the courses that are directly related to local commodities.

Describe the program learning outcome assessment system (What is it?); including the results and analysis for the last four years, a description of the leaders, faculty, committees and responsibilities and the names people who serve on each committee.

The learning outcome assessment process is structured according to the four fundamental elements of assessment developed by the faculty. **At first**, developed intended learning outcomes, which describes the departments intentions regarding what students should know, understand, and apply in their career after graduation. **Secondly**, decide on the data gathering assessment methods so that to determine whether intended learning outcomes have been accomplished or not. **Third**, creating learning experiences i.e., create the right environment both in and outside the classroom, to help students achieve the intended learning outcomes which is crucial for outcomes assessment process. **Fourth**, plan the course learning outcomes activities and assessment methods to achieve outcomes. Document each syllabus of all courses and decide what are the generals and specifics of the course focus. By using the assessment results, faculty can collect feedback that can be used to improve learning. These steps are important part of the course specification designed for each course taught at FSN department. The FSN department specified 12 learning outcomes, which are in line with the recommendation of the Institute of Food Technologists (IFT), the relevant professional organizations for our majors. The FSN learning outcomes are detailed in the program specification of the department. The LO's are:

1. Define the subject matter of food science and human nutrition
2. List the subjects and the areas of knowledge required
3. Describe knowledge in analysis, design and development of subject application.
4. Outline the concepts of Food Science Technology and Human Nutrition
5. Communicate food science and nutrition knowledge effectively with others in one-on-one, small-group, and large-group situations
6. Apply and communicate knowledge to the intended person
7. Develop comprehensive awareness of analytical skills, new product development, food industry problem solving, and meal planning for special cases.
8. Differentiate understand the reason for choosing different food processing methods as well as the effect of processing on the nutritional value of foods
9. Interpret a situation and decide possible source of problems and demonstrate ability to communicate the problem to others
10. Demonstrate ability to recognize food production problems. Judge a nutrition situation related to disease such as malnutrition

11. Interpret real malnutrition cases or troubleshoot a food- production problem in a production line.

12. Perform diagnostics of food products or a nutrition situation and provide a technical report explaining the situation and possible solution or recommendation

The department formed committees to manage quality and monitor progress of the program. The committees are:

Quality Management System Unit:

The unit's responsibility is to deal with the specifics of the program specification regarding LO's and KPIs as well as all aspects of data collection and analysis, such as surveys of students, faculty, employees, alumni, and employers. The unit is headed by the department chair, Dr.Fahad Aljuhaimi, and three members plus a secretary.

Management of Program Quality Assurance Unit:

The unit's role is to systematically and continuously apply indicators, benchmarks, and CQI techniques for problem solving, in addition to quality assurance measures in all units of the department. Moreover, it ensures the use of the statistics and performance data generated annually for program and take proactive action and develop plans based on the performance analysis. Finally, the unit coordinates the hiring of qualified staff and train current staff to manage the academic quality unit. The person responsible for this unit is Dr.Aly El-Shetwy

The FSN department has designated a number of course as prerequisites for other courses. These courses appear on the program curriculum starting 4th semester to the 8th semester. These courses are there to verify that students possess the proper knowledge to continue with other courses at higher level. These courses are selected because they contain information necessary for following courses. The learning outcome of each course taught at FSN is stated in the course specification including assessment procedure. Some courses outcome is assessed by direct exams and tests, other by presentation, term papers, reports, or by a combination of these methods. The final grade of the course is the cumulative of the grades gathered around the semester.

Describe the process and steps utilized for the complete assessment for all program learning outcomes (How does the system or process work?).

Students' assessments are appropriate to the course taught such as courses with lab part are assessed for both lectures and lab work. Assessments are clearly communicated to students via syllabus or during the first lecture of the semester. Appropriate and reliable assessment system is implemented throughout KSU. Students grading system is designed in such away to ensure the expected learning outcome. The teaching-staff of FSN is trained on how to fairly assess students where specific procedure is in place to deal with low students achievements. Teaching staff do check if students do assignments by themselves or copied from someone else. Course assessments results are delivered every semester and kept available for students for the beginning of the next semester for appeal of results.

It is clearly stated in the STUDENT CODE OF CONDUCT booklet issued by King Saud University the following: "Plagiarism is a violation of the Student Code of Conduct. Plagiarism consists of using the words, ideas, concepts or data of another person without proper attribution. It may exist in circumstances where the student implies that he/she is the original source of the information. Plagiarism includes both direct use and the paraphrasing of words, thoughts or concepts of another without proper attribution as well as:

-Copying of passages from electronic and/or copy works of others into one's own homework, essay, term paper, or thesis without acknowledgment;
 -Use of the views, opinions, or insights of another person without acknowledgment;
 -Paraphrasing of another person's characteristic or original phraseology, metaphor, or other literary device without acknowledgment."

Learning outcome assessment system relies on testing student's knowledge through exams (tests, quizzes, and final exams), problem solving via homework, projects reports (oral and written reports), and internship program (full time for 6 month) report. The course instructors' reviews and comments on homework assignments and tests provide the student with feedback on their performance. Knowledge, skills, and ability to perform in the laboratory are evaluated through review of laboratory reports. Ability to work effectively in teams and to communicate correctly and effectively is evaluated through performance in laboratory work and team projects. The program's full-year senior design capstone course provides a unique opportunity to evaluate students' overall professional competence and preparedness during their final year. The University uses an "A" through "F" grading system, with "plus" grades available from "A+" through "D". A minimum average of "C" or a grade point index of 2.0 on a 5.0 scale, on all work taken at the University is required for the baccalaureate degree.

List the strengths and recommendations for improvement of the learning outcome assessment (Based on the student performance results, how can the program improve?) (See *Annual Program Reports* for detailed data).

Strengths

- The FSN department has defined the learning outcomes for its students
- The department is systematically assessing students learning outcomes by conducting student's surveys for all courses, surveys of faculty and employees, and survey of alumni as well as employers .
- Methodical approach for students learning outcome was established by inviting outside program reviewers from national and international institutions in addition to complying with NCAAA requirements.

Recommendations for Improvements

- The department needs to develop more KPIs for students learning outcomes in addition to those specified by the NCAAA.
- Develop more relevant benchmarking for LOs that meet employers' expectations.
- Focus more on following alumni and use their experience in improving LOs
- A system should be established to close any gaps within SLOs. The system should provide for review, plan, and implement gap closure.

Evaluation of intended student learning outcomes. Refer to evidence about the appropriateness and adequacy of the intended learning outcomes for students in this program and **provide a report** including a list of strengths, recommendations for improvement, and priorities for action

The evidence for the appropriateness of the LO's can be found in the career success of the graduates of the program as reflected by their employers. It can also be reflected by the acceptance of graduates of the program by other national or international universities for higher education. The

FSN Department graduate's employers are surveyed annually and the collected data is analyzed. As mentioned before, surveying employers has shown that graduates of the program are performing at acceptable level with regards to their communication, technical, and ethical skills.

Strengths:

1. The FSN department has established major and specific learning outcome for all courses listed in its curriculum as specified in the course specification.
2. To ensure strong knowledge base, the department has identified prerequisites for almost all courses.
3. The learning outcomes of FSN are comparable to those of the Institution of Food Scientists of Chicago (IFT)

Recommendations for Improvement:

1. More consultations with private sector with regard to curriculum development. The department should consider curriculum change if suggested by private sector that might help graduates to cope with the private sector daily concerns.

Priorities:

1. Group the courses of the department according to content and scope such as basic science courses and technology courses. Develop standard learning outcome assessment procedure for all course taught at FSN based on groups.

Choose **ONE OR MORE** KPIs that best supports that the program meets this standard. Each KPI should use a separate KPI table. Insert the KPI in the table below, add the actual KPI benchmark with the other benchmarks, and provide an analytical interpretation that describes the outcome (most benchmarks are numerical and others may be descriptions that verify quality using a rubric).

KPI Code# 4.1: Ratio of students to teaching staff

Target Benchmark	19:1
Actual Benchmark	14:1
Internal Benchmark	9:1
External Benchmark	17:1 (Pen State University)
New Target Benchmark	14:1

Analysis:

The department exceeded its target for student-faculty ratio which can reflect well on faculty availability for students and for carrying other activities related to other objectives of the department such as research projects and bringing external funding and community service. The average of student-faculty ratio for 4 US universities was (University of IL, Michigan State university, Ohio state university, and University of Wisconsin) is 17:1.

Direct Assessment Results, Analysis, and Suggestions

As mentioned in standard 3, the program has established direct assessment of the learning outcome for the First semester of 2014-2015. The program has developed a KPI for the expected learning outcomes of the program, which are directly connected to the courses and others activities offered by the program such as internship program.

The first LO assessed in the year 2014-2015 was "**A. Graduates can demonstrate and apply knowledge of the core competencies in food chemistry and analysis.**"

This outcome was based on the knowledge acquired by the students after taking the following courses:

FSN 316; Food Chemistry and FSN 317: Food Analysis

KPI Code# 4.1.1: Students should be able to; A.1. Explain the chemistry underlying the properties of various food components. A.2. Discuss the major chemical reactions that occur during food processing and storage. A.3. Select appropriate techniques to solve specific problems in food analysis. A.4. Correctly use appropriate laboratory techniques in food chemistry and food analysis.	
Target Benchmark	Criteria: An average rating of 80% (intermediate) for the entire class with at least 20% of the class demonstrating 90% or higher comprehension (expert) will indicate satisfactory achievement.
Actual Benchmark	For A.1 and 2, 54% of the students were above average and NO student above 90% of the full mark For A. 3 and 4, 54.3% were above average and 2.9% above 90%
Internal Benchmark	80% above average and 20% above 90%
External Benchmark	80% above average and 20% above 90% (University of Arkansas at Fayetteville)
New Target Benchmark	65% above average and 10% above 90%
Note: The data A1 and 2 was combined and analyzed as one entity because it addresses one course whereas A3 and 4 will be discussed as one unit. The suggested criteria for course score was 80% of the students achieve the average score and at least 20% score above 90%.	
Finding and Analysis: Outcome A. 1 and 2. In Fig 4.1, the data represents the average score for the 4th semester students at the Food Science and Human Nutrition Department 2014-2015 that are intended to establish the fulfilment of the KPI set for LO A. 1 and 2. The data showed that the average score was 7.6 out of 15 which was achieved by only 54% of the total number of students who attended this	

course. The score ranged from 4-13. About 27% of the students scored between 9 out of 15, 23% scored 8 out of 15, 14% scored 7 out of 15, and 27% scored 6 out of 15. Therefore, 10 students scored 67% of the full mark and 10 students scored 40% of the full mark, where 13 students scored between 53 and 47% of the full mark. In general, the ranges of the score indicate a wide disparity of students' performance which poses a teaching challenge. This is lower than the expected 80% set by the KPI. In addition, no student scored higher than 90% where the highest score was achieved by one student who scored 86.6%. It is clear that improvement is needed to achieve the goal set by the KPI. The low score is indicative of unprepared students in other types of chemistries needed as a foundation for this course.

Suggestion for Improvements:

One of the steps that can be taken is at the 5th semester and move organic chemistry to the 4th semester i.e., the food chemistry course should be taken after general chemistry, organic chemistry, and biochemistry. This course should have a laboratory to enrich the knowledge of the students.

Outcome A. 3 and 4.

This question was presented to the 5th semester students at the Food Science and Human Nutrition department. The following question was asked to students to establish accomplishing the LO A.3. "*Select appropriate techniques to solve specific problems in food analysis*". Students were asked "to analyze unknown food sample for; moisture content, ash, proteins, carbohydrates, minerals, acidity, fat, and solutions standardization".

This question deals with lab activities (total possible marks are 60) (Fig 4.2 and 4.3). The average score was 46 points out of 60 (76.7%). About 58.8% of the students achieved the average score (30 out of 51) compared to 40.8% expected. This means that for this part of the course we have achieved our goal for A.3 (Fig 4.3).

This question was presented to students in the 5th semester of the Food Science and Human Nutrition department to confirm fulfillment of outcome A.4, listed above "*Correctly use appropriate laboratory techniques in food chemistry and food analysis*". The question was a part of FSN 317 final exam during the first semester of 2014-2015. The question was "A food can contains 1300 g, the protein analysis was 3%, fat 7.7%, CHO 65%, fiber 2%, saturated and fats 4.6%. The analysis also found fat trans 1.0 g, cholesterol 18.5 mg, sodium 0.5 g, vitamin c 62.3 mg, and calcium 2900 mg /100 g. Complete the nutritional information if the serving was 130 g and how much it covers the daily need for 2000 kCal."

In Fig 4.2., The data showed an average of 2.9 for the question that set to address LO A.4. whereas 29.9 scored above 90%. The total mark for this question was out of 10 points, we observe in Fig 4.2 no score between zero and 10 because the course instructor communicated to students that they either get full mark (10) for solving the question or no partial answer will be considered. i.e., students can answer the question in full and get full mark or get a zero for making any mistake. Based on the set KPI, the average of the score should 80% of the full mark, which is 8 out of 10, the average of the student was found to be 2.9 out of 10, way below expectation. Only 29.9 % of the students achieved the average instead of 54%. This data showed that the first part of the KPI was not accomplished. The second part of the KPI state that at least 20% of the students get at least 90% of the score. This part was achieved by 29.9% of the students were above 90%.

The overall average of the final score (lab + theoretical) was 68% (Fig 4.4). Only 54.3% of the students scored above the average which is lower than expectation (56 students). In

addition, only 2.9% of the students scored higher than 90% compared to the projected 20%. It is clear from this overall score of the course, the LO (A.4) needs to be improved so that the expected final score can be achieved. The range of the score was 10 to 90%, where 12 students scored 80-85%, 23 students 70 to 79%, 27 students 69 to 60% and 4 students scored between 4 to 46%.

Suggestions for Improvement:

This data showed that improvement is needed to raise the overall average score of this course. This can be done by changing the way this part of the course is taught. For instance, rather than lecturing the students regarding this is part of the course, use group study by establishing teams and allow group discussion and practice.

As observed earlier for A. 1 and 2, the wide range of score for A 3.4. poses a challenge, especially for the theoretical element of the course. The improvement needed here is similar to the previous course because these two courses are interdependent.

Fig 4.1. This data is the final result of of the question as part of learning outcome A.1 and 2 "Explain the chemistry underlying the properties of various food components" "Discuss the major chemical reactions that occur during food processing and storage"

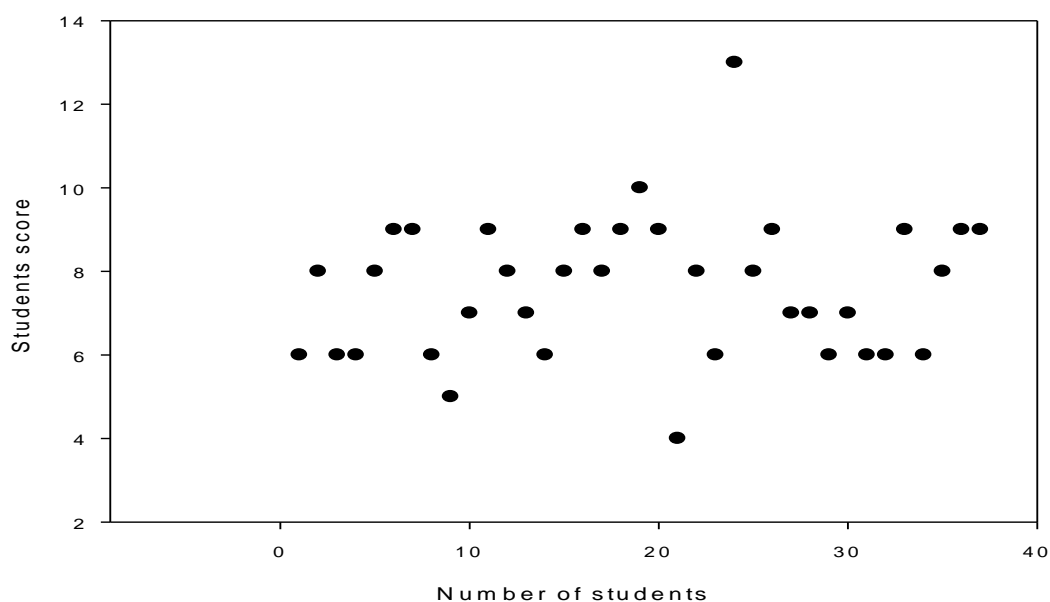
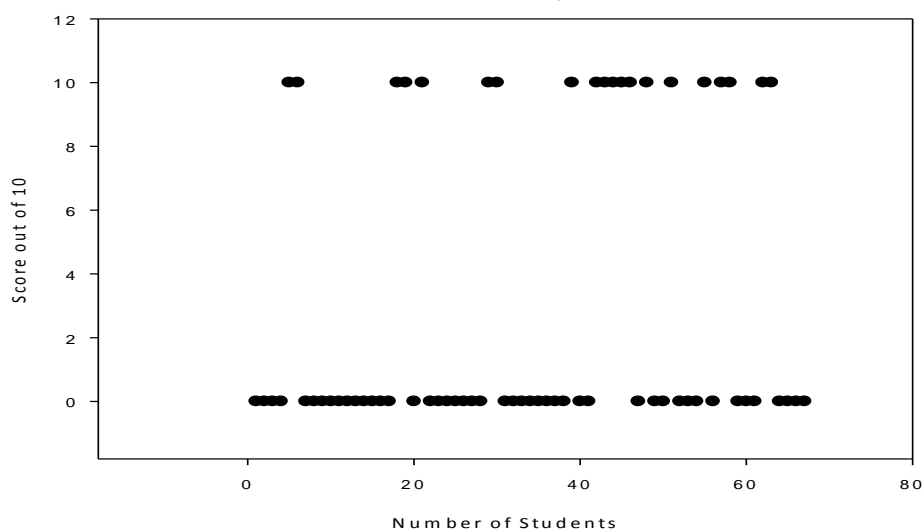


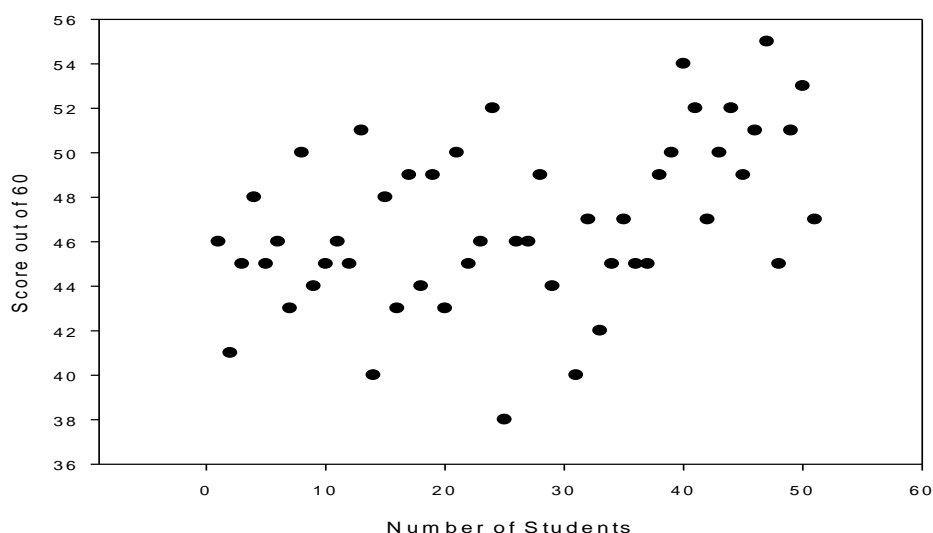
Fig 4.2. This data is a result of the question listed below as part of learning outcome A. 4
" Correctly use appropriate laboratory techniques in food chemistry
and food analysis.



The following question was asked; "A food can contains 1300 g, the protein analysis was 3%, fat 7.7%, carbohydrates 65%, fiber 2%, saturated and fats 4.6%. The analysis also found fat trans 1.0 g, cholesterol 18.5 mg, sodium 0.5 g, vitamin c 62.3 mg, and calcium 2900 mg /100 g. Complete the nutritional information if the serving was 130 g and how much the values covers the daily need for 2000 kCal".

The suggested KPI average for course score was 80% with at least 20% above 90%

Fig 4.3. This data is a result of the question listed below as part of learning outcome A. 3
" Select appropriate techniques to solve specific problems in food analysis".



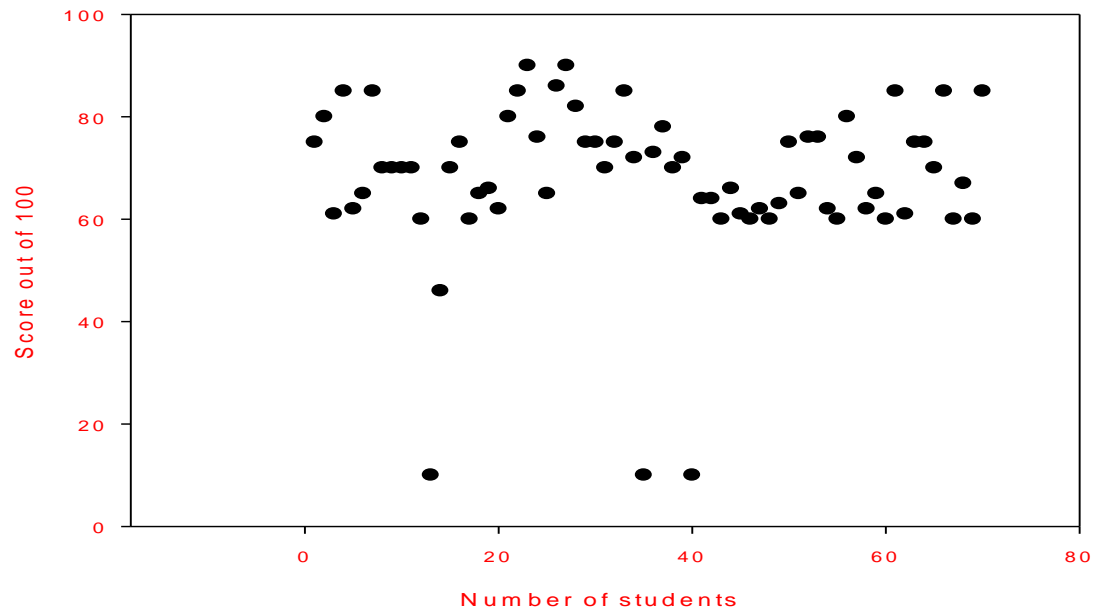
Students were asked to analyze unknown food sample for; moisture content, ash, proteins, carbohydrates, minerals, acidity, fat, and solutions standardization.

The average score of students on the question listed above was 46 out of 60 (76%).

Only 3.9 students were above 90% of the score.

*The suggested KPI for course score was 80 average and 20% above the 90%.

Fog 4. 4. The overall average of the food analysis score including lab and theoretical



The overall average of this course (lab +theoretical) was 68% while only 2.9% of the students scored higher than 90% of the full mark. The suggested KPI average for course score was 80 and at least 20% of the students should be above 90% .

Subsection 4.2 Program Development Processes *(Overall Rating, Five Stars)*

Describe the processes followed for developing the program and implementing changes that might be needed.

The department of Food Science and Nutrition has been developed along with the scientific advances in the field of food science and nutrition and in response to the need of the population in the Kingdom of Saudi Arabia. The idea of establishing the department was initiated by the Department of Animal Science at the College of Agriculture. The idea was presented to the Dean of the College, and after discussion within the College Council, the proposal was presented to KSU president through the Rector of Academic Affairs. The proposal was discussed by the University Council and approved. The KSU president presented the proposal for establishing a new program, with all needed justification, to the Ministry of Higher Education. Finally, after reviewing the proposal, the Minister of Higher Education requested approval from the King of Saudi Arabia who endorsed the proposal and ordered the establishment of the program. The department was established in 1965 (1385 H), as the first Department of Food Science and Nutrition in the Saudi universities, and one of the main departments in the College of Agriculture under the name Department of Food Industries.

In 1981 (1401 H), the department became independent awarding B.Sc. in Food Science. The number of faculty, staff and modules had consequently increased and the name of the department was changed to the department of Food Science which include all the fields of food sciences and technology. Also, in 1981 (1401 H), the number of nutrition modules expanded to include the field of food and nutritional sciences, as the case at some outstanding American and European Universities. In the same year a joint master degree program was established to offer M.Sc. Degree in Human Nutrition. The M.Sc. Degree in Food Science was established in 1992 (1413 H). In 1996 (1417 H), the department name was changed to Department of Food Science and Nutrition to reflect all the fields in the department and became as one of the recognized consultancy unit in the Kingdom of Saudi Arabia and as a recognized institute in food and nutrition sciences research. Students consequently were awarded B.Sc. degree in Food Science and Nutrition.

There is a strong relationship between health and nutritional status which is in turn affected by the economic situation and changes in lifestyle of the Saudi society. This led to drastic changes in nutritional habits and occurrence of many health problems in the Kingdom. Despite the importance of nutritional studies to compact these problems, the Saudi universities are in need for the development of academic nutritional programs. Therefore, the College of Food and Agriculture Sciences, represented by department of Food Science and Nutrition has taken this task. In 2004 (1425 H), a Ph.D. program in Human Nutrition for female students was established. In 2006 (1427 H), a new program of study was developed to improve student qualification in human nutrition field and research. In 2003, the Department of Food Science and Human Nutrition took full control of the Human Nutrition Program and the degree offered was renamed B.Sc. degree in Food Science and Human Nutrition.

Evaluation of program development processes. Refer to evidence and provide a report including a list of strengths, recommendations for improvement, and priorities for action.

The FSN department did progress and evolve according to the need of the private and public sectors by making proper changes on the curriculum. Changes such as adding courses and removing courses. External and internal reviews were requested by the department and comments and suggestion were addressed. For instance, the program complied with IFT requirement of the minimum needed for food

science B.sc degree.

Strengths

1. The establishment of the Academic Quality Assurance at the department and the Quality Management System Committee is a good addition to ensure quality management of the program performance and curriculum evaluation.
2. The program curriculum has been benchmarked with the IFT, the largest food science and technology worldwide responsible for developing and updating food science related issues and suggests curriculum for use by departments all over the world.
3. The program made a huge jump by including a mandatory internship program that involves a good number of employers, especially the private sector. This is big for students and for program evaluation by stakeholders (employers).

Recommendations for Improvement

1. Increase the effort for providing academic advice to current students, especially freshmen
2. Increase **program development awareness** among faculty of FSN department by establishing a defined process of communication.

Priorities for Action

1. During the orientation of new students, explain the career prospects of FSN graduates as well as the chances for continuing for higher education.

Choose **ONE OR MORE** KPIs that best supports that the program meets this standard. Each KPI should use a separate KPI table. Insert the KPI in the table below, add the actual KPI benchmark with the other benchmarks, and provide an analytical interpretation that describes the outcome (most benchmarks are numerical and others may be descriptions that verify quality using a rubric).

KPI Code# 4.3: Students' overall rating of course quality (Average rating of students on a five scale on overall evaluation of courses)	
Target Benchmark	4/5
Actual Benchmark	3.74/5
Internal Benchmark	3.87/5 (Agriculture Engineering)
External Benchmark	
New Target Benchmark	4/5
Analysis: Students' satisfaction with the overall courses quality came close to target by around 7%, which is within the departments' means to achieve the targeted value. Some of the areas that can be targeted to improve course quality is course scheduling and making more adjustments to accommodate changes due to the introduction of the prep year. In addition, more freedom for students to register at the department of their choice, that way they will have better appreciation of the courses.	

Subsection 4.3 Program Evaluation and Review Processes *(Overall Rating, Four Stars)*

Describe the processes followed for program evaluation and review.

The main objective of FSN department review process is to assess the quality and the appropriateness of the program for the local economy as well as government agencies. The learning outcome of students is the most important part of program evaluation together with institution review, national and international evaluation processes. Like other departments at KSU, the department is required to go through review every five years which is reflected in the annual program report. The review aims at improving performance and look at the program ability to meet its objectives. The FSN, in its effort to comply with IFT, made changes in the programs' curriculum by adding more courses and mandatory internship program as a requirement for graduation. In addition, and due to the KSU decision to establish the prep year, the department ended up removing FSN 433 course because the prep year allocated 31 credits. These credits were part of the department requirements. The process of dealing with the effect of the creation of the prep year was implemented by the curriculum committee at FSN. As an important part of the programs' evaluation, students, alumni, and employers surveys were carried out annually in addition to course report evaluation done for every course. A comprehensive restructuring of the B.Sc. (Agri) program in Food Science and Human Nutrition major was done by the curriculum committee. Program curriculum was constructed in 1990 with significant revisions in 1997, 2006, and 2012. The B.Sc. (Agri), Food Science and Human Nutrition major, program objectives were reviewed in 2006, changes were made, and the revised objectives (currently used) were approved by the department and the counsel of the college. This review of the educational objectives was based on the assessment of faculty of the department and employers. In 2008, the department was subjected to developmental review by four external reviewers assigned by KSU. Reviewers report is shown as (Annex 1). In 2010, the program went through accreditation by AIC and was granted accreditation for 7 years as in (Annex 2). AIC recently requested a report for any major changes in the program. The quality team of the department sent a response which included the following;

1. A comprehensive lab safety program was established for the Food Science and Nutrition department that included lab safety procedures, standing operating for instruments, chemical storage system based on hazard level, chemicals recycling system, and lab protective attire. The safety program was established according to the recommendation of the Control of Substances Hazardous to Health (COSHH) organization.
2. In regards to affiliation (twining), the department initiated contact with the United States Department of Agriculture (USDA) for scientific collaboration at different levels.
3. As part of faculty professional development program, the Food Science department is hosting three visiting scientist from United States and European Community institutions.

Departmental annual reports are submitted to the college which includes academic activities of the faculty such as research, publications, consultations, and community service.

Evaluation of program evaluation and review processes. Refer to evidence and *provide a report* including a list of strengths, areas recommendations for improvement, and priorities for action.

Surveys of employers showed that graduates of the department were rated 3.73/5 when asked about their technical and communication skills. In addition, they responded with an average of 3.63/5 when asked if they will employ graduates of the department in the future. On the other hand, students' response to the survey regarding the programs quality showed an average of 3.83/5 when asked if they will recommend the program to other students (Annex 3).

The survey results showed that employers are pretty satisfied with the FSN graduates and are willing to high more. This reflects well on the department and reaffirms appropriate learning outcome that meets the need of the local market. Students were satisfied as well with their experience and are willing to recommend the department to others.

Strengths

1. The department has established a good multidimensional evaluation process which includes internal evaluation between students, staffs, and external evaluation which consist of stakeholders.
2. The department invited external reviewers from local universities (King Faisal University) and consultant from the office of quality of the College of Food and Agriculture Sciences at King Saud University. The reviewers endorsed the program objectives and outcome. This is supported by the ability of students from FSN to attend courses at King Faisal University and get the same credit for it.
3. The department maintains internal evaluation through international consultants and via continuous surveys of students, faculty, staff, and alumni.

Recommendation for Improvement

Continue systematic monitoring the program after the changes made due to establishment of the prep year.

Priorities for action

Establish a **procedure for monitoring** students coming to the department after the establishment of the prep year.

List the conclusions that were reached about the quality of the program as a result of using the program evaluation and review processes. Reference should be made to data on indicators and survey results as appropriate.

Although the quality of program is rated by different reviewers (AIC) as good, but there is still room for improvement. This was reflected very well on the responses by employers and alumni. In addition, the program is satisfied with the internal (within FSN) evaluation process in place, but striving for improvement and expansion on the number of FSN groups working as members of committees dealing with the overall quality assurance of the program. Moreover, the department will continue to utilize available resources offered by the institution through the Deanship of Skills Development and the Vice Dean of Quality at the College of Food and Agriculture Sciences as well as the NCAAA.

Choose **ONE OR MORE** KPIs that best supports that the program meets this standard. Each KPI should use a separate KPI table. Insert the KPI in the table below, add the actual KPI benchmark with the other benchmarks, and provide an analytical interpretation that describes the outcome (most benchmarks are numerical and others may be descriptions that verify quality using a rubric).

KPI Code# 4.3: Proportion of teaching staff with Ph.D. degree.	
Target Benchmark	55%
Actual Benchmark	50%
Internal Benchmark	100%(Agriculture Engineering at KSU)
External Benchmark	52% (Ohio State University)
New Target Benchmark	55%
Analysis: Although on page 7 of this report the total number of PhD are 37, only 28 of them are with teaching load and the 9 are with research load. That why the percent was calculated by $28/55 \times 100$. The department is moving to the right direction for coming close by 2% of Ohio State University and other universities as well, in the proportion of teaching staff with Ph.D. degree. This is considered meeting the target benchmark. This is also reflected on the distribution of the faculty between full professors, associate, and assistant, where FSN is about 7% less full professors and associates than Ohio State University and comparable numbers in lecturers.	

Subsection 4.4 Student Assessment *(Overall Rating, Four Stars)*

Describe the strategies for student assessment in the program and the processes used to verify standards of student achievement.

The department of FSN is keen to apply assessment methods that will ensure that KSU meets its objectives. It is also important for graduates to get the right tools they need for their career, which indicates the appropriateness of the learning outcomes of the program. Students in the program are evaluated with respect to their preparation for entry into the general practice of Food Science and Human Nutrition and their preparation for graduate education. The evaluation is conducted primarily through performance as described below **(Annex 4):**

Course performance:

- Exams (tests, quizzes, and final exams)
- Problem sets and homework
- Reports and projects (oral and written reports)
- Internship program (full time for 6 month)

An example of course mapping describing the extent of learning outcome domain covered by the courses of the department (Table 4.1.1). The table represents courses covering the cognitive skill domain of the FSN that ensure the learning outcome was met.

Instructors review and comment on homework assignments and tests provide the student with feedback on their performance. Knowledge, skills, and ability to perform in the laboratory are evaluated through review of laboratory reports. Ability to work effectively in teams and to communicate correctly and effectively is evaluated through performance in laboratory work and design teams. The program's senior design capstone course provides a unique opportunity to evaluate students' overall professional competence and attentiveness during their final year. The University uses an "A" through "F" grading system, with "plus" grades available from "A+" through "D". A minimum average of "C" or a grade point index of 2.0 on a 5.0 scale, on all work taken at the University is required for the baccalaureate degree. In Table 1, a break-down of the number of students who registered in the FSN program, dropped, and those who graduated (Table 4.4.1). The data was obtained from the registrar's office. Therefore, student assessment was done within the framework of the KSU regulation, where students must attain 40% of their final grade in midterm and 60% in final exams. Field internship (field experience) is assessed based on supervisors' grade, written report, and oral presentation before FSN faculty members.

Monitoring of student progress is primarily the responsibility of the advisor, the department chair and the Vice Dean for Academic Affairs and the College Committee for Academic Affairs. They have ready electronic access to every student's academic records, notes from past meetings, and any other pertinent material, in the student files maintained in the department office and through notes. Currently, the course instructor can communicate with the students via E-mail. Attention is focused on those students having any type of academic difficulty. To address these difficulties, monitoring occurs as follows:

1. Vice Dean for Academic Affairs reviews academic performance on a periodic basis
2. Chairman and advisor review of academic performance on a periodic basis
3. Senior checkout from the College of Food and Agricultural Sciences

During the student's next-to-last semester, the student and advisor meet to review the curriculum check sheet to identify those classes the student must complete in order to graduate. Other conditions are also identified, including approval of course substitution forms, completion of incomplete (I) grades, and compliance with university and departmental grade point requirements. Any questions or disagreements are referred to the Department Chairman and the Vice Dean for Academic Affairs in the College.

For transfer students, the College committee of academic affairs chaired by the Vice Dean College of Food and Agriculture Sciences evaluates the student's record and his/her major selection in view of GPA and course record as well as transferred credits for freshman students just starting the Food Science and Nutrition curriculum. Thereafter, all students must obtain approval prior to taking any other courses that they wish to transfer. The Vice Dean distributes the standard form for obtaining approval and obtains a copy of the description of the course in question from the catalogue of the other institution to make sure it contains the same important elements as the one offered at KSU. The Chairman of the department, based on the recommendation of Department Academic Committee, makes the final decision to accept or reject transfer credits.

Evaluation of student assessment processes. Refer to evidence about effectiveness of student assessment processes. **Provide an evaluation report** of the processes followed for this sub-standard; include evidence about the standards of student learning outcomes achieved in comparison with appropriate benchmarks. The report on this sub-standard should include a list of strengths, recommendations for improvement, and priorities for action.

The multidimensional of students' assessment is advantageous because students are tested for knowledge, communication skills, and psychometrics. This can be observed in the different types of written exams, lab exams, reports assessments, seminars, internship assessment by a host supervisor. In addition, FSN department established an assessment procedure for students internship evaluation as the program evolved from year to year. Therefore, the assessment system used is accepted by all international learning institutions which can be

documented by the good number of students who proceed for graduate school in the US, Canada, or UK, Australia either through KSU program as a TA or on their own. This supports the success of the learning outcomes set by FSN or KSU and the proper selection benchmarking. The progress of students within the department is indicative of the assistance provided to them by the department which is reflected in their graduation rate.

Strength

Multidimensional assessment system established by FSN department

Recommendation for improvement

FSN faculty members should establish a portfolio which could include details about every student progress and achievements in the particular course.

Priorities

FSN department have to try to put more analysis on the students grade and use the outcome of the grades for better planning of the course so that to improve the learning outcome.

KPI (4.4): Proportion of students entering the program who successfully completed the first year

Target Benchmark	4.75/5 (95%)
Actual Benchmark	4/5 (80%)
Internal Benchmark	3.5/5 (70%) (Agriculture Engineering)
External Benchmark	
New Target Benchmark	4.75/5 (95%)

Analysis:

Students' registration is done by the registrar office without department involvement. The number of planned registrations is not the same as actual registration because students change major. For that reason the department decided to take Food chemistry as indicator of who will be FSN student. The numbers used for the above calculations were taken from the FSN 316 (food chemistry) registration and FSN 456 (quality control) for those who successfully finished the first year. The data indicated 80% of the students passed to the second year. This could be due to students taking organic chemistry before food chemistry as mandated in the schedule. Organic chemistry (BIOCHEM 101) could be a good help for students when taking food chemistry. In Table 4.4.1, the data showed that based on the number of students registered for FSN 316, the graduation rate was 78.5%, FSN 317 it was 91.5%, and FSN 458 it was 75.5%. Therefore, the average graduation rate for the department was 82.0% $(78.5\% + 91.5\% + 75.5\% / 3)$.

Table 4.4.1

Year Graduated	¹ Grad. in 8	Grad. in 9	Grad. in 10	Grad. in 11	Grad. in 12	Grad. in 13	Grad. in 14	Total	Year ² total	³ F. C	⁴ Q. C	⁵ F. S
33 (2012-2013) 1 st	No graduation recorded				19	10	6	19	35	80	64	61
33 (2012-2013) 2 nd								16				
32 (2011-2012) 1 st	No graduation recorded		27	5	1			17	33	49	13	49
32 (2011-2012) 2 nd								16				
31 (2010-2011) 1 st	3	15	21	13		5		29	57	48	49	57
31 (2010-2011) 2 nd								28				
30(2009-2010) 1 st	2	4	12	10	19		4	32	52	52	45	64
30 (2009-2010) 2 nd								20				
29 (2008-2009) 1 ST	No graduation recorded		15	5	16	6	3	19	45	53	75	58
29 (2008-2009) 2 ND								26				
28 (2007-2008) 1 ST		10	19	6	4	3	2	35	44	52	64	57
28 (2007-2008) 2 ND								9				
27 (2006-2007) 1 ST	6	15	3	4	1	1	2	32	36	51	19	54
27 (2006-2007) 2 ND	3	0	0	0	1	0	0	4				
Total number	14	44	97	43	61	25	17	302	302	385	330	400
Total %	4%	Total = 141 (46.7%)		Total = 104 (34.4%)		8.3%	5.6%	100%	100%	78.5%	91.5%	75.6%

¹ Number of semesters spent before graduation; ²Total number of graduates ³F.C= food chemistry; ⁴Q.C=quality assurance; ⁵F.C= Foodservice. The numbers under FC, QC, and FC courses are number of students registered for the course. *These courses were selected as indicators of students who are really FSN students and not those who are assigned by the registrars' office as planned registration. Planned registration does not guarantee that student will attend the department, where as those who take food chemistry will be interested in continuing at FSN. In this Table, the data showed that based on the number of students registered for FSN 316, the graduation rate was 78.5%, FSN

317 it was 91.5%, and FSN 458 it was 75.6%. Therefore, the average graduation rate for the department was 82% $(78.5\%+91.5\%+75.6\%/3)$.

Subsection 4.5 Educational Assistance for Students *(Overall Rating, Four Stars)*

Provide a summary report of what assistance is provided in relation to the matters listed in this sub-standard (e.g. orientation programs, office hours, identification and assistance for students in need, referrals to support services etc.).

The department of FSN routinely surveys all departments' graduates (if contact information is available) one year after graduation. Satisfaction, career development, employer/position and general commentary are provided by graduates in their response to the survey questions. The graduates progression data is collected by a specially designed form called "Graduate Progression Report". This form will be sent directly to the graduates and collected back; all collected forms will be analysed and used in program planning and evaluation. Some graduates are invited to participate in the academic and social activities of the department. In addition, the department gives free career consultation for its graduates who seek assistant. Usually our graduates have no difficulties finding job opportunities in Saudi Arabia because companies who are invited by the department for the career day are willing to higher graduates and sometimes they contact faculty members to nominate students to fill vacant position within their companies. In addition, FSN graduates compete well for admission to graduate degrees and professional programs nationally and internationally.

4.5.1 Counselling and Advising

There is commitment to advising and counseling undergraduate students at the department and this is done in two approaches. First, every student in the department should have an academic advisor (faculty member) who will provide his help especially in FSN curriculum and other issues related to the program. The student is expected to meet with the advisor at least twice each semester to review academic progress and provide recommendations and address matters concerning courses to be taken for the next semester. The advisor will support the students and will help determine his/her future career particularly in choosing courses that accommodate his/her interest. Any change in student status such as carrying an excessively high load or carrying less than a full-time load requires the approval of both advisor and the chairman of the department which will be done electronically and decided based on GPA.

In addition, the advisor can transfer any issues that cannot be solved to the "Student Committee" in the department for finding the appropriate solution through the arrangement with the chairman of the department. On the other hand, the department has established the "Student Council" which consists of at least 6 students, one faculty member as Chairman, and the coordinator of accreditation as Vice Chairman. The main job of this council is to discuss all aspects relevant to the students' progress including curriculum, resources, facilities, non-academic activities, and others. This council meets at least twice each semester. Any recommendations from this council will be transferred to Department Council for discussion and possibly applying them if they are applicable or referred them for more details.

Finally, the Food Science and Human Nutrition curriculum and the degree requirements, as well as the program objectives and outcomes, are given in details in the university catalog, in the department web site and in other departmental publications.

Second, the department formed a Student Counseling Unit as directed by KSU administration. To comply with the requirements, the department nominated two faculty members to work as advisors for 4 hours weekly in the Student Counseling Unit. This unit will provide help for students and discuss any problem facing them with other staff members. In addition they will contact relevant departments at the Deanships of Student Affairs and Admission and Registration for information and consultation.

4.5.2 Professional Attitudes

The department organizes a special meeting for the freshmen of the program at the beginning of every semester. There is a presentation by one faculty member of the program about the department including curriculum, faculties, resources, available counseling and advising and non-academic activities. Then there is a tour in the department accompanying one of the staff showing the students the different laboratories and offices. The department also, encourages students to register themselves in the Saudi Society of Food and Nutrition which is hosted by the department. In addition, after completing 70 credits, students must spend at least 6 months in cooperative training in suitable food or human nutrition establishment. This is a good chance for the student to acquire experience and also for the department to establish contact with employers and solicit suggestions. Moreover, the department participates in all events relevant to students' interests such as "Job day" and strengthens relation with employers, whether they are in the public or private sectors. Finally, the department encourages students to enroll and participate in the non-academic activities organized by the college and the university.

Provide an evaluation report of processes for educational assistance for students. Refer to evidence about the appropriateness and effectiveness of processes for assistance of students in this program (e.g. Is the assistance what is needed for these students, is it actually provided as planned, and how is it evaluated by students?). The report should include a list of strengths, recommendations for improvement, and priorities for action.

The success of these types of support and counseling programs can be felt in the graduation rate and the number of students who progress from year to another until graduation. Example of this data is presented earlier. A series of questions are included in the student survey regarding educational assistant provided. Overall, students responded by 3.75/5 which reflects their satisfaction with support provided for them. This indicates the appropriateness of the support.

Strength

1. availability of ample educational support for students whether it is mandated by the KSU administration or developed by the FSN department
2. The support is making a difference as shown by the outcome of the survey. As shown by the students responses regarding the quality of support are getting, 75% were satisfied.

Recommendation for improvement

1. FSN needs to increase its effort for educational support so that survey outcome reaches 4.5/5
2. FSN needs to establish a specific process to deal with students with low academic performance
3. The department should arrange for interviewing students 6 month after graduation and check if they are employed, looking for employment, or not looking for jobs. This data is important for

follow-up.

Priorities

Organize a special meeting with students with low academic performance and develop a separate plan for each student to help bring their GPA up.

Subsection 4.6 Quality of Teaching *(Overall Rating, four Stars)*

Provide information about the planning of teaching strategies to develop the intended learning outcomes of the program, for evaluating quality of teaching, and processes for preparation and consideration of course and program reports. This section should include a table indicating the proportion of teaching staff whose teaching is regularly assessed in student surveys (or by other mechanisms).

The FSN department established all needed support processes for delivering quality teaching. These processes include the development of course specification for all courses as well as course report. The department is regularly collecting data so that to monitor quality of teaching as a function of students learning outcomes. Ever faculty member of FSN is required to present a course description and present a syllabus to the curriculum committee of quality unit of FSN.

In 2007, KSU established the Deanship of Skills Development (DSD), which has adopted the concepts and practices of on-going self-development for the professional skills of the faculty, lecturers, teaching assistants, the academic and administrative leaders, and other employees. The development of the students' skills is needed so as to improve the quality of KSU's outcome in a way that contributes to the provision of a suitable environment and ease of achieving academic development (see the DSD website for more information about the ongoing programs, skills@ksu.edu.sa). Faculty development activities are designed on the basis of the priorities of the KSU system, the KSU 2030 Strategic Plan, and the specific needs of the faculty. For the last two years, the activities of the Faculty Development Plan, under the responsibility of the DSD, were in the areas of:

1. Personal, technical and professional skills of the faculty and other KSU staff.
2. Academic teaching and research skills.
3. Leadership and administrative skills of all staff.
4. Active interconnection and communication skills of all KSU staff.
5. Critical and creative thinking skills.
6. Students' self-learning and on-going education skills.
7. So as to ensure the quality of learning and teaching, KSU has in place a range of quality assurance mechanisms.

All newly appointed faculty members involved in learning and teaching delivery should attend the initial professional development programs, which ensure that they are appropriately prepared for their defined roles in learning and teaching and research degree supervision, and can demonstrate that they have met the relevant level (as determined by the nature and extent of the learning and teaching responsibilities).

FSN requires every faculty member to create a portfolio which contains the course report, course specification, sample of exam, student grade, teaching philosophy, and his curriculum vitae. Student evaluations are required of every faculty member in every course in the promotion and merit salary review process. Teaching excellence is of increasing priority in the faculty review process and FSN faculty are encouraged to use sabbatical time, at least in part, for an opportunity to enhance their teaching abilities. The University has many faculty members who have been recognized for their teaching provincially and nationally. Food Science and Nutrition faculty members achieved a high level of scholarship and research as evidenced by their record of publications and their success in competitive granting processes. Faculty members are graduates of high caliber universities and are extremely productive in research, publications and graduate student supervision.

Table (4.4.1) C- 1 indicates the average distribution of efforts for faculty members in FSN department. This distribution of efforts is given based on the promotion policy of the University. It is of interest to know that the university policy determines the teaching load for professor, associate professor and assistant professor by 10,

12 and 14 teaching hours per week, respectively and the average classroom size is about 20 students in the class. The specific courses taught by individual faculty are given in the attached C.Vs.

Table 4.4.1

Table C-1 Approximate distributions of effort for Food Science and Nutrition faculty members			
Department	Teaching	Research	Service
Non promotion process	35%	45%	30%
For promotion process	25%	60%	15%

The data in Table C-1 is subject to change, due to plans by the Ministry of Higher Education to give teaching more weight, but the decision has not been made yet. The promotion process in the academic units in the department and college are fully integrated with those of the University. There is a common Faculty Policies document for the entire university and all matters relating to appointment and compensation are managed university wide. The Provost and Academic Vice President are responsible for the implementation of these policies and the approval of all regular appointments and recommendations for promotions and salary increase.

Choose **ONE OR MORE** KPIs that best supports that the program meets this standard. Each KPI should use a separate KPI table. Insert the KPI in the table below, add the actual KPI benchmark with the other benchmarks, and provide an analytical interpretation that describes the outcome (most benchmarks are numerical and others may be descriptions that verify quality using a rubric).

KPI Code#4.62: Under students' satisfaction domain, the overall ratio on the quality of their course by answering. *I am happy with this course in general*, in the course evaluation survey.

Target Benchmark	4.5/5
Actual Benchmark	3.7/5
Internal Benchmark	3.87/5 (Agriculture Engineering)
External Benchmark	
New Target Benchmark	4.5/5
Analysis: The FSN quality of teaching is approved by students at 74%, which is 16% less than the target. It is clear from this data faculty participation in workshop training offered by the DSD at KSU is paying off, but more is needed to close the gap and meet the 90% target. Teaching staff appeared to have good communication skills and provide the students with what is needed to fulfill the NQF domain	

Analysis:

The FSN quality of teaching is approved by students at 74%, which is 16% less than the target. It is clear from this data faculty participation in workshop training offered by the DSD at KSU is paying off, but more is needed to close the gap and meet the 90% target. Teaching staff appeared to have good communication skills and provide the students with what is needed to fulfill the NQF domain

requirements. Teaching quality could improve to reach the target by looking at students surveys every semester and try to point out the area of the least score and develop a plan for improvement. The low rating provided by students could be related to factors other than the teaching quality, but that can be observed by looking at other sections of students' survey dealing with facilities, registration planning, course timetable, and other types of questions in the survey questionnaire.

Evaluation of quality of teaching. Refer to evidence about teaching quality and provide a report including a list of strengths, recommendations for improvement, and priorities for action. The report should include a summary of data from student surveys used for course and overall program evaluations, with information provided about sample size and response rates on those surveys. Comparative data from other similar surveys should be included.

The FSN surveys all courses with questions that relate to all aspects of education including teaching quality, facilities, student support, and overall experience of students. With regard to the program, 3.8/5 thought the program is organized, teaching and learning 3.85/5 agreed to the quality, skills development 3.73/5 agreed, facilities and environment quality 3.55/5 responded positively, Student support 3.55/5 were positive, and for the overall experience at KSU 3.83/5 thought they had good experience. Although these numbers are good, they require improvement of some sort. All this data affects the teaching quality one way or another, thus any improvement on these will positively reflect on the teaching quality.

Table 4.4.2

	Second Semester of 2013-2014 35 students were involved in the survey	Results (Scale 1-5)
1	Program is well organized	3.80
2	Quality of Teaching and learning	3.85
3	Student support	3.55
4	Quality of facilities	3.55
5	Overall experience	3.83

Table 4.4.1 showed a satisfactory response of students to the survey questions. The data showed that above 70% approval of services provided to students. The department is putting 80% as target because some these items are under the responsibility of the college or the institution where the department can only make recommendations.

Strength

1. FSN faculty takes advantage of the DSD workshops.
2. Course and program reports are provided regularly.

Recommendations for improvements

1. Increase class room observation.
2. Teaching improvement needs to be monitored regularly.
3. Course reports need to be monitored and analyzed.

Priorities for action

1. Conduct class room observation in regular basis.
2. FSN should encourage faculty members to attend training courses other than those offered by the DSD.

Subsection 4.7 Support for Improvements in Quality of Teaching *(Overall Rating, Four Stars)*

Provide a report that describes the strategies for the improvement of teaching. Include a table showing staff participation in training and/or other activities designed for the improvement of teaching and other related professional development activities. The description should include processes used for investigating and dealing with situations where evidence suggests there may be problems in teaching quality, and arrangements for recognizing outstanding teaching performance.

The Deanship of Skills Development organizes a mandatory course for newly appointed faculty in order to develop their teaching skills prior to starting their teaching duties. The deanship offers workshops throughout the year that covers teaching skills development as well as student's evaluation by using new teaching and learning techniques like using smart boards and others, so that to maintain high quality teaching. The university presents an award annually to the faculty with the best teaching qualities as indicated in the dsd@ksu.edu.sa.

The DSD was established in 2007 so as to support ongoing improvement program for teaching staff at KSU. The program includes personal teaching skills needs and general needs according to KSU priorities and strategic plans. The DSD offers supports in areas such as critical/creative thinking, personal teaching skills, students' assessment skills, leadership skills, and research skills. Other special workshops were offered in problem solving, teaching strategies, and developing teaching philosophy description. About four to five workshops are recommended for faculty member annually in order to stay current with developments in the art of teaching. Members of DSD are available to help faculty to develop assessment strategy and course design for individual faculty members.

Evaluation of arrangements for supporting improvements in quality of teaching. Refer to evidence about the effectiveness of strategies used and **provide a report** including a list of strengths, recommendations for improvement, and priorities for action. This evidence could include matters, such as, trend data and analysis from student course evaluations and survey responses from staff participating in programs offered.

FSN department teaching staff is given 75% approval by current students and alumni, which indicates that a good effort was made to deliver the material of the courses. This is a sign of well informed and active teaching staff in developing their teaching skills. It also signifies taking advantage of the DSD programs. When students were asked question related to course content, course delivery, fare assessment, relevant material, faculty availability, the score was between 3.4 and 3.9/5 which is good, but there is room for improvement.

Strength

1. FSN faculty are actively seeking personal development
2. Surveys showed satisfaction with the teaching skills of faculty members.

Recommendation for improvement

1. Faculty are encouraged to develop course report portfolio for students and teaching philosophy
2. Seek more specific teaching skills development programs outside of DSD programs offered by KSU.
3. Course evaluation trend should be used as guide for teaching improvement

Priorities

1. Establish students portfolio for each student registered in their course.

Subsection 4.8 Qualifications and Experience of Teaching Staff (*Overall Rating, Four Stars*)

Provide an analysis report on the qualifications and experience of teaching staff relating to program requirements (Refer to the *Periodic Program Profile Template B*).

The evaluation of teaching staff at FSN considers faculty teaching ability is to stay current with subject matter and up to date with last teaching methods. The Department of Food Science and Human Nutrition is among the leading departments nationally in categories such as the proportion of faculty with a Ph.D degree and the number of courses taught by full-time tenured track faculty members. The faculties' c.v in Appendix 5 attests to a high level of full-time tenured appointments at the Ph.D. level teaching in the FSN B.Sc. being submitted for accreditation. All faculty members of the department are graduates of American universities of high caliber, even the TAs for higher education abroad assigned to universities are carefully selected mostly in the US, UK, and Canada. The name of faculty members of the Department and their qualifications are listed in Table B (section C). Teaching staff recruitment and their rights and responsibilities are clearly stated in the Higher Education Manual in addition to regulations set by KSU with regards to teaching staff employment as administered by the Deanships of faculty and Staff Affairs (*Annex 6*). Although teaching staff recruitments are centralized, the FSN department can make recommendations to the deanship. Currently the FSN hosts 18 Ph.D. permanent faculty members (9 Associate Prof. and 9 Full Prof.), 9 Ph.D. members with some teaching assignments and mostly research, 4 lecturers, and 14 teaching assistants (45% professors, 45% associates, 10% lecturers). These numbers are comparable with international numbers as compared with Ohio State University Food Science Department (52% professors, 23% associates, 14% Assistant, and 11% lecturers). The FSN department allows each faculty member a one semester sabbatical leave every three years of full time teaching members to pursue any kind of activities that will increase their teaching and research abilities. It is also recommends the leave to be abroad at a university known for its strong food and human nutrition program.

Evaluation of qualifications and experience of teaching staff. Refer to evidence and **provide a report** including a list of strengths, recommendations for improvement, and priorities for action.

Teaching staff qualifications, as mentioned above, is comparable with international standards such as ration of full professors to other ranks within the department. The department has established strong evaluation procedure for faculty members to ensure high quality teaching as well as support faculty score high points for their promotion process such as high publication volume. So, annual faculty performance, course evaluation survey, and peer exam review are implemented for all faculty members. Faculty reviews are sent to the Deanship of Faculty and Staff Affairs, in addition, faculty is provided with the results of the survey of their course for feedback assessment.

Strength

1. Compared to international standards, faculty members of FSN are well qualified.
2. Faculty are involved in all nine committees at the department including graduates studies, quality/QMS, students affairs, scientific research, education, internship training, facilities and labs, human resources, and the public relations and department web site.

Recommendation for improvements

1. More activities by some committees are encouraged.
2. Focus on sabbatical leave at internationally known universities.

Priorities for Action

1. More emphasis should be put of completing the course report by addressing all points on the form including data presentation and analysis.
2. Creation of student portfolio.

Choose **ONE OR MORE** KPIs that best supports that the program meets this standard. Each KPI should use a separate KPI table. Insert the KPI in the table below, add the actual KPI benchmark with the other benchmarks, and provide an analytical interpretation that describes the outcome (most benchmarks are numerical and others may be descriptions that verify quality using a rubric).

KPI Code# 4.3: proportion of teaching staff with Ph.D degree.

Target Benchmark	55%
Actual Benchmark	50%
Internal Benchmark	100% (Agriculture engineering at KSU)
External Benchmark	52% (Ohio State University)
New Target Benchmark	55%

Analysis:

Although on page 7 of this report the total number of PhD are 37, only 28 of them are with teaching load and the 9 are with research load. That why the percent was calculated by $28/55 \times 100$. The department is moving to the right direction for coming close by 2% of Ohio State University and other universities as well, in the proportion of teaching staff with Ph.D. degree. This is considered meeting the target benchmark. This is also reflected on the distribution of the faculty between full professors, associate, and assistant, where FSN is about 7% less full professors and associates than Ohio State University and comparable numbers in lecturers.

Subsection 4.9 Field Experience Activities (if used in the program) (Overall Rating, Four Stars)

Describe the processes for planning field experience activities and planning for improvement.

Field experience is part of FSN program as decided by KSU administration represented by the Deanship of Registration. The department of FSN has one whole semester of internship where the student gets full semester credit (12 credits) for performing internship at a private or governmental agency. Students are required to prepare and submit a report and deliver an oral presentation before the faculty of the department. The field experience is mandatory on the FSN department on the seventh semester. Students are allowed to take this training only after completing 70 credits including prerequisites. Participating students will earn 12 credits and gain practical experience, improve student skills and team work, practice taught courses at hospitals and food industries, orient students to the work environment and increase student opportunity for the job markets, advance student's practical skills and experience, improve student writing skills and presentation as well as improving their English language skills (Annex 7).

The trainee shall train continually for 27 weeks in selected institutions to improve and develop their learning through the experience gained in the field. However, faculty members from the department pay field visits for observations and consultations with students and meet with the field supervisors often enough to provide proper oversight and support to the student. At the end of the training period, students are required to write a

report about the experience gained in the field and their positive and negative oversight in the field. Students are assessed by the field supervisor (30 point), faculty member (45 point), report (10 points), and required to deliver an individual presentation in front of the department faculty member (15 point). The field supervisor, who spent more time with the student during their training, is requested to report anything that might lead to conflict. The faculty who advise the student is required to look into the matter and try to resolve the issue. If the issue continues, the matter will be brought to the field experience team and to the department chair. The department prepares every semester by collecting information about the targeted institutions; receive approval by the institution from the Corporate Education Committee, send official letter to the institution for agreement, and direct student to the institution.

Provide an evaluation report of field experience activities including evaluation of processes for planning and managing them. Refer to evidence and provide a report including a list of strengths, recommendations for improvement, and priorities for action.

The field experience program is moving on the right direction and evolving to accommodate students need and support by making the connections with the companies and dispatch students to the right location based on their interest. To prepare students, the program starts with a two-week workshop that includes lectures (basically technology information) and lab activities. This is important for giving students exposure to the different types of industry that they might end up joining for their training. Although the internship program lists three prerequisites (food analysis, meal planning, and food processing), students need more technology courses to be able to benefit from the training.

Strengths:

1. The program is well supported by the university and the college.
2. Taught courses are practiced in hospitals and factories.
3. Students get exposure to actual work environment and increase student opportunity in the job markets.
4. Improved student's practical skills and experience.
5. Improved student writing skills and presentation.
6. Improved English language of the students.

Recommendation for Improvements:

1. Department council has taken action to establish subsidiary committees in the department to evaluate the assessment methods of the program and select the best hospitals and factories for trainee.
2. Improve English language.
3. Provide allowance for trainee students.
4. It is recommended that students finish all required courses before starting experience program i.e, as possible, courses should be technology courses.
5. Establish unified assessment method to be used by faculty members.

Priority for Action

1. Make more contacts to expand the pool of participating companies in the internship program

Subsection 4.10 Partnership Arrangements With Other Institutions (if these exist) (Overall Rating, Four Stars)

If partnerships have been established with other institutions to assist with the planning and or delivery of the program, **describe what is done** through those partnerships and explain what has been done to evaluate the effectiveness of those activities.

King Saud University has established partnership with international universities such as Harvard School of Public Health, national University of Singapore, and University of Illinois. KSU also establish collaboration with other universities which allow students to transfer credits. The department of FSN has arrangements for students to take courses at other local universities. The student has to fill a form and follow a procedure established by the registrar office of KSU shown in the request form as in (Annex 8). The final decision is made by the Deanship of Registration after recommendation from the department chair. The process is initiated by the student makes a request to the deanship, the department chair looks at the program compatibility with FSN and offers his recommendation to the deanship. There are no formal agreements with international universities and the FSN program. Students can take these courses at semesters during the school year or during summer. Usually, students take these courses during the summer and they are mostly seniors. The type of the courses that can be taken by FSN students at a different college are decided by the faculty and approved by the Department Chair. The maximum number of course that can be taken by KSU student at another college should not exceed 20% of credit hour required for the degree. This rule is set by the Ministry of Higher Education for all local universities (details are found in the webpage of the Deanship of admissions and registration ([ksu.edu.sa/Deanships/Registration and admission](http://ksu.edu.sa/Deanships/Registration%20and%20admission))). In terms of collaboration between FSN and other departments, the department has an open policy for faculty to collaborate with others within and outside of the department.

Evaluation of partnership arrangements (if any). Refer to evidence and **provide a report** including a list of strengths, recommendations for improvement, and priorities for action.

The partnership with local universities is regulated by the Ministry of Higher Education and it is the same for all local universities. Since partnership was established at the institutional level, faculty members can collaborate with other institutions through peer contact. The partnership is very useful for the students because of convenience. The quality of partnership is preserved because all the rules are set by the Ministry of Higher Education.

Strength

1. Faculty members of the department has established collaboration with peers through programs established by KSU

Recommendations for improvement

1. It is recommended that FSN faculty members evaluate and expand peer collaboration activities.

Priorities

1. The department is requested to develop an **evaluation procedure** for peer collaboration between FSN faculty members and their peers from other institution.

Annexes

Annex 1 (4.3). External developmental review panel from UK, US, and Australia as requested by NCAAA of the Saudi Kingdom

Annex 2 (4.3). Self-study Report submitted to the Agriculture Institute of Canada (AIC)

Annex 3 (4.3). Program evaluation surveys: [In file](#)
 Annex 4 (4.3). Corse report: [In file](#)
 Annex 5 (4.3). FSN cvs of faculty members. [In file](#)
 Annex 6 (4.8).The Higher Education manual: [In file](#)
 Annex7 (4.9).Guide to the FSN Cooperative Training Program: [In file](#)
 Annex 8 (4.10). Course equivalence for credit transfer form a local university in Saudi Arabia: [In file](#)

Standard 5. Student Administration and Support Services *(Overall Rating, Three Stars)*

Admission processes must be efficient, fair, and responsive to the needs of students entering the program. Clear information about program requirements and criteria for admission and program completion must be readily available for prospective students and when required at later stages during the program. Mechanisms for student appeals and dispute resolution must be clearly described, made known, and fairly administered. Career advice must be provided in relation to occupations related to the fields of study dealt with in the program.

Provide an explanatory report about the student administration arrangements and support services for each of the following sub-standards:

Much of the responsibility for this standard rests with the institution rather than the program administration, where arrangements will differ between institutions. However regardless of who is responsible, this standard is important for assessing the quality of the program. In this section comment should be made not only on what was done within the department or the program, but also on how the services provided elsewhere by the institution affect the quality of the program and the learning outcomes of students.

The administration and support services for students are of major importance at KSU and are supervised by the Vice Rector of Education and Academic Affairs. Two supportive Deanships, the Deanship of Admissions and Registration and the Deanship of Student Affairs, are responsible for developing, monitoring, implementing, and following up on the required responsibilities and services. The Deanship of Admissions and Registration is responsible for student admissions, which are handled through the electronic Edugate and E-register systems. The Deanship of Student Affairs is responsible for all students activities and services, such as housing, sports, academic and social counselling, cultural activities, health services, training, transportation, student rights, and all other services. The Deanships delegate these responsibilities to the colleges through the Vice Dean for Academic Affairs. The responsibilities and regulations at these Deanships are written and approved by various authorities, including the Council of Higher Education, University Council. Some of these services and regulations are approved internally by

the Rector, Vice Rector, or the related Dean.

5.1. Students Admission

Student's admission process is fair, users friendly, and responsive to the needs of students applying to join the department. Comprehensible instructions and facts about program requirements and criteria for admission and program completion are readily available for prospective students and when required at later stages after admission. Mechanisms for student appeals and dispute resolution are clearly described, made known, and fairly administered. Career advice is provided for all students in the department in relation to the field of study and its relation to career prospects.

Although student's admission is administered by the university admissions office, the department provides supportive information when needed. Faculty members of the department familiar with the details of the program requirements, serve as academic advisors and are available to provide assistance prior to and during students registration process. All rules governing admission and credit hours transfer are handled by the university main admission office. A comprehensive orientation program is offered by the department for new students to ensure thorough understanding of program requirements, the kind services in the department facilities available to them, and of their obligations and responsibilities as they progress toward their degree. The final outcome of the orientation is presented in Annexes 5.1.1.; 5.1.2; 5.1.3; 5.1.4; 5.1.5; and 5.1.6. These Annexes detail all information steps of student orientation at the institution level, college, and department level, where students are given detailed information prior to or after registration, as well as in person and electronic registration.

5.2 Students Records

Student records are maintained in a confidential location following statistical analysis of the data. Student's record data is used for quality indicators, internal/external reporting requirements on student progress and achievements. This data is available through automated processes that protect the confidentiality of individual student information.

The student record system regularly provides pooled statistical data needed for planning, reporting and quality assurance of the program. Clear rules governing controlled access to individual student records were established and implemented. Eligibility for graduation is formally specified in relation to the departmental program and course requirements, where rules concerning the students graduation, Students rights and obligations, Appeal procedures are presented to students as indicated in (Annex 5.2.1; 5.2.2.)

5.3. Students Management

Attendance is required by the department and is made clear to students, monitored, enforced, and administered by the teaching staff. Regulations regarding student grievance and appeal are put in place, published and made widely known to students at the departmental as well as the institutional level. The regulations specified clearly the grounds on which academic appeals may be presented, the criteria for decisions, and the remedies available to deal with the specific grievance. Appeal and grievance procedures are designed not to waste time on trivial issues, yet it provides adequate opportunity for matters of concern to students to be fairly dealt with and supported by student counselling demands. Appeal and grievance procedures assure impartiality of the persons or committees involved in the process to be independent of the parties involved in the issue, or who made a decision or imposed a penalty that is being appealed against. Academic misconduct is seriously dealt with, where policies and procedures are established.

Academic misconduct may include plagiarism and other forms of cheating. In the event that a student filed a grievance or appeal to the appropriate authorities, a procedures have been developed to ensure that students are protected against subsequent punitive action or discrimination following consideration of a grievance or appeal administered by the specialized committee or personnel. The ***Students Rights and Responsibilities*** book published by KSU and presented to students. The department implements the academic rules set by KSU regarding teaching, evaluating students by faculty, and reporting test scores. (Annex 5.3.1.; and 5.3.2.) The student's rights and responsibilities book revealed a code of behaviours that was approved by the governing body of the university and made widely available and contains the specifics of student rights and responsibilities of students (see Annex 5.3.1). The regulations specify actions to be taken for breaches of student discipline, including the responsibilities of relevant officers and committees and penalties. The disciplinary action is taken promptly and full documentation, including details of evidence, is retained in secure institutional records. In addition, the student appeal and grievance procedures are specified in regulations, published, and disseminated within the University. The regulations make clear the grounds on which academic appeals may be based, the criteria for decisions, and the remedies available (Annex 5.3.2).

In general, the appeal and grievance procedures are constructed to reduce wasting time on trivial issues, but still provide adequate opportunities for matters of concern to students to be fairly dealt with and supported by student counselling provisions. The appeal and grievance procedures guarantee impartial consideration by persons or committees independent of the parties involved in the issue, or who made a decision or imposed a penalty that is being appealed against. Student's protection procedures have been developed to ensure that students did not face subsequent punitive actions or discrimination following consideration of a grievance or appeal. Appropriate policies and procedures are in place to deal with academic misconduct, including plagiarism and other forms of cheating.

Thus, a simple investigation reflected the need for disseminating and informing both staff and students about the availability of the items listed in this area.

5.4 Students Advising and Counselling Services

Adequate academic advising and counselling services were put in place and made available to assist students in planning their participation in the program in addition to seeking subsequent employment advice within the college, department or another appropriate location within the KSU. Sufficient protection is provided and maintained by regulations or codes of conduct, to protect the confidentiality of academic or personal issues discussed with teaching staff, students, or anyone else who is associated with the department. Effective mechanisms are established for follow up to ensure student welfare and to evaluate quality of service. An effective student support system is available to identify students suffering due to hardships related to personal, study, financial, family, and psychological or health problems. The ***Students Rights and Responsibilities*** issued by KSU include non-academic rights of the students including social counselling, Health care, filing grievance and appeals to specialized committees. The overall rating of standard 5 was directly affected by the fact that section 5.1 and 5.2 were under the Admission and Registration Office of KSU.

Describe the processes used to evaluate performance in relation to this standard.

Since this process is almost entirely carried out by the University, reference is made to the University SSR. According to University SSR, a cross-sectional survey was implemented, in which two questionnaires were developed and used; the first measured staff responses and the second

measured students' responses to the items included in Standard 5 (Annex H.5.1.1). In addition, structured interviews were conducted with the heads of both the Student Affairs Deanship and the Deanship of Admission and Registration at the University, which added value to the analytical process. The number of surveys distributed to students and staff is listed, see annex H.5.1.1; it also shows the rate of responses. The evidence of performance includes KPIs, survey feedback analysis and other relevant sources of evidence. Furthermore, one member of the accreditation committee is also a member of the academic guidance committees. Surveys addressing student administration and support services issues were conducted for students, teaching staff, and administrative staff.

Choose **ONE OR MORE** KPIs that best supports that the program meets this standard. Each KPI should use a separate KPI table. Insert the KPI in the table below, add the actual KPI benchmark with the other benchmarks, and provide an analytical interpretation that describes the outcome (most benchmarks are numerical and others may be descriptions that verify quality using a rubric).

KPI: Code# 5.3. Students evaluation of academic and career counseling (average rating on the adequacy of academic and career counseling on five points scale)

Target Benchmark	4.5/5
Actual Benchmark	3.55/5
Internal Benchmark	3.66/5 (Agriculture Engineering)
External Benchmark	
New Target Benchmark	4.5/5

Analysis:

Since the admission and registration process is handled by the Office of Admissions and Registration of KSU administration, the rating of this standard relied on KSU administration. The three stars given to section 5.2.2 are due to reliance of the department on the data sent by the registrar's office. The university did a good job on, making students' registration easy by allowing online registration, protecting student's record, and respecting the privacy of the students. The rules include eligibility for graduation and opportunities for students' participation in religious, cultural, sports and physical activities as well. Despite the limited control over students' registration, survey indicated excellent performance for this standard.

Evaluation of student administration arrangements and support services for students in the program. Refer to evidence about the standard and sub-standards within it and **provide a report** including a list of strengths, recommendations for improvement, and priorities for action.

Because students' registration is handled by the registrar office, departments rely on it for statistical data. Overall, the department has met the requirements of standard 5. The centralized registration process makes some aspects of registration difficult to obtain, such as

cohort data analysis.

Strength:

1. Students registrations are done on line by each student.
2. Overall, students support provided by the institution or colleges is rated as excellent by the students.
3. Students records and privacy are well protected.

Recommendations for Improvement

1. Special committee is needed at the departmental level to further advice the students, if needed, in regards to course requirement and graduation needs.
2. Automated procedures for monitoring student progress throughout their programs and allow limited access to records for statistical data analysis.
3. Although planning, reporting and quality assurance practices within the department are in place, there is room for improvement.
4. New students may be informed in advance with the date, time, and place for orientation in the department in coordination with the college. The announcement can be coordinated with the registrar's office either by handout or by impeding the announcement to print with the student registration program.

Action needed:

Make available more student advisors who are familiar with the details of the course requirements to provide assistance prior to and during the student registration process and to hire social workers and psychologist to help students with their personal problems. Student's support needs to continually be examined by adjusting admissions and registration standards for the purpose of continuous improvement, including automating the processes for generation of statistical data, external reporting requirements, and generation of reports on student progress and achievements. Allow the department more access to student's records and registration information, which will help in monitoring student's progress without having to contact registrar office.

Annexes

- Annex 5.1.1 Students questionnaire and their response: In file
 Annex 5.1.2 Staff questionnaire and their response: In file
 Annex 5.1.3 Information regarding admission on the internet (Electronic Admission).
<http://dar.ksu.edu.sa/>
 Annex 5.1.4 Admissions procedures through the internet.
<http://ksu.edu.sa/en/e-services>
 Annex 5.1.5 Information regarding admission in centers (Student Guide): In file
 Annex 5.1.6 Important websites related to standard 5 practices.
<http://dar.ksu.edu.sa/> and <http://ksu.edu.sa/en/e-services>
 Annex 5.2.1 Rules maintaining the records: In file
 Annex 5.2.2 Rules concerning the student's graduation: In file
 Annex 5.3.1 Students rights and obligations: In file
 Annex 5.3.2 Appeal procedures: In file
 Annex 5.4.1 Academic Guidance: In file

Standard 6. Learning Resources *(Overall Rating, Four Stars)*

Learning resource materials and associated services must be adequate for the requirements of the program and the courses offered within it and accessible when required for students in the program. Information about requirements must be made available by teaching staff in sufficient time for necessary provisions to be made for resources required, and staff and students must be involved in evaluations of what is provided. Specific requirements for reference material and on-line data sources and for computer terminals and assistance in using this equipment will vary according to the nature of the program and the approach to teaching.

Provide an explanatory report about processes for provision of learning resources for the program, including opportunities provided for teaching staff or program administrators to arrange for necessary resources to be made available, information about services provided and times available, equivalence of provisions for different sections, etc. Complete this section using the following sub-standards:

Learning resources are essential tools for improving communications between the teaching staff and the students. Currently, learning resources have taken diverse and easy to use and acquire forms such as reference / text books, peer-reviewed journals, official publications, videos, tutorial e-programs, etc. Students can reach such resources by physically visiting and/or via electronic portal of KSU main library. Besides, books, paper-journal, and other conventional resources, the main library provides access to many electronic data bases. Student of the Food Science and Nutrition (as well as other students of the college) can easily get access to the main library e-services through the computer room provided to the students at the College of Food and Agricultural Sciences (CFAS). Wireless network are also available for student at the mail hallway of the CFAS. Faculty members can request any provision of required learning resources directly through the main library. The Deanship of Student Affairs provides requested learning resources (through the department) at 50% of the original price.

This service is partially provided by the university in support of the colleges and departments. Learning Resources (LR) is considered to be the backbone for supporting teaching and learning processes. This report attempts to assess the quality of learning resources at the department of food science and nutrition, not simply by focusing on the provision of library collections and services, but also by looking at the broader context. The report looks into LR in its wide scope by including the electronic learning services, as well as the University and college portal on the Internet. The department has access to a wide range of learning resources including but not limited to college portal, web based learning resources, black boards, and e- journals. College and university portal provide vast amounts of information in the form of department policies, faculty web-pages, links to important web-sites, and announcements about a variety of events. In collaboration with Deanship of E-learning and Distance Education, the latter is setting up the infrastructure for e-learning, building lines of communication between faculty and students, providing emails for each student and staff member and faculty, as well as creating a message centre.

In addition, the University has cooperated with other partners to provide sources of knowledge for its students such as; access to digital libraries and the National Centre for E-Learning. The department provides computer labs to facilitate students using and accessing internet and other learning resources, besides teaching purposes, furthermore, the college of Food and Agriculture is completely covered with wireless internet access. The Deanship of Student Affairs has a

bookstore where students can buy texts in affordable and reduced prices. KSU share 50% of texts prices in order to help students obtaining the books. Provision of learning resources for the program including opportunities provided for teaching staff or program administrators to arrange for necessary resources to be made available, information about services provided and times available, equivalence of provisions for different sections. As detailed in Standard 8 and 9, Purchasing is done as follows: A request is made by faculty members to the chairperson of the department who forwards it to the college administration. After approval, the request is forwarded to the financial department of the university and return to the department to get quotations from relevant companies.

6.1 Planning and Evaluation

Based on a letter addressed to the main library, faculty members of the department suggest new reference books to be included in the library. This item was assessed through Question (1) in Annex (1). Similarly, the Deanship of Students Affairs provides text books as requested. Faculty members participate in electronic surveys related to adequacy of resources and library services. Such surveys are prepared and managed by the main library as shown in Question (2) in Annex (1). Faculty members provide advice regularly on materials to be reserved in the library for easy access. (Annex 1, Question 3).

6.2 Organization

The main library opens from 8:00 AM to 12:00 PM from Saturday to Wednesday, and on Friday from 2:30 PM to 12:00 PM. Students were highly satisfied with this service as shown by question (9) of Annexes 2 and 4. Through the CFAS computer's common-room and the main library computers network, students can access scientific data bases, e- journals, location of books in the library, as well as other learning resources like lecture notes at faculty home pages (Annex 2, Question 11).

6.3 Support for Users

Annex (4) showed that more than 75% of the students were satisfied with the assistance provided by the librarian when needed. The E-system books-locator and other learning resources are available as shown above (6.2). All faculty members included in the survey agreed that they were kept informed about the library developments such as acquisition of new materials. (Annex 1 Question 4)

6.4 Resource and facilities

Annex (2) question (9) indicated the availability of adequate learning resources in the library. The main library includes books and other sources in both Arabic and English languages.

Describe the processes followed to investigate this standard and summarize the evidence obtained.

This standard was investigated through two questionnaires; one for students and another one for faculties. The questionnaire meant to address; faculty members learning resources satisfaction survey, program evaluation survey, course evaluation survey, and student experience survey as shown in (Annexes 1, 2, 3, and 4). Question asked were at 1to 5 scale; where 5 is totally agree and 1 is totally disagree. Data were averaged for each question, and was transformed into stars as stated in NCAA manual. More information was obtained from the main library about the availability of books, journal, and data bases of related fields of food science and nutrition. An example of this type of information is indicated in (Annex 5), where lists of books, journals, and E-

databases related to food science and nutrition found at the main library.

Choose **ONE OR MORE** KPIs that best supports that the program meets this standard. Each KPI should use a separate KPI table. Insert the KPI in the table below, add the actual KPI benchmark with the other benchmarks, and provide an analytical interpretation that describes the outcome (most benchmarks are numerical and others may be descriptions that verify quality using a rubric).

KPI: Code# 6.4. Stakeholder evaluation of library services (Average rating on adequacy of library services on a five point scale) by agreeing with statement: *Helpful library services are available to me as needed*

Target Benchmark	4.5/5
Actual Benchmark	3.7/5
Internal Benchmark	3.69/5 (Agriculture Economics)
External Benchmark	
New Target Benchmark	4.5/5

Analysis:

Most of the data collected is related to services offered by the institution with little has to do with the department. The department responsibility lies on informing students and guide them through making use of these services. In addition, the department can help the institution by providing support to students such as making sure textbooks are available and suggesting relevant books to their department.

Evaluation of learning resources for students in the program. Refer to evidence about the standard and sub-standards within it and **provide a report** including a list of strengths, recommendations for improvement, and priorities for action.

Students and staff members of the department are dependent on the main library (Prince Salman Library) for acquiring major leaning resources. Electronic system and network provided at CFAS and the main library made it easy for staff members and students to search for books and other online scientific materials.

Strengths:

1. Availability of adequate computer terminals at CFAS computer lab and the main library.
2. Adequacy of library hours along with librarian support.
3. Establishment and maintenance of strong electronic infrastructure at KSU along with e-learning.
4. The library is connected with a wide range of scientific data bases, especially in English language.
5. Establishment of the Deanship of E-learning and Distance Education. In addition to the web-portal and extended usage of the portal as a learning resource for students.

6. The library receives strong and full support from top management.

Areas requiring improvement:

1. On-site at CFAS training on the use of data bases access.
2. Increase the membership of KSU with more publishing companies
3. Automated system notifying staff members on newly acquired book, journal, database, and other learning resources through KSU-e-mail.
4. Allow easy access to for all electronic library resources
5. Utilization of the library's automation system to its full potential, especially its interaction with users (i.e., request for new purchase, holding a borrowed book).

Priorities for actions:

- Make available computer-terminals at the department to facilitate for students communication with the main library.

Annexes:

- **Annex 1:** Faculty members learning resources satisfaction survey: In file
- **Annex 2:** Program evaluation survey: In file
- **Annex 3:** Course evaluation survey: In file
- **Annex 4:** Student Experience Survey: In file
- **Annex 5:** Books, Journals, and E-databases related to Food Science and Nutrition at the main library: In file

Standard 7. Facilities and Equipment *(Overall Rating, Four Stars)*

Adequate facilities and equipment must be available for the teaching and learning requirements of the program. Use of facilities and equipment should be monitored and regular assessments of adequacy made through consultations with teaching and other staff and students.

Provide an explanatory report about arrangements for provision of facilities and equipment for the following sub-standards:

Much of the responsibility for this standard may be institutional rather than program administration. However, the program is responsible for assessing the quality of this standard. In this standard, analysis should be made on matters that impact on the quality of delivery of the program. These matters would include, for example, adequacy of classroom and laboratory facilities, availability and maintenance of equipment, appropriateness for the program of scheduling arrangements, and availability, building maintenance, and technical support for IT equipment.

The department of Food Science and Nutrition has been striving to implement policies to ensure quality of planning, acquisition, and maintenance of facilities and equipment. These include organized processes and procedures for the acquisition of equipment, including procurement processes, invoicing procedures, and inventory logging and tracking system. A documented system for periodic maintenance (preventative maintenance) and repair of facilities and equipment located throughout the department, which includes rigorous system of facility planning and budgeting at various academic and administrative units.

All classrooms in the department are now smart classrooms with smart boards and projectors. Regular maintenance is provided even after hours, on-call person is available for emergency repair and maintenance. Security systems and cameras are provided throughout the surroundings of the facility around the clock to insure safety of workers and protection of equipment from improper use. Working in accordance with the Strategic Plan of KSU, significant additions and enhancements were successfully implemented like:

1. E-register and E-dugate (the new academic systems)
2. Madar, a new administrative system
3. Installed the latest hardware
4. Network infrastructure
5. Internet bandwidth expanded and services upgraded
6. An upgrade to smart classrooms throughout
7. The Learning Management System (LMS) and E-learning portal

7.1 Policy and Planning

Facilities are designed or adapted to meet the particular requirements for teaching, learning, and research. The FSN program offers a safe and healthy environment for high quality education. Use of facilities is monitored and surveys of students, teaching staff, and employees were used for assisting in planning for improvement. Adequate provision was made for classrooms, laboratories and the use of computer technology, as well as research equipment by teaching staff and students. Appropriate provision for associated services such as food services, extracurricular activities, and where relevant, student accommodation, were provided.

The department has a long-term plan approved by the faculty that provides for development and maintenance of the facilities. Equipment planning processes include plans and schedules for

major equipment acquisitions and for servicing and replacement of existing ones. Future users of facilities or major equipment are consulted, prior to acquisitions or maintenance of new or existing instruments, to ensure that current and anticipated future needs are accurately met. The department has an equipment policy designed to ensure to the greatest feasible extent, compatibility of equipment and systems with existing equipment. (Annex 7.1.1., and 7.1.2.)

Business plans are put in place considering leasing or shared use with other agencies, prior to major equipment acquisition. Proposals for leasing of major facilities and for outsourced building and management of facilities are fully evaluated in the best interests of the department. The activity is managed in a way that ensures effective quality control and financial benefits.

7.2. Quality and Adequacy of Facilities and Equipment (Rating, Five Stars)

The buildings and the surrounding area that hosts the department provide a clean, attractive, well maintained physical environment, and meet health/safety requirements. Quality evaluation processes includes feedback from principal users regarding the adequacy and quality of facilities. A quality control mechanism was established to analyze user's feedback and replies to their views. Adequate and accessible facilities are available for confidential consultation between faculty and students. Appropriate facilities are provided for religious observations. Forms were used to report suitability of class room, for what was designated for, and suitability of labs for what was designated for, as in (Annex 7.2.1 and Annex 7.2.2). Specification standards of teaching, laboratories, and research facilities were benchmarked against equivalent provisions at other comparable institutions which include such things as classroom space, laboratory facilities/equipment, and access to computing facilities or relevant software, private study facilities, and research equipment as shown in Annex 7.2.3.

7.3. Management and Administration

A complete inventory of equipment and instrumentations owned or controlled by the department is in record, including equipment assigned to individual staff members or teaching and research personnel. Services such as cleaning, chemical waste disposal, minor maintenance, safety regulations, and environmental management are professionally and effectively carried out under the supervision of the department head. In regards to instruments operating conditions, reasonable arrangements were made for regular operating condition assessments, preventative/corrective maintenance, and parts replacement (Annex 7.1.1.).

Appropriate security is provided for protecting specialized equipment and facilities designated for teaching and research. The responsibility was shared between individual faculty members, different departments, central KSU administration, and circulated between personnel. The security of the personnel of the department and their property is one of the points of strength, where comprehensive systems were applied to ensure the overall personal security of faculty, staff, and students of the department. The department leadership is active in deciding space allocation and distribution for the members of the department based on the current activities as needed, where reallocation decisions were made to accommodate needs of members of the department. Common use facilities, such as class rooms are managed through electronic booking and reservation system, where the extent and efficiency of use is supervised. The department possesses common use space and instrumentation located at different parts of the facility. Arrangements are made for the staff to share these facilities and equipment, where the standard operating procedures were set for each instrument in order to prevent misuse of the equipment and guarantee personal safety of the staff. Forms are prepared for instrumentation and equipment purchase requests and maintenance. Regarding personal safety, the department has

established procedures for chemical waste disposal and chemical spills management as indicated by Annex 7.3.1 and Annex 7.3.2.

7.4 Information Technology

Computers software and hardware are available for teaching staff, students, and other personnel associated with the department. This service is accessible and used in most activities by the department. The sufficiency of the computers provided is constantly monitored for adequacy and operation condition and maintenance. This service is benchmarked against continuous surveying and compared with other comparable departments. Technical support is available for staff and students using information and communications technology as well as policies governing the use of personal computers by students. Purchasing practices of computers and other information technology devices are made open for participation of the staff in the department. As part of KSU policy, purchasing and replacement policy for software and hardware, are put in place to ensure that existing systems remain up to date and new systems are compatible when replacements are made. The Food Science and Human Nutrition department is in compliance with the code of conduct established by KSU which relates to inappropriate use of material on the Internet and any misuse is dealt with appropriately. Information technology systems are secured and protected to maintain privacy of sensitive personal and institutional information, and to protect against externally introduced viruses and other harms to the IT department. Training for staff and students on computers usage, software, hardware, and overall internet technology is provided throughout the year on campus. Information technology is used throughout KSU administration where letters and communications between departments and colleagues are done on line. The internet system used by the department as part of KSU is compatible, capable and setup to communicate externally with other institutions.

Describe the processes used to evaluate the quality of provision of facilities and equipment for the program.

To evaluate this standard, the SSR committee;

- 1- Revised papers and web-based questionnaires for students, faculty and staff
- 2- Held meetings and interviews with college leaders and administrators involved with facilities and equipment.
- 3- Revised the existing policies and practices related to the standard

Choose **ONE OR MORE** KPIs that best supports that the program meets this standard. Each KPI should use a separate KPI table. Insert the KPI in the table below, add the actual KPI benchmark with the other benchmarks, and provide an analytical interpretation that describes the outcome (most benchmarks are numerical and others may be descriptions that verify quality using a rubric).

KPI: Code#7.3 Average overall rating of the adequacy of facilities and equipment in a survey of teaching staff. Regarding these statements: Facilities are adequate; facilities are adequate for research; Facilities are suitable for teaching needed courses.

Target Benchmark	4.5/5
Actual Benchmark	3.5/5
Internal Benchmark	4.5/5 (agriculture economics)
External Benchmark	
New Target Benchmark	4.5/5
<p>Analysis: The target benchmark was not met, possibly, due to areas such as faculty food service facilities, lack of team work regarding instrumentation, recycling of chemicals, and the overall safety in the labs. At this point, the department had established clear procedure regarding lab safety and chemicals recycling.</p>	
<p>Evaluation of facilities and equipment for the program. Refer to evidence about the standard and sub-standards within it and provide a report including a list of strengths, recommendations for improvement, and priorities for action.</p> <p>In terms of facilities and equipment, the department possesses advanced facilities, lab equipment, and instrumentation. The department has most of what is required for a safe and convenient facility or lab instrumentation. The lab instrumentation is very comparable to food science departments at leading universities such as Ohio State University and North Dakota State University.</p> <p>Strength</p> <ol style="list-style-type: none"> 1. Leasing and outsourcing is practiced in limited basis without any defined procedure, but it is done on as needed basis. This is important because buying an instrument and train your staff how to use and then use it for one project only is not practical and misuse of resources. 2. Purchasing new equipment and devices is made mainly on the basis of special and general needs 3. Every faculty and teaching staff members of the department have a computer to assist in their duties such as preparing power point presentations for their lectures write publications and do the daily administrative tasks. Computers are available for students as well, where two computers labs are available in the department. <p>Recommendations for Improvement</p> <ol style="list-style-type: none"> 1. Faculty, teaching staff, and students should do their best to implement safety regulations in collaboration with the safety and chemical waste officers at KSU 2. Based on the experience of some members of the department regarding the food service provided for staff and students members of the college of Food and Agriculture needs to be improved 3. Establish electronic reporting procedure for instruments maintenance together with paper reports. 	

4. Faculty, teaching staff, and students should do their best to implement safety regulations in collaboration with the safety and chemical waste officers at KSU

Priorities for Action:

1. When needed, a defined and standardized procedure for outsourcing and leasing practices in the department should be established.
2. Motivate faculty members for cooperating with each other for reducing the cost of maintenance and purchasing new equipment.
3. Workshops, training courses, and implementation of the safety regulations.
4. The current service can be improved by providing more food choices in addition to student's supplies
5. Standard operating procedure and a log book should be placed next to each instrument. Users should put their name, nature of the sample used, and status of the instrument before or after use.
6. It is recommended all members of the department to start making use of the proactive measure for necessary instrumentation maintenance procedure developed by the department.
7. The department needs to establish form 7.3.3 and form 7.3.4 for recording information needed for the protection of the instrument and the safety of the users
8. There is a need for establishing a maintenance unit at least in the college level with full authority so as to streamline instrumentation maintenance and prolong the usage of the equipment and maximize the use of our budget.

Annexes

- Annex 7.1.1. Request for instrumentation and equipment purchase: In file
 Annex 7.1.2. Request for instrumentation maintenance: In file
 Annex 7.2.1. Suitability of class room for what was designated for: In file
 Annex 7.2.2. Suitability of labs for what was designated for: In file
 Annex 7.2.3. Instrumentation comparison form between the department and international universities: In file
 Annex 7.3.1. Request for chemical waste removal according to COSHH: In file
 Annex 7.3.2. Reporting problem occurrence at the department's facility: In file

Standard 8. Financial Planning and Management (Overall Rating, Three Stars)

Financial resources must be sufficient for the effective delivery of the program. Program requirements must be made known sufficiently far in advance to be considered in institutional budgeting. Budgetary processes should allow for long term planning over at least a three year period. Sufficient flexibility must be provided for effective management and responses to unexpected events and this flexibility must be combined with appropriate accountability and reporting mechanisms.

Much of the responsibility for this standard may be institutional rather than program administration. However, the program is responsible to assessing the quality of this standard. In this standard the effect of financial planning and management arrangements on the program should be analyzed, as well as matters that are carried out by program administrators themselves.

Provide an explanatory report about recruitment and other employment activities for the following sub-standards:

Explanatory note on Financial Planning and Management

The financial support for all departments is fully provided by the University in accordance with the rules and regulation of the ministry of finance. KSU has been adopting governmental and financial accounting policies and procedures in order to ensure the quality control of its financial and accounting processes. These include:

1. An organized financial planning and budgeting process with strict monitoring and follow-up procedures.
2. Universal procedures for expenditures, including an invoice and billing tracking system.
3. A stringent accounting system for various financial categories, including salaries, allowances, and wages, operation expenditures, and programs such as cleaning and maintenance contracts.
4. The University has maintained sound financial management and auditing practices, both internal and external.

8.1 Financial Planning and Budgeting

In the Executive Rules for Financial Affairs (see Annex 8.1.1) dated 27/6/1416H, Article 2 of Chapter one stated that the University revenues consist of the following:

1. State allocated budget.
2. Funds from individuals in the form of donations, and endowments.
3. Revenues from the University owned property.
4. Research grants, contract income and other academic services rendered by the University to other parties.

The state allocated budget is the largest component of the University income. However, the University is working to develop strategies to diversify revenue through a range of activities to reduce its dependence on a single funding source. Executive Rules for Financial Affairs at the University (Article 4) states that the University allocated budget has four expenditure sections:

Section one: Salaries, allowances and wages

Section two: Operation expenditures

Section three: Programs and contracts of maintenance, cleaning and guards

Section four: Projects

The Ministry of Higher Education allocated 8.7 and 9.8 Billion Saudi Riyals for 2012 and 2013,

respectively. The budget was spent according to allocation shown in Table 8.1.1.

Table 8.1.1: The financial position of the University budget sections for fiscal years 2011-2012 (Amounts in thousands of Saudi Riyals)

Financial year	2012 (1432/33/H)	2013 (1433/34/H)
Financial summary	Actual expenses	Actual expenses
Section (1)	47%	28.8%
Section (2)	40%	22.3%
Section (3)	3.3%	5.4%
Section (4)	9.7%	43.5%
Total	100%	100%

Most of the budget for the college is contained within the budget of the University in sections 1, 2, and 4 as an aggregate for all academic units. However, in accordance with the recommendation of the 2008 SSR review, the University has embarked on initiatives to give more financial independence and decision-making for the college to cover its non-budget expenses for development and operations. The operating expenses for laboratory equipment and chemicals, office furniture, teaching materials, raw material for maintenance, spare parts projects, repair projects and building rehabilitation plans are allocated based on the needs and requirements of the college. It is required that for a proposed project or program to explain the expected cost and maintenance expenditure. The Department of Financial Affairs is planning to conduct formal cost-benefit and cost-effectiveness analyses for proposed projects and programs. The budget system could be enhanced further in order to permit individual colleges and departments to prepare their own budgets consistent with their departmental needs and goals. This would require restructuring of the existing budgeting system at KSU. The budget allocated to the ongoing and new projects received a large proportion of last year's budget. This is in alignment with the mission and goals of the University in providing distinctive education and producing creative research in an environment more conducive to creative/critical thinking.

Preparation of the University draft budget is a financial plan including estimations of required expenses and requirements of financial resources for the operation of all the University units and departments. A letter from the Ministry of Finance includes the date set for the submission of the University draft budget for the next year to the Ministry (see Annex 8.1.2). In light of that, the General Directorate for Planning, Budget, and Follow-up will prepare the proposed budget for the next fiscal year. They are guided by the University's five-year operation plan, which is prepared by the Development and Planning Directorate, based on their consultations with the University's organizational units. The approved plan is announced by the Ministry of Economy and Planning (see Annex 8.1.3).

In 2009 the University launched its endowment funds. Through the "University Endowments Program" the University aims at increasing its financial resources, participating in the activities that enhance the international profile of KSU, support the development of education and activate the relationship between the KSU and society in order to help it attain the mission creating a social partnership for building a knowledge-based society. The endowment program is basically a number of property developments around the main campus of KSU at Aldaryiah. The construction of these buildings is 75% complete and expected to finish soon. The expected outcome of these investments is to support KSU research and other activities needed to accomplish its mission and goal. It is expected that more research money will be allocated for research and the FSN department is expected to compete for these funds

To ensure the progress of the KSU endowments program, the university intends to form a distinguished

administrative and organizational structure to manage endowments investments, as well as provide views on the restrictions and codification of investment so as to realize the targets of endowers. In addition to offering a number of endowment investment funds, the donating company will offer opportunities to invest in different funds.

Purchase

Purchasing is done as follows: A request is made by the faculty members to the chairperson of the department who forward it to the college administration. After approval, the request is forwarded to the financial department of the university and return to the department to get quotations. Relevant companies are contacted to get the price list. Again the request along with three quotations is sent to college administration, which is forwarded to university purchase department. They issue a purchase order for that particular item after approval by the purchase committee. The purchase order is issued to the company with fair quotation.

8.2 Financial Management

At the university level financial delegations are clearly specified in article # 9, 10 and 11 of the statutes governing the financial affairs of universities and the rector's decree # 2929000001 (see Annex 8.2.1). Whenever a conflict of interest exists, either actual or perceived, the persons concerned declare their interest and refrain from participation in decisions regarding financial affairs. Instead, decisions made must serve the public interest. The university financial affairs are subject to internal and external auditing processes. Internal auditing is carried out through the auditing division of the Finance Directorate. The university budget is subjected to external auditing by the General Auditing Bureau of Saudi Arabia, which executes auditing on the state's revenues, expenditures, current and fixed assets and oversees the proper utilization and maintenance of these resources. In the year 2008, King Saud University developed a set of financial Key Performance Indicators (KPIs) that cover four main parts: revenue related ratios, cost related ratios, endowment funding ratios, and growth ratios. (see Table 8.2.1).

Table 8.2.1: Financial KPIs of King Saud University (2013)

<u>Revenue related Ratios:</u>	
Key Performance indicators	96%
Ratio of government fund to total revenues	96%
Ratio of research grants to total revenues	1%
Ratio of investment income to total revenues	0
Ratio of fees and charges to total revenues	1.7%
Other income to total revenues	1.3%
Revenue per student	16552 Dollars
<u>Cost Related ratios:</u>	
Ratio of instruction and academic support expenditure to total operating costs (TOC)	37%
Ratio of Research expenditure to TOC	8%
Ratio of students grants and scholarship to TOC	1%
Ratio of other expenditure to TOC	54%
<u>Endowment Funding Ratios:</u>	

Return on endowment funds	0
Growth rate of endowment assets	0

Overall Evaluation of Financial Management and Planning Process

The evaluation of KSU's financial planning and management system showed that the university budgeting and resource allocation process reflects its mission and goals guided by its five-year plan. The state allocated budget is the largest component of the university's income. However, the University is encouraged to develop strategies to diversify revenue through a range of activities to reduce its dependence on a single funding source. The General Directorate for Planning, Budget, and Follow-up prepares the proposed budget for the next fiscal year. The main task of the Accounting Division at the Financial Directorate is to ensure that funds provided for particular purposes are used for the same purposes and verify that this has occurred. The Finance Directorate submits a quarterly report on expenditure and commitments against budgets with reports prepared for each organizational unit and for the University as a whole. The University monitors liquidity ratios continuously through the allocation book kept by its Finance Directorate and considers variations between colleges and departments of different cost structures in terms of their allocations (salaries, wages, and allowances). The University financial affairs are subject to internal auditing through the auditing division of the Finance Directorate and external auditing processes through the Ministry of Finance and General Auditing Bureau of Saudi Arabia. Regarding the financial planning arrangements for the program and the extent of financial responsibility for program managers, the department asks the staff members about their needs from laboratory equipment and chemicals through the committee in charge to determine the expected budget. The committee examines the needs and determines the priorities and avoids duplications.

Describe the processes used to consider quality of performance in relation to this standard.

Description of the process for the preparation of the report on this standard

1. The self-study committee identified and listed the evidences necessary for the compilation of the standard.
2. Reviewed both previous institutional and College Self-Study reports
3. Reviewed official documents related to the financial management and planning.
4. Referred to the following link for information:

<http://ksu.edu.sa/sites/KSUArabic/Mngmnt/RectorAndDeputies/DeputyOfuniversity/Pages/home1.asp>

[X](#)

<http://hec.mohe.gov.sa/BOOKVIEW.aspx>

Evaluation of employment processes for the program. Refer to evidence about the standard and sub-standards within it and **provide a report** including a list of strengths, recommendations for improvement, and priorities for action.

Strengths:

1. King Saud University is getting great deal of encouragement and support from the government, which allows for getting a comparative advantage compared with other universities.
2. The ability to generate income from non-governmental sources by establishing development programs, such as research chairs, endowments, donations, and financed research and projects.
3. The amount of financial resources available for the program is sufficient for good quality

program provision and benchmarked against costs of equivalent programs at other similar institutions.

4. Sufficient delegation of spending authority is given to the program managers for effective program administration.
5. Delegations of spending authority are accompanied by appropriate accountability and reporting processes.

Recommendations for Improvement:

-Strategic planning to ensure best utilization and avoid duplication of the instruments and equipment in the department, college, or the University.

Priorities for action:

- Prompt survey must be done for all equipment and instruments to make sure they are operating as planned including standard operating procedure and safety.

Annexes

Annex 8.1.1: The Executive Rules for Financial Affairs.

These rules are listed in the following website of KSU:

<http://ksu.edu.sa/AboutKSU/Pages/RulesandRegulation.aspx>

Annex 8.1.2: A letter from the Ministry of Finance includes the date set for the Submission of the University draft budget for the next year to the Ministry.

In file

Annex 8.1.3: The approved plan is announced by the Ministry of Economy & Planning.

<http://www.mep.gov.sa/themes/GoldenCarpet/index.jsp;jsessionid=5C467A0491998CA42898918D685D0273.gamma?event=SwitchLanguage&Code=EN>

Annex 8.2.1: The Rector's Decree # 2929000001.

King Saud University web site: <http://ksu.edu.sa/en/ksu-admin/administrative-departments>

Standard 9. Employment Processes (Overall Rating, Three Stars)

Teaching and other staff must have the knowledge and experience needed for their particular teaching or other responsibilities and their qualifications and experience must be verified before appointment. New teaching staff must be thoroughly briefed about the program and their teaching responsibilities before they begin. Performance of all teaching and other staff must be periodically evaluated, with outstanding performance recognized and support provided for professional development and improvement in teaching skills.

Much of the responsibility for this standard is institutional rather than to the program. However, the program is responsible for assessing the quality of this standard. In this standard analysis should be made on employment matters that affect the quality of the program. These matters include the appointment of appropriately qualified faculty, their participation in relevant professional development and scholarly activities, and their preparation for participation in the program.

Introduction

Here are the some general requirements and procedures to be followed when filling a teaching position: applicants for any teaching post should qualify for the post, including teaching and

other responsibilities. Applicants' qualifications and experience must be verified before appointment. New teaching staff must be thoroughly briefed about the program and their responsibilities before they begin. Performance of all faculty and staff must be periodically evaluated, with outstanding performance recognized and support provided for professional development and improvement in teaching skills. (Note: Teaching staff refers to all staff with responsibility for teaching classes including full and part time staff, faculty, lecturers, and teaching assistants).

Much of the responsibility for this standard may rest with institution rather than program administration. However, regardless of who is responsible, employment processes will have a significant effect on the quality of the program. In this section comment will be made on employment matters that affect the quality of the program regardless of who manages them or determines the policies that affect them.

Provide an explanatory report about recruitment and other employment activities for the following sub-standards:

The department endeavors to fill positions with the best qualified individuals. Recruiting and selecting candidates are the mutual responsibilities of the Deanship of Faculty and Personnel Affairs and the department where positions exist. There is a clear commitment at the institutional level to enhance the quantity and quality of its staff. Consistent with this commitment, the Deanship has worked towards—and obtained—ISO 9001 certification (2008). Considerably larger numbers of Saudi new graduates have been hired in the recent years. Moreover, effort has been launched to attract and recruit distinguished faculty members. The University has made outstanding progress not only in increasing the quantity of its staff but also in enhancing its quality. It provides opportunities to staff for personal and professional development through workshops offered regularly by the Deanship of Skills Development, and by encouraging faculty members to attend international conferences or training workshops abroad. The University's approach to human resource policy and management has undergone significant change in the last few years in line with the 2030 Strategic Plan. The majority of faculty and staff employment processes are centrally managed by the Deanship of Faculty and Personnel Affairs.

9.1 Recruitment

The department has formally established and documented recruitment processes which deal with the employment of Saudi, non-Saudi and non-academic staff. The department conducts interviews and makes recommendations for appointment. The recruitment processes at the department are well documented and follow several pathways for Saudi faculty, non-Saudi faculty and non-academic staff. Committees at the department level write their recommendations, which have to be approved by the department council, then by the college council, and then the final decision is made by the Committee of Teaching Assistants and Lecturers headed by the Vice Rector for Graduate Studies and Research.

Positions are publicly advertised at local newspapers, the University website (see Annexes 9.2.1 and 9.2.2). The advertisements include job title and means to apply. Detailed description of the job, selection criteria, indicators of performance, and processes of performance evaluations are not consistently included in the advertisements. However, they can be looked up in the regulations of the Ministry of Higher Education or the regulations of the Ministry of Civil Service on the University website (see Annexes 9.2.3 and 9.2.4). Moreover, the University has established several programs and units to recruit distinguished professors and scholars, including Nobel Prize laureates. The University is strict about verifying the standing and reputation of the institutions from which degrees were obtained. The process undoubtedly includes considering if the

institution is recognized by the Ministry of Higher Education.

Careful attention is given to appointed qualified and skilled faculty staff. Final decisions for professorial-level appointments are made by the Scientific Council. All other appointments are confirmed by the Committee for Teaching Assistants and Lecturers. There are a number of specialized units and programs to recruit internationally-renowned scholars and researchers. A process of qualifications and reference checking is in place. For the last three years, orientation and induction has been provided at the University level to new faculty members at the beginning of each academic year by the Deanship of Skills Development.

9.2. Personal and Career Development

The University has developed a strategy that provides innovative pathways in employment to help in attracting qualified faculty and staff with competitive compensation, such as the program of attracting distinguished faculty. King Saud University has plans to overcome the restrictions imposed by the government employment policies. Introduction of research chairs and endowment programs are expected to provide new income resources and allow for independent employment. Furthermore, it is apparent that the University is making great efforts to raise the quality and quantity of its staff. Statistics of teaching staff hired in 2008-2009, especially teaching assistants, show that the University is making the growth of its teaching staff a priority. Newly appointed teaching assistants are provided with scholarships for studying abroad. Moreover, many programs have been launched to attract and recruit distinguished faculty members, and the research chairs which have been launched offer numerous positions of research assistants.

All general employment and recruitment policies are clearly documented and available on the website, and all jobs are advertised on various media outlets and on the university and the college websites regularly. Job titles are given and means to apply are clearly stated. In some cases where the institution contacts distinguished professors, those are provided with clear job descriptions and performance expectations, working hours, and detailed instructions on how to apply for the job. The department has made notable progress in the number, quality, and variation of professional development opportunities for its staff through workshops offered regularly by the Deanship of Skills Development and the college faculty development unit.

Faculty members are allowed to attend local or international conferences and participate with oral or poster presentation. They are also allowed to attend professional /career development workshops abroad at the expense of KSU. There is a number of awards given by the Deanship of Quality at KSU including "excellence in Teaching Award". The rules for this award are set by the office of Vice-Rector for Development and Quality, Deanship of Quality at KSU.

Describe the processes used to consider quality of performance in relation to this standard.

In order to provide an accurate assessment of this standard the department SSR committee did the following:

- Reviewed the University SSR on this standard.
- Reviewed all employment policies and procedures of KSU.
- Reviewed all the faculty staff statistics.
- Reviewed all the documents of the department improvement unit.
- Discussed with the head of the department all the issues and difficulties concerning the employment process of distinguished faculty.

Choose **ONE OR MORE** KPIs that best supports that the program meets this standard. Each KPI should use a separate KPI table. Insert the KPI in the table below, add the actual KPI benchmark with the other benchmarks, and provide an analytical interpretation that describes the outcome (most benchmarks are numerical and others may be descriptions that verify quality using a rubric).

KPI: Code# 9.1.Proportion of teaching staff leaving the program for reasons other than retirement	
Target Benchmark	0% (no teaching staff would like to leave the program except for retirement)
Actual Benchmark	0%
Internal Benchmark	0% (agriculture Engineering)
External Benchmark	
New Target Benchmark	0%
Analysis: At this point no teaching staff left for any reason other than retirement. On the contrary, many teaching staff members of FSN are still very active even after retirement age.	

Evaluation of employment processes for the program. Refer to evidence about the standard and sub-standards within it and **provide a report** including a list of strengths, recommendations for improvement, and priorities for action.

Although most of the hiring responsibility lies on the institution, the department is allowed to make all the necessary recommendation and decide the candidates match with the position. So far, the process is working well and the department is satisfied with decisions made by the KSU with regard to recommendation by the department.

Strengths:

1. There is a well-developed employment process.
2. Credentials of all employees are checked and verified.
3. The department has recently been able to attract highly distinguished staff.
4. There are ample opportunities for professional development for staff.
5. Outstanding academic or administrative performance is recognized and rewarded.

Recommendations for improvement:

- Assistance in arranging professional development activities to improve skills and upgrade qualifications.
- Consultations about work performance should be confidential and supportive, and occur on a formal basis at least twice each year.
- A higher ratio of supporting staff, especially the demonstrators, is strongly recommended

Priorities for action:

- Strengthens the teaching and research internal committee to examine the need of the department. This committee will also develop job description for teaching and administrative purposes.
- The department may collaborate with the Deanship of Faculty and Personnel Affairs for overseeing the recruitment and selection process to ensure the development of a comprehensive position description.
- The department should closely monitor the impact of the academic workload policy for faculty so as to avoid unintended consequences, such as increased pressure to conduct research at the risk of sacrificing quality teaching and learning.

Annexes

Annex 9.2.1: KSU Recruitment Policies.

The Deanship of faculty and personnel affairs: <http://dfpa.ksu.edu.sa/>

Annex 9.2.2: Website of Ministry of Civil Services.

<https://eservices.mcs.gov.sa/econtent/Default.aspx?indx=1>

Annex 9.2.3: Statutes Governing Job Performance Evaluation, Ministry of Civil Service.

<https://eservices.mcs.gov.sa/econtent/Default.aspx?indx=1>

Annex 9.2.4: Website of Deanship of Faculty and Personnel Affairs:

<http://dfpa.ksu.edu.sa/>

Standard 10. Research (Overall Rating, four Stars)

All staff teaching higher education programs must be involved in sufficient appropriate scholarly activities to ensure they remain up to date with developments in their field, and those developments should be reflected in their teaching. Staff teaching in post graduate programs or supervising higher degree research students must be actively involved in research in their field. Adequate facilities and equipment must be available to support the research activities of teaching staff and post graduate students to meet these requirements in areas relevant to the program. Staff research contributions must be recognized and reflected in evaluation and promotion criteria.

Expectations for research vary according to the mission of the institution and the level of the program (e.g. college or university, undergraduate or postgraduate program). In this standard an analysis should be made on the extent and quality of research activities of faculty teaching in the program, and on how their research and other current research in the field is reflected in teaching.

Provide an explanatory report about nature and extent of research activities associated with the program or carried out by staff teaching in it for the following sub-standards:

It is imperative that, a research strategy that is consistent with the nature and mission of the institution should be developed. As part of KSU, the department research activities feed into the general slogan "to be good in areas of research and great on some," Faculty are expected to develop a local and international research network in order to stay current in their area of expertise. Teaching staff at higher education programs are expected to be involved in scholarly activities so that to remain informed about any developments in their field and propagate new knowledge in their teaching. It is a must for faculty involved in post graduate programs to keep minimum research activities in the lab so that graduate students can appreciate reasonable infrastructure that supports their research needs. Faculty should solicit funds from outside sources such as KACST and SABIC and others, such as research chairs (more than 90 chairs are located at KSU) and four research centers of excellence. Faculty members are encouraged to collaborate with colleagues and institutions in other countries through the sabbatical leave program and joint projects financed by centers of excellence for research or use video-conferencing for international communications.

The department offers three degrees: Bachelor of Science (B.Sc.), Master's degree (MSc.) in Food Science (male students only), Master's degree (MSc.) in Human Nutrition (male and female students) and doctor of philosophy (Ph.D.) in Human Nutrition (female students).

<http://colleges.ksu.edu.sa/FoodsAndAgriculture/Food Science and Nutrition/default.aspx>.

To achieve the scientific research goals, The department of Food Science and Nutrition, has focused its effort on food microbiology and safety, human nutrition, food biotechnology, food processing and technology, food quality control, food analysis, and food chemistry. So far, more than 90 theses were approved by the research committees of the department contains the postgraduate research student report.

With more than 350 scientific research articles published in 84 peer-reviewed scientific journals circulated by international publishing companies, the department made a good contribution to the scientific community. In the last three years, the department staff contributed 50 scientific

research articles, where twenty four were published in ISI journals. In addition, throughout the years the department published 49 books in the fields of food science and human nutrition. Annex 10.1.1 and 10.1.2, contains scientific research, publications, attended conferences, and promotion criteria for faculty members.

In its effort to boost its research activities, five faculty members awarded five local scientific grants and certificates "Golden Palm Grant, First Class Certificate of Merit; 2 Outstanding Resident Certificate-Golden Class, and a Second Class Certificate of Merit obtained from King Abdul-Aziz City for Science and Technology; 2 Certificate of Merit from The Arab Center for Nutrition, and The Arab Organization for Agricultural Development"

Funds for research activities allocated by the university grants as well as King Abdul-Aziz City for Science and Technology. The department has received a sizeable fund from King Abdul-Aziz City for Science and Technology to support 21 major research projects. Each research project has a budget ranged from 1.5 to 2 million Saudi riyals. Nine of these projects were completed and 12 project still on-going. In addition, 32 research projects were funded by the Research Center under the Food and Agricultural Sciences College with a budget ranging from 40 to 50 thousands Saudi riyals for each project. Annex 10.1.3, includes funded projects, junior staff support, and a draft proposal for new faculty members.

For the department scientific roles in cooperative achievements and consultations, the department was awarded "Almarayee" grant for scientific creativity. Annex 10.1.6, covers collaborative research with national and international community.

In its effort to take advantage of KSU research-advancement programs, the department of Food Science and Nutrition has been involved in most of these programs, such as visiting professors programs, where visiting professor from Germany, USA and Turkey visited the department in 2011. The Department of Food Science and Nutrition has a highly Cited Canadian Professor, within KSU Distinguished Scientist Fellowship Program (Annex 10.1.6).

The KSU Attracting Outstanding Faculty and Researchers Program is well represented in the department, where more than 10 outstanding professors (Faculty) and highly qualified researchers are now taking the lead in advancing the research activities within the department. Faculty members of the department have obtained many funded projects from Science and Technology National Program related to King Abdul-Aziz City for Science and Technology. The department includes many unique features that have positive impact on education and research. In this respect, there are several research groups with highly qualified members and equipped labs in the following fields: Food Safety, Food Analysis, Food Technology, Food Engineering, Food Biotechnology, Assessment of Nutritional Status, Community Nutrition, Food service Management, Nutritional Education and Counselling.

Research projects serve teaching processes through providing opportunities for students' training. In addition, some faculty members serve as consultants for different governmental sectors. Their consultancy services enlighten students with the community problems to enhance their thinking analyses. Graduate students are largely involved in the funded projects to acquire skills in research and publication. They are encouraged to present and publish the output of their research in the regional conferences and ISI journals.

10.1 Teaching staff and students involvement in Research

- During the last two years (2011/ 2012 and 2012/2013), faculty members of the department have published 92 manuscripts in ISI journals averaging 4.8 papers per full time faculty member

- During 2012/2013, the department faculty members have presented 19 manuscripts to international conferences averaging 1.25 papers per full time faculty member.
- Received income from external sources in the previous year as a ratio of full time faculty members was about 2.5 million Saudi riyals.
- It is evident from the following table, the importance of research activities in the overall priorities of the department, where research was assigned 60% of the faculty time.

Department	Teaching	Research	Service
Food Science and Human Nutrition program	25%	60%	15%

- Funding sources and numbers of projects funded different agencies in the last five years are as follows:

Source of funding	Number of projects
Grants from National Plan for Science and Technology and King Abdul-Aziz City for Science and Technology	21
Grants from the research centre at the College of Food and Agriculture Sciences, KSU	32

In its effort to advance the learning outcome, the department encourages students participate in research activities in order to improve their technical skills. The students are urged to take courses and take part in activities in areas other than their own.

In the event that students participate in a research project, they must be acknowledged and awarded. The reward could be adding their name to the publication. Specific process of acknowledgement and documentation of students' research contributions should be established.

10.2 Research Facilities and Equipment

The department has allocated lab space for research in addition to teaching labs which serves vast areas of food science and nutrition.

1. Several teaching /research labs, such as, well-equipped food chemistry and food microbiology are available for research and for teaching food analysis (protein, lipids, moisture, ash, carbohydrates, ...) as well as food safety and microbial control. Labs that covers other aspects of food science are also available for instance, advanced biotechnology lab., 2 food microbiology laboratory, dairy chemistry lab., advanced food analysis lab., oils and fats lab., detection of irradiated food lab., sensory analysis lab., date technology lab, cereal chemistry and technology lab, and other supporting labs laboratories.

3. For projects scale-up, the department is the owner of four pilot plants to serve ongoing projects as; milk pasteurization and cheese processing unit, cereal plant (milling, processing, baking, thermal analysis, dynamic rheology lab.), meat processing plant, and date sorting and packaging line. Additionally, a controlled atmosphere chambers and food extrusion units are shared with Agriculture Engineering Department and used students training as exhibited by Annex 10.2.1.

Security policy and arrangements are carried out in coordination with the department of security and safety of KSU. In order to accomplish these objectives, the following safety measures are usually taken in all facilities

1. Security: security systems and guards have been established to secure the facilities and supported by cameras through the facilities to monitor 24 hours a day.
2. First Aid: First aid kits are available in all laboratories.

3. Personal Protective Equipment: Laboratories are equipped with personal protective equipment according to the needs of every laboratory such as coats, masks, safety gloves, earmuffs, helmets, and safety goggles
4. Others: The department has emergency drills, safety signs, emergency exit signs and laboratory safety manuals accessible to all staff members. Finally, safety aspects are taken into consideration when purchasing new machinery or equipment. The safety rules and instructions are detailed in Annex 10.2.2.

Describe the processes used to evaluate performance in relation to this standard:

The process for preparing this standard was based on reviewing all available documents regarding research activities in the department in connection with different funding agencies, such as local research centers, international twinning program, research institutes, and research agencies. Relied on the data collected and analyzed in standard 7 as well. The steps below were followed:

1. Standards and policies were examined and strategies were identified.
2. The committee reviewed the strategic plan for the department and the College of Food and Agricultural Sciences.
3. The annual report of department, the Deanship of Research and Deanship of Graduate Studies, and the College of Food and Agricultural Sciences of the years of 2009, 2010, and 2011 were used.
4. The report of the academic quality unit at the college of Food and Agricultural Sciences for 2010
5. Reviewed all available documents regarding the research activities.
6. The main criteria for promotion at KSU were referenced.
7. Information listed on the official website of the department was used in this report
8. Communications with funding agencies such as king Abdul-Aziz City for Science and Technology and individual alumni are included in this report.
9. Along with the Key Performance Indicators (KPIs) as specified by the Dean of Quality, and on the basis of the collected evidences, the following KPIs were measured; number of publications in scientific refereed journals for each full time faculty member; percentage of full time faculty members who have at least one published paper in last year; number of research papers presented in conferences during previous year for full time faculty members; received funds from external sources in the previous year as a ratio of full time faculty members and percentage of total operational funding spent on research.

Choose ONE OR MORE KPIs that best supports that the program meets this standard. Each KPI should use a separate KPI table. Insert the KPI in the table below, add the actual KPI benchmark with the other benchmarks, and provide an analytical interpretation that describes the outcome (most benchmarks are numerical and others may be descriptions that verify quality using a rubric).

KPI:Code# 10.1Number of refereed publication in the previous year per full time equivalent member of teaching staff (Publications based on the formula in the Higher Council Bylaw excluding conference presentations)

Target Benchmark

Average 4 papers per faculty member (last year)

Actual Benchmark	Average was 3.7 papers per faculty
Internal Benchmark	Average 2.1 papers per faculty members (44/21) (Agriculture Engineering)
External Benchmark	
New Target Benchmark	Average 4 papers per faculty member
Analysis: The number of published papers by faculty members of the department indicates high productivity which can be connected to the number of the projects financed by external institutions. These publications were published in peer reviewed journals listed under ISI with a good impact factor.	
KPI: Code# 10.3 Proportion of full time member of teaching staff with at least on refereed publication during the previous year.	
Target Benchmark	100% of the faculty
Actual Benchmark	93% of faculty members have at least one publication
Internal Benchmark	76% (Agriculture Engineering)
External Benchmark	
New Target Benchmark	100% of the faculty with at least one publication
Analysis: Although some faculty members did not have one publication last year, they have submitted papers under review. In some cases, faculty members are on sabbatical leave or temporarily taking administrative assignment. It is also very common these days for the paper to take quite a bit of time after acceptance and before it is given full citation.	
KPI:Code# 10.4 Number of papers or reports presented at academic conferences during the past year per full time members of teaching staff.	
Target Benchmark	19 papers per year per faculty member
Actual Benchmark	20 papers were presented at academic conferences
Internal Benchmark	4/5 (Agriculture Engineering)
External Benchmark	

New Target Benchmark	19 conference papers
<p>Analysis:</p> <p>Most of these conferences are international, but some are regional or local. This activity is pretty much supported and encouraged by KSU administration. Faculty members are given full financial support by KSU. Faculties members are also given financial support from other institutions as part of project support so that to present the outcome of the project.</p>	
<p>KPI: Code# 10.5 Research income from external sources in the past year as a proportion of the number of full time teaching staff members.</p>	
Target Benchmark	2 Millions Saudi Riyals
Actual Benchmark	845,000 Saudi Riyals per faculty member
Internal Benchmark	785,000 Saudi Riyals per faculty member (agriculture engineering)
External Benchmark	
New Target Benchmark	2 Millions Saudi Riyals per faculty member
<p>Analysis:</p> <p>At this point, the department target is for every faculty member to have one project with external support. The 2 million Saudi Riyals target was set because it is the limit of King Abdulaziz City for Science and Technology financial support for approved project. A number of project submitted by faculty members of the department are under review and may get accepted late September 2014.</p>	
<p>Evaluation of research activities associated with the program and of staff teaching in it. <i>Provide are port</i> about the standard and sub-standards within it. Tables should be provided indicating the amount of research activity and other participation in scholarly activity and comparisons with appropriate benchmarks. The report should include a list of strengths, recommendations for improvement, and priorities for action.</p> <p>The research activity of the department is well established, focused, and in line with the objectives of the FSN department. This is apparent quantity of research and the type of research done. For instance, the main focus of the research is geared towards serving the local economy by executing research based on local raw material. In addition, all faculty members are maintaining some research activity in their labs. The amount of external funding brought to the department is another indicator of research activity in the department</p>	

Strengths:

1. The department hosts outstanding researchers with good and diverse background in different food science and human nutrition experiences.
2. The department was able to attract external funding from private sector and from King Abdul-Aziz City for Science and Technology.
3. For good performance evaluation, faculty are expected to perform their teaching duty and research / scholarly activities because it is required by KSU appraisal system. The faculty of FSN are doing just that and more as state in this standard.
4. Clear policies are established within the institution for defining what is recognized as research, consistent with international standards and established norms in the field of study of the program (normally, this includes both self-generated and commissioned activity that requires originality).

Recommendations for improvement:

- Initiate a Ph.D. program in the department for the male section.
- Allocate more space for equipment and working benches
- Develop a plan for marketing the research outputs.
- Specific areas of excellence in research needs to be identified
- Priority in research should be given to project with direct impact on the local economy and sustainable development plan of the kingdom.
- Provide support for junior faculty to kick off their research programs and facilitate interaction with more senior colleagues by inclusion in existing research teams, assistance in writing research proposals.
- Ensure that the assistance is available for teaching staff to develop collaborative research arrangements with colleagues in other local institutions and international community.

Priorities for improvement

1. Develop a research strategic plan for marketing and applying the research outputs.
2. Complete the progress plan for the Ph.D. program in food science.
3. Continue the training programs for graduate students and technicians in order to maintain equipment in operating condition.
4. Appropriately acknowledge students participation in joint research projects. When a significant contribution has been made, reports and publications should carry joint authorship.
5. Capitalizing on the expertise of faculty and postgraduate students in providing research and development services for the community and generating financial returns to KSU.
6. Continue support and encouragement for publication in ISI journals.

Annexes:

- Annex 10.1.1 faculty promotion criteria (same as KSU SSR 10.2.1). In addition to scientific research, publications, and conferences participation of faculty: In file
- Annex 10.1.2. Faculty promotion application form, a document on guidelines governing distinguished research and publication (same as KSU SSR 10.2.4): In file
- Annex 10.1.3. Junior staff support and draft proposal for new faculty and funded projects: In file
- Annex 10.1.4. Postgraduate Research Student Report: In file
- Annex 10.1.5. See Annex 10.1.1 and Annex 10.1.4: In file
- Annex 10.1.6. Collaborative research with national or international community: In file
- Annex 10.1.7. Development of teaching courses: In file
- Annex 10.1.8. Community services: In file

Annex 10.2.1. Facilities and Equipment: In file

Annex 10.2.2. safety Forms: In file

Annex 10.2.3. Maintenance Form: In file

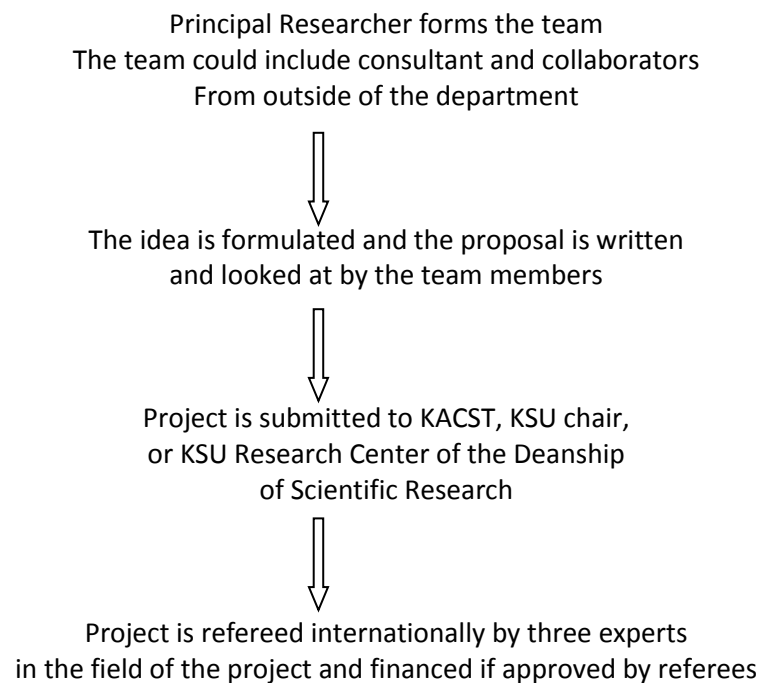
Program Research Information Table
(For all individual branch/location campuses)

Complete the **Program Research Information Table** for each branch/location campus that offers the specific program. FTE (full-time equivalent) is calculated as 12 credit hours and should not include research, teaching or laboratory assistants.

Program Branch /Location Campuses (City)	Annual Research Budget Total Amount	Annual Research Budget Actual Expenditure	Publications Per FTE Faculty Member Per Year (male)	Publications Per FTE Faculty Member Per Year (female)	Research Conference Presentations Per FTE Faculty Per Year (male)	Research Conference Presentations Per FTE Faculty Per Year (female)	Describe Research Activity (past 2 years)
Main Campuses	16 million Saudi Riyals	8 Million Saudi Riyals	3.7 papers		One paper per faculty		At this point, there are 8 projects supported by King Abdul-aziz City for Science and Technology (KACST) with a total of 16 million Saudi Riyals. Projects are focused on food science, human nutrition, and molecular biology and biotechnology. The research activity is carried out by the research leaders and support staff with different level of education (M.Sc. or Ph.D.). The funding was used according to regulations, where needed equipment, chemicals, lab supplies, and publication fees, are paid for. Throughout KSU, there are research centers and scientific chairs financed by KSU deanship of Scientific Research, though smaller projects are submitted to these centers. At the end, the purpose of funding is to enrich the research activity at KSU by making state of art instrumentation available to researchers all over KSU. In addition, funding was also allocated so that high quality research outcome to be publications in high impact factor journals.

Branch /Locati on 1							
Branch /Locati on 2							
Branch /Locati on 3							
Branch /Locati on 4							
Progra m Totals							

1. Research approval flowchart



2. Attach the program research strategic plan

The FSN department has adapted strategic plan for research focused on product development of locally produced raw materials. Mainly, dates products. The Kingdom of Saudi Arabia is the largest producer and consumer of dates in the world. A number of faculties from different discipline within the department are involved in some kind of dates-related research. A total of four projects financed by King Abdul-Aziz City for Science and Technology are currently managed by The FSN faculty members. Two of the projects are focused on new products development, one is developing new packaging methods to prolong the freshness of fresh dates, and the third is investigating nutritional aspects of dates.

3. Attach the research policy manual

The research policy booklet is not in ready, but in the near future the department will have one. Instead, the FSN department has developed general outline of research objectives which will be expanded to form a research manual.

Standard 11. Relationships with the Community (Overall Rating, Four Stars)

Significant and appropriate contributions must be made to the community in which the institution is established drawing on the knowledge and experience of staff and the needs of the community for that expertise. Community contributions should include both activities initiated and carried out by individuals and more formal programs of assistance arranged by the institution or by program administrators. Activities should be documented and made known in the institution and the community and staff contributions appropriately recognized within the institution.

Provide an explanatory report about community activities carried out in connection with the program for the following sub-standards.

The Department of Food Science and Nutrition has an excellent relationship to community and committed to meet their objectives related to community services, by providing services to the local industries, schools and other related institutions including Food and Drug Association, King Abdul-Aziz City for Science and Technology, Saudi Standards, Meteorology and Quality Organization, and Ministry of Municipal and Rural Affairs. The department receives funding from various private and institutional organizations sources.

11.1 Policies on Community Relationships

The skills and abilities of teaching staff and even the teaching plan of the department are defined to meet community needs; this is implemented through the revision and change in the teaching plan annually in the department. A special meeting (program review meeting) is conducted in the department once a year to discuss subjects regarding program planning and evaluation. In this meeting the program coordinator will prepare required materials. The department is obtaining external advices for program planning and evaluation. The external advices help us determine the job market needs. These advices were obtained by inviting representatives of the food industry and nutritionists from hospitals and other related agencies. External advices are collected from regulatory bodies, employers, governmental agencies, researches bodies, other colleges, scientists and experts, business men, companies' managers, and/or any other parties related to or interested in the field of food sciences and human nutrition. In addition, there is an Advisory Committee at the college level that will serve all departments which is mostly consists of food industry because of their big share of the market.

Even though the department has graduated 384 students in the last 3 years, usually these graduates have no difficulties finding job opportunities in Saudi Arabia, and they compete well for admission to graduate degrees and professional programs nationally and internationally. Moreover, the department does not have an official number of where these graduates are working, but in a number of occasions, food companies are calling faculty members to help in nominating graduates to work for them. For sure, our graduates are well established at the Saudi Food and Drugs Agency.

The department has many points to consider as input in program planning and evaluation; these inputs are: Student Satisfaction Form, Students Consultation Report, Employer Satisfaction Form,

Graduate Progression Report and External Advice Report as shown in Annex 11.1.1. Even employer input was fundamental to the curriculum review process. Employers, professionals and some recent graduates have provided substantial data that resulted in rethinking the curriculum and suggested inclusion of activities to address communication skills, problem solving, conflict resolution, working in teams, computer skills and leadership qualities. On occasions, employer input comes from different sources such as employees of the College of Food and Agricultural Sciences (CFAS) in different capacities, as employers of graduates, collaborators in research, and others.

The college faculty listens to employer/professional input and often cite such input in curriculum discussions and in support of new course proposals. The CFAS has not and does not directly solicit the views of the Scientific Societies as organizations. The process that has evolved over the years is informally conducted with employers, alumni and professionals on an individual basis. Major contributions made by Faculty members to the community (Food and Drug Association, King Abdul-Aziz City for Science and Technology, Saudi Standards, Meteorology and Quality Organization, and ministry of Municipal and Rural Affairs) are usually recorded in the annual report as shown in Annex 11.1.2 and 11.2.3.

However, community services other than that mentioned above is part of the main criteria for promotion at KSU. Main community service contributions have to be clearly mentioned in the promotion form presented by faculty members up for promotion which is considered an integral part of promotions because it represents 15% of the total requirements. In addition, each year, each faculty member provides his/her academic load plan which includes academic, scientific, and community services activities of last year (Annex 11.1.3). Initiatives and advisory services made by faculty staff in working with the community are recorded in King Abdullah Institute for Research and Consulting studies to avoid duplication and possible confusion. As indicated by Annex 11.1.4, a copy of these services is regularly kept in the department.

11.2. Interactions With the Community(Report description should include reference to interactions with the community by faculty)

Faculty forum participations

Faculty members of the department are encouraged to participate in different institutions and activities around the country such as General Administration of KSU, King Abdul-Aziz City for Science and Technology, Meteorology and Quality Organization, Saudi Food and Drugs Administration, and Consumer Protection Association (annex 11.2.1, 11.2.3). Eight faculty members are currently taking responsibility at the Saudi Food and Drug Administration, one faculty at the consumer Protection Agency, and six faculty with less involved assignments.

Placement and training program and Part time employment

The department adopted a placement program called training internship for the students at local industries, hospitals and ministry of municipal and rural affairs. The student shall work continually for 27 weeks in selected institutions to improve and develop their learning through the experience gained in the field. Some students get paid from the local employers for their part time employment. However, faculty members from the department visit the field for

observations and consultations with students and meet with the field supervisors often enough to provide proper oversight and support to the student. Students are required to write a report about the experience gained in the field and their positive and negative oversight in the field. Students are evaluated by the field supervisor (30 point), faculty member (45 point), report (10 points), and seminar delivered by the student to the department staff member (15 point) as shown in Annex 11.2.2.

Schools visit

Schools are invited to the department to get some information about the specialization in the department and the subsequent career opportunity. Students are also invited to see labs and some pilot machines available at the department, and provide them with information on some food products. These activities are unfortunately not recorded in the department because they are frequent, continuous, especially from those schools close to the university.

Alumni

The department sponsors several events on campus in conjunction with the alumni from the college council, student government, employers, and food industries. In this meeting the alumni provide the college, department students, and faculty with a profession, insight on the application of academic studies beyond university, an industry perspective on current issues in Saudi food and agriculture, Knowledge of the existence of the department and its activities as well as the professional bodies, societies, institutions, and food industries. Most of the alumni are member of the Saudi Society for Food and Nutrition Sciences. The society is a part of the department and usually informs students about new activities and development undertaken in the department. The department also has several scholarships available to the students. These financial opportunities provide an equal opportunity for excellent students to continue their academic study.

Funding bodies

The department receives an excellent funding support from institutions such as King Abdul-Aziz City for Science and Technology, and from individuals such as Al-Hokair Chair. These funding are usually invested for the purpose of research and other developments associated with the department (annex 11.2.6).

With regard to paid consultation, FSN department faculty member are consulting for the Food and Drugs Administration and the Consumer Affairs Agency. These faculty members spent at least one day at these agencies. As mentioned above, the department does not have its own advisory board, but relies on the advisory board of the CFAS which hosts a board for all departments of the college. Department's alumni contact is maintained by the department human resources which has established a list of contact information, but the list does not include all alumni members.

Describe the processes used to evaluate performance in relation to this standard and summarize the evidence obtained.

- Review the department strategic plan.
- Review the annual report of department 2012, 2013.
- Review of the main criteria for promotion in KSU.
- Review the official website of the department in KSU.

- Review of training internship program guidance in the department.
- Review the funding bodies in the department from individual such as Al-Hokier chair and institutional funding such as king Abdul-Aziz City for Science and Technology.
- Review student alumni information available in the department.
- Review community services file undertaken by faculty member of the department.

Choose **ONE OR MORE** KPIs that best supports that the program meets this standard. Each KPI should use a separate KPI table. Insert the KPI in the table below, add the actual KPI benchmark with the other benchmarks, and provide an analytical interpretation that describes the outcome (most benchmarks are numerical and others may be descriptions that verify quality using a rubric).

KPI: Code#11.1 Proportion of fulltime teaching and other staff actively engaged in community service activities

Target Benchmark	4.5/5
Actual Benchmark	4.2/5
Internal Benchmark	0.2/5 (4%) (Animal Science)
External Benchmark	
New Target Benchmark	4.5

Analysis:

Around 84% of the faculty members are actively involved with community service. The activity is two types, long term and short term. In the most part, the activity is consultation and administrative assignments. As mentioned above, these activities are focused on consulting the Saudi Food and Drug Administration and the Consumer Protection Agency. These agencies are benefiting from the expertise of the faculty and the faculties are informed about the need of the agency which will reflect well on possible input to the department curriculum. Therefore, students will be prepared for performing well if they take a position with these agencies. Some faculty members are invited by different media outlet to participate in discussion related to food and nutrition.

Evaluation of the extent and quality of community activities associated with the program and of staff teaching in it. **Provide a report** about the standard and sub-standards within it including tables showing the extent of community activities and a list of strengths, recommendations for improvement, and priorities for action

The FSN department is engaged with community service such as consulting public agencies (Food and Drug Administration, Consumer Affairs agency), school visits, and use of the media outlet to keep the public about their nutritional choices. The department has a very strong community service along with the faculty promotion requirements. Alumni contact is one of FSN activities where support is provided for alumni to find jobs in the local market. Faculty members are very active in soliciting jobs from companies within their reach.

Strengths

- The department provides an excellent service to the community and local industries by giving advisory information and participates in forums in which significant issues are discussed.
- The department is well connected with the local food industry and the public sector which will facilitates support for the internship program
- The department receives an excellent funding support from institutes and individuals.
- Promotion criteria and faculty assessments gives 15 points to encourage faculty members to contribute in the community.

Recommendations for improvement

- Contribution to the community made by Faculty member has to be up dated independently by the faculty himself and hand it to the department up on request. The archives of these activities have to be kept in the department in details because some services were made but not recorded.
- More relationships need to be established between department and local industries to discuss community issues.
- Alumni need to be contacted regularly, kept informed about institutional developments, and should be invited to participate in department activities.
- Funds from individuals have to be increased.
- Full list of community services undertaken by faculty members have to be provided and maintained regularly by the department.
- The FSN needs to establish a formal contact with employers to maintain information about alumni performance who work for them and make suggestions with regard to alumni skill.

Priorities for Action

- Regular meeting need to be established with the local industry to discuss community issues.
- Establish a plan to contact alumni.

Annexes

11.1.1 Program planning and evaluation: In file

11.1.2 Department annual report: In file

11.1.3 Faculty promotion criteria) In file

11.1.4 Unit in the institution responsible for developmental initiatives to the community: In file

11.2.1 Faculty participant in the forums: In file

11.2.2 Students placement, training program, evaluation and Part time employment: In file

11.2.3 Invitations to attend advisory committees: In file

- 11.2.4 Jobs announcement in the department: In file
 11.2.5 List of alumni contact details in the department: In file
 11.2.6 Funding bodies and individuals: In file

H. Review of Courses

1. Describe the processes followed in reviewing courses (e.g. Surveys of graduates, faculty, or members of the profession, analysis of student course evaluations, review of course and program reports, interviews with faculty, comparison with similar programs elsewhere, consultancy advice, etc.).

There are two steps to this process. At first, policies and procedures for course evaluation by staff members, students, and alumni were developed (Annex H.1). Secondly, course reports were prepared by the faculty who taught the course and were shared between faculty members. The course report included grades and other information related to students performance. Independent check of course exam papers is done by other faculty and are kept for the record. The courses evaluation survey was done for all courses taught at FSN. The evaluation forms are gathered and analyzed statistically, signed by the department chair, and submitted to the college administration unit. When needed, the curriculum committee will review the course and make suggestion to the department council. For instance, when the department decided to comply with IFT requirement and with the introduction of the prep year, the committee proposed changes to the Council whereby new courses were introduced and existing course were eliminated. The suggestion made and approved by the FSN Council need approval by the College Dean and the Deanship of Programs.

In addition, the department was able to include new courses so that to comply with the Institute of Food Technology of Chicago (IFT) which is known internationally. The department added statistics course, product development course and internship program to comply with IFT. Therefore, FSN graduates will not find any difficulty when attempting to go abroad for a higher degree.

Annexes:

Annex H.1.1: Questionnaire survey of graduates.

2. Course Evaluations (Provide a list report on the strengths and recommendations for improvement in courses and any other conclusions from the processes described directly above).

Questionnaire forms were presented to students and alumni to assess the courses. The form included information such as the program's name and the semester in which it was taught. Overall, students are requested in the questionnaire to voice their opinion in terms of the planning, organization, and clarity of the course. The students will be asked to give feedback about the evaluation process, whether it is easy, fast and descriptive of their opinion as well as how it compares to other evaluations. The evaluation form also included graduates students

opinion on the program and the performance the faculty members who taught the course.

Therefore, *Students commented on:*

- The course objectives are clear
- The faculty were pleasant and their lectures are interesting
- Attending classes were very useful
- The appropriateness of teaching resources

The students appraise:

- Punctuality of some staff members
- The exam question not reasonable and not from the curriculum
- Re-arrangement of lectures
- The quantity of information is too much for the courses' assigned time

Strength:

The collected data is analyzed statistically and presented to faculty member and discussed in the department council meetings. The data is also delivered to the college under Dean of quality and to the Deanship of Quality of KSU. The questionnaire process is done every semester for all courses taught. The questions asked cover program quality, faculty performance, KSU environment, and overall experience of attending KSU.

Recommendations for Improvement:

1. Since there are questionnaires from the AIC, the college of CFAS, Deanship of Quality, and NCAAA, it will be better if these questionnaires are combined into one to avoid redundancy and make it easy for students to do it right.
2. A constant exchange of information between departments at CFAS with regard to the results of these questionnaires. For example, graduation rate, research activities, and alumni information.

Annexes:

Annex H.2.1: Questionnaire survey of graduates: In file

Annex H.2.2: Questionnaire survey of faculty members: In file

Annex H.2.3: Questionnaire assessing course for final year students in bachelor's program: In file

Annex H.2.4: Identifying course evaluation: In file

Annex H.2.5: Identification of a survey of new students in the undergraduate: In file

Annex H.2.6: Questionnaire survey of stuff: In file

Annex H.2.7: Identifying annual calendar student's experience: In file

Annex H.2.8: Questionnaire evaluating the experiences of graduate students and professional research: In file

Annex H.2.9: Questionnaire survey of business .and employers for a graduate of King Saud University: In file

I Independent Evaluations

1. Describe the process used to obtain independent analysis on the quality of the program and the reliability and validity of analyses carried out in the report. Processes may include a review of documentation by an experienced and independent person familiar with similar programs at other institutions and who could comment on relative standards, consultancy advice or a report by a review panel, or even the results of an accreditation review by an independent agency. An independent evaluation may be conducted in relation to the total self-study, or involve a number of separate comments by different people on different issues.

Independent analysis of the quality of the program was done via physical visit to the department by a reviewer and by communicating with the Institute of Food Technology of Chicago. For 75 years, the Institute of Food Technologists (IFT) has been serving the food science community by creating a dynamic global forum where members from more than 100 countries can share, learn, and grow. In addition, IFT provided scientific facts into innovative solutions to food problems for the benefit of people around the world. The quality of FSN program at KSU was aligned with IFT standards and adjusted to meet IFT requirements for quality. An independent reviewer was assigned by the Food and Agricultural Sciences dean's office to review the validity of facts presented by FSN and quality of analysis presented in the report. The reviewer spent some time with the faculty of FSN department, visited the facilities of the department, and conducted interview with the department's chair and the principal author of the SSR. He reviewed the first draft of the SSR and gave a comprehensive comment on it. The comments of the reviewer were focused on the analysis of the quality facts of the program and the appropriateness of the documentation presented with the SSR. The reviewer received a corrected copy of the SSR write up and gave final comment on it. The comments included format compliance and content.

Detailed Process used to obtain Independent Comment on the quality of the program.

The College of Food and Agriculture Sciences (CFAS) invited the director of quality at a local university to comments on the SSR write-up of the FSN. The consultant who is very familiar with the NCAAA system of accreditation was also invited to provide an independent opinion for the Self Evaluation Scales (SES) of the Food Science and Human Nutrition Program. The arrangements were made through the Office of the Vice Dean for Development and Quality of CFAS to formalize the consulting activity. The Director of Quality Assurance Unit of the College arranged for the individual and group interview sessions, site visits to facilities and offices, and review of accreditation documents. After the visits, the consultant was given needed information and requirements for giving a comprehensive review of the SSR write-up. In order to obtain sufficient information about the College and the program, a total of 35 hours of visit and meetings have been made. These involved at least 60 minutes of individual interview session with the College Dean, Vice Deans, Department Heads, Director of Quality Assurance Unit, Vice Dean for Library Affairs, and the Head of the IT Department. In addition, separate group interviews were conducted involving a representative number of faculty, staff, and students. In addition, the consultant also conducted the following activities:

- Visit to the laboratories of the department and the main library
- Visit to other learning facilities of the department

<p>Review of quality assurance documents of the DAERS (ex: program and course specifications, annual reports, strategic plan, KPIs and other relevant documents), and statistics related to the 11 accreditations standards of the NCAAA, Visit to the web-site of the KSU and the CFAS, and Review of existing manuals, brochures and handbook.</p>
<p>2. Summary of matters raised by independent evaluator(s). Provide a response report to each of the recommendations provided by the independent evaluators</p> <p>The reviewer's comments related to the program's strength were focused on the following points:</p> <ol style="list-style-type: none"> 1. High faculty support for students which was shown on the student's survey results and data analysis. 2. International accreditation (AIC) and ISO obtained by the department, after reviewing the document presented to AIC. 3. Research grants and publication performed by the faculty, as shown in the program annual report and course report and documented in standard 10 of this SSR. 4. Community service as documented in standard 11 5. Highly qualified faculty members of the department as presented in the table of teaching staff in section C of this write-up. 6. Well established college strategic plan. <p>In addition, the reviewers listed some limitations of the department which focused on:</p> <ol style="list-style-type: none"> 1. English language use in class rooms; 2. Establishing a more organized quality assurance office and the establishment of a detailed data base for quality related issues in the department level; 3. Increase student's enrolment as well as more extra-curricular activities for students. The detailed comments and suggestion by the reviewer are listed below
<p>3. Provide an analysis report on matters raised by independent evaluator(s) (Agree, disagree, further consideration required, action proposed, etc.).</p> <p>The following is a summary of matters raised by the independent evaluator regarding the program:</p> <p>Strength</p> <ol style="list-style-type: none"> 1. Continuous quality improvement in teaching facilities and equipment is commendable. Significant improvements have been implemented to support the learning process in the classroom. These include an upgrade of network infrastructure, expanded internet bandwidth, smart classrooms and the LMS and e-learning portals including newly installed hardware and duly licensed software. The faculty should fully maximize this instructional technology in teaching. Program managers on the other hand, should continuously monitoring and assess the benefits of administrative support for continuous quality improvement in learning and teaching. 2. The program has a strong core of teaching staff that are highly qualified and experienced in

their field. This is strategically important for achieving program goals and objectives. It fosters an intellectual environment by providing more knowledge and expertise in the delivery of learning objectives of the program and courses.

3. There is strong evidence that academic staffs are actively engaged in research. Further, there is high success rate in obtaining research grants and publications. Part of these research grants is the acquisition of new lab equipment for teaching and research. Largely, the department and the students benefit from these acquisitions. Students are able to utilize modern equipment to conduct research in their courses and reflect positively on the learning and teaching process. This is highly commendable.

4. The contribution of teaching staff in the community is well documented. Providing services to the community is an integral part of the college strategic direction. Generally, teaching staff provide services through counselling, seminars, workshops, conferences and/or book writing. This is also commendable.

Limitations and Suggestions for Improvement:

1. While there is strong commitment to quality assurance and continuous improvement in the program, there is a need to establish a more systematic collection and maintenance of statistical and qualitative information about the program. Program managers have difficulty collecting information from one office to another since there is no central office to consolidate all information regarding the program. Thus, access to information appears to be difficult.

FSN response:

At this point, the FSN has established quality management system unit and accreditation unit as mentioned in section E of this write-up. The department has designated a full time employee to organize and maintain all aspects of quality such as surveys, course reports, program annual reports, communication with college office of quality, and distribute any new information from NCAAA to all faculty members. Alumni information is gathered regularly by the quality management system of the department. The FSN conducts annual survey of the alumni and uses the data in its different reports.

2. There is limited benchmarking and trend analysis on the identified KPIs reflected in the report considering that the program was established since 1965. Proper documentation on the achievements and initiatives for quality improvement should be well established. Along this line, since standard forms and survey instruments for quality assurance are used, statistical results need to be analyzed and used accordingly to draw plans for quality improvement.

FSN response:

Throughout the SSR and as required by NCAAA new format, the current SSR write-up includes tables of KPIs and benchmarking where needed. These tables are located at the end of the standard or subsection.

3. The Food Science and Nutrition Program is considered as one of pioneer programs in the College as well as in KSU. Although many information could be accessed through in the Prince Salman University Library, it is recommended that a satellite library for the college be established

not only to house a collection of titles and general references, journals and periodicals related to the programs but also from different academic programs within the college. Since this may take time, the utilization of the University Library's automation system should be maximized to ensure an effective and efficient dissemination of information and interaction with users with regard to newly acquired books, journals, databases and other learning resources are observed.

FSN response:

Because of budgeting issues, the FSN department have no control over executing such projects, but recommendations will be made to decision makers.

4. Aside from academic planning, program managers should also establish a system by which laboratory equipment used in the teaching and learning process are effectively maintained. A centralized maintenance unit could be established for all programs in the College instead of outsourcing. This will ensure that regular preventive maintenance of laboratory facilities and equipment is obtained.

FSN response:

Once again this is a college policy, but the system is working just fine and reported maintenance needs are attended to.

Attach or hyperlink the independent evaluation report and CVs

J Conclusions

1. **List and briefly describe** aspects of the program that are particularly successful or that demonstrate high quality.

The FSN department has established a good reputation of being successful academically, research activities, community service, graduates are accepted at reputable universities of the US and Canada for graduate studies. Faculty members are very active bringing external funding for research. Therefore, FSN department is adhering to its mission and vision statements which are in line with those of the CFAS and KSU.

The FSN program is benchmarked against the top programs recommended by the Institute of Food Technology of Chicago, IL, USA (IFT), a well-respected organization throughout the world. Besides its fulfillment of the international requirements of a good program, FSN program is also meeting the local requirements for the needs of the Kingdom i.e., graduating students trained and ready for local market in food science and nutrition in addition to preparing students for pursuing graduate degrees. The program has established a good internship training program where students are required to spend 12 semester hours training in food science or nutrition. The department provides major support for government agencies as consultant besides its involvement with community service such as grade schools visits. The department was also successful in attracting external funds through preparing grant proposals to KACST. The FSN brought in around 16 million Saudi Riyals for research activities. There are more projects awaiting review. One of the highlights of the program is its research strategy which focuses on

local agriculture products such as dates in support for farmers and the local economy.

2. List and briefly describe aspects of the program that are less than satisfactory and that need to be improved.

Issues that need improvements by the department may include LOs assessment process, establishment of external benchmarking, develop a tracking system for alumni, and community service plan. Standardized learning outcome assessment system for all courses specification need to included and followed by all faculty members. Such as direct assessment, rubric. In addition, students' portfolio is needed as well for better student performance data analysis and course reporting. External benchmarking can be done by contacting reputable institutions in the area of food Science and human nutrition. This activity can be done by the department's quality management system committee. This process may take along time and needs to be a continuous process.

The FSN alumni members need to be tracked especially in the first 6 month after graduation because this data is very important for the effectiveness of the department and its relevance in the marketplace. More activity and continuous contact with community groups so as to expand community services. FSN needs to keep the contact information of community groups as many as possible and more importantly, be available for community service when asked. In addition, FSN faculty members need to establish contact with media outlet so as to give interviews when needed.

Finally, one of the major changes in the department's direction is the establishment of the internship program. This program is doing well so far, but improvement is needed.

Although the department has established especial committee for coordinating students training (internship program), committee members still have difficulty finding places for students to train. This training is required for graduation besides the benefits students are getting such as real experience career preparation. The internship program is under constant review and expansion so that students get the best training possible. The committee is trying its best to expand the number of participating companies and public agencies.

K1. Action Proposals

Action proposal should be based on the matters identified in sections F, G, H, and I and indicate recommendations for improvement proposed to deal with the most important priorities for action identified in those sections.

1. Changes in Course Requirements (if any)

List and briefly state reasons for any changes recommended in course requirements, e.g.

- Courses no longer needed;

- New courses required;
- Courses merged together or subdivided;
- Required courses made optional or elective courses made compulsory;
- Changes in pre-requisites or co-requisites
- Changes in the allocation of responsibility for learning outcomes as shown in the course planning matrix.

The department of FSN had a program change with regard to courses offered, where the whole seventh semester was allocated for the internship. In addition one course was eliminated (Oils and Fats Technology, FSN 434) and some courses were made electives, where the student can choose 15 credits from the following courses, FSN 433 (dairy technology), FSN 439 (meat technology), FSN 437 (cereal technology), FSN 435 (dates technology), FSN 471 (product development), and FSN 420 (nutritional biochemistry). Except for FSN 420, 435, and 471, which are 2 credits hour, all other courses are 4 credits hour. Previously, these courses were must take (core courses) before graduation. Finally, the department allow students to take one of two choices for a major, either food science or human nutrition, but the degree will still carry the same title as mentioned earlier. Course 434 was eliminated because of the new plan adapted by the department, where two new courses were added as recommended by IFT. The elective courses were added because prior to the prep year, students able to take more courses at the department, but now 31 credit hours went to the prep year.

2. Action Recommendations.

Recommendations for improvement are made for action to be taken to overcome problems or weaknesses identified. The actions recommended should be expressed in specific, measurable for terms for assessment, rather than as general statements. Each action recommendation should indicate who should be responsible for the action, timelines, and any necessary resources.

Action Recommendation 1

Mission, Goals and objectives:

- Provide support for the strategic plan of the department so as to execute the strategic objectives and to facilitate cooperation between students, staff and faculty initiative to promote the public awareness of KSU vision and mission.
- Coordinate with external community organizations to increase the society involvement in KSU mission implementation and strategic plan.
- More dissemination and orientation of the staff with regard to the mission and the goals of the department.
- Utilization of students and department alumni in promoting the department vision and mission.

Person (s) responsible

Dr. Mohamed El-Fawaz

Timelines (For total initiative and for major stages of development)
Continuous process, except for the alumni promotion of the vision and mission of the department. Besides being continues process, it is possible to target alumni by organizing a form of get-together for alumni every year and request them to promote the FSN vision and mission at their work place directly by showing how the vision and mission of FSN is helping them in their career.

Resources Required

Make sure that mission is posted on different locations of the college as well as on the screens located at different parts of the department.

Action Recommendation 2.

Relation with community:

- There is no coordinated plan for all community activities of the department.
- Need more community relationships

Person(s) responsible:

Dr. AbdulrhmanSalih Al-Khalifa

Timelines:

Although this process is continues, the department is taking initiative in adding more companies to the list. We are planning to 3 companies every year using our internship program contact where students can bring back more information when finishing their training.

Resources Required:

Annual review and statistical analysis of alumni and employers surveys

Action Recommendation 3.

Management of program quality assurance:

- Hire qualified staff to manage the academic quality unite and provide needed training.
- To systematically and continuously apply indicators, benchmarks, and Continuous Quality Improvement (CQI) techniques for problem solving.
- Include quality assurance measures in all departmental units.
- Ensure the use of the statistics and performance data generated annually for program and take proactive action and develop plans based on the performance analysis.

<p>Person (s) responsible: Dr.Aly El-Shetwy</p>
<p>Timelines (For total initiative and for major stages of development): Continuous process with annual reporting analyzed separately. Every year, the department is planning to complete the establishment of the quality system of the department. By the next five years, the department expects complete and functioning quality system.</p>
<p>Resources Required: Annual reviewing and statistical analysis of surveys of courses and program annual review</p>
<p>Action Recommendation 4. Employment process: -Although all the workshops that are organized for skills development are evaluated by participants, there is no feedback yet on their impact on the performance of the staff of the department. - Procedures for dealing with complaints by teaching staff are not clearly specified in the policies and regulations, despite the fact that complains are attended to.</p>
<p>Person(s) responsible: Dr.Hasan El-maneh</p>
<p>Timelines: Ongoing process</p>
<p>Resources Required: Survey members of the department, data collection, processing, and interpretation. Every three years, a questionnaire will be presented to faculty for the adequacy of the system in place dealing with their complaints. The data will be analyzed and evaluated for further actions.</p>

Action Recommendation 5.**Learning outcome assessment standard:**

-So far the department is using indirect form of LOs assessment. Standard procedure for LOs direct assessment should be established for all courses taught. Courses could be divided into basic science courses, technology, and communication courses. For every group a standard assessment procedure could be established and adhered to. For some course rubric could be more effect whereas for others direct examination.

Person(s) responsible:

Dr. FahadAljuhaimi

Timelines:

Even though the process could be ongoing process, Starting next year a proposal of standardized LOs assessment will be presented to the department council for discussion. A plan will be set with defined objectives and specific time to accomplish the new assessment method.

Resources Required:

Data collection and statistical analysis. Consult NCAA for advice and guidance.

K2 Program KPI and Assessment

KPI #	List of Program KPIs Approved by the Institution	KPI Target Benchmark	KPI Actual Benchmark	KPI Internal Benchmarks	KPI External Benchmarks	KPI Analysis	KPI New Target Benchmark
1	Stakeholders evaluation rating of the mission statement; Code# 1.1 of NCAAA KPIs table	4/5	3.75	3.7		The faculty awareness and application of the vision and mission of the department averaged at 3.7 out of 5, whereas employees responded by yes at 3.7 out of 5 aware of the mission vision of the FSN department. The relatively low response of the faculty regarding the vision and mission was due to the second part of the question because it has to do with strategic planning for the program. As mentioned above, FSN faculty members drafted the mission/vision of the department, so they are aware of it and 5/5 score is met, but as stated in the second	4/5

						part of the question regarding its use in the strategic planning for the program is effected by external issues under the university jurisdiction or the college such as financing and students registration, thus the score fell short of the targeted benchmark.	
2	KPI(3.1): Students overall evaluation on the quality of their learning experience at the institution	3.83/5	3.27/5		4.5/5	The actual benchmark for student's satisfaction with the overall quality of their learning was 3.83/5 which is a score that needs improvement in terms of looking at other questions on the same survey that are more detailed and directly concern the FSN. When students were asked about the quality and the organization of the FSN program, the response was 4/5 satisfied. The data could indicate that	4.5/5

						students are not given the choice which department to attend and that was reflected on their response. Some things, like registration, adding/dropping courses, and conflict between courses scheduling time, are all issues that can reduce the overall score of student's experience.	
3	KPI (3.2): Proportion of courses in which students evaluation were conducted during the	The department of FSN targeted and implemented 5/5 (100%) course evaluation every year	5/5 (100%) was met	5/5		The department met its target of course evaluation every semester every year. The data is collected and analyzed statistically by the quality management team at the FSN and presented to the department's council. The data of the last 7 years is saved in records. The data is also available to the college dean's office and other institution officials. The	5/5

						department is keen to continue surveying students and meet the set target.	
4	KPI (3.3): proportion of programs in which there was independent verification within the institution of standards of student's achievements during the year.	Comply with the requirements of the Deanship of Quality Development of KSU (DQD) and the college of Food and Agriculture Sciences (CFAS) requirements for quality	Complete compliance with the requests of both agencies by providing required reports periodically.	Comply strictly with both agencies		The FSN department is reviewed by the deanship of quality development (DQD) as well as the quality office of the college of Food and Agriculture Sciences. As an internal independent monitor of the quality of the program, it is very important to stay current with DQD requirements. Periodically, information is given to the DQD upon request or regularly as FSN annual report. The CFAS requires departments to maintain data of different reports and other issues related to quality such as course report for all courses at end of every semester, updated course specification, program	Continue to comply strictly with both agencies

						specification and other documents related NCAAA. The CFAS also requires departments to form Quality Management System (QMS) team which is answerable to the coordinator of quality of CFAS. The DQD requires FSN to annually present survey results of program quality and all other NCAAA requirements. Therefore, it is critical to monitor and maintain this KPI due to its importance as internal independent reviewer.	
5	KPI (3.4): proportion of programs in which there was independent verification of standards of student's achievements by people external to the institution during the year.	The department to fulfill the requirements of the Institute of Food Technology (IFT) of Chicago as target	The department fulfilled all IFT requirements		IFT requirements	The department added a number of courses such as product development and statistics to meet IFT requirements. The FSN added internship to its requirements and established a complete program for internship that requires students	Maintain IFT requirements and become a member of IFT

						<p>to spend about one semester in training and earn 12 credits. The training was preceded with a two weeks workshop to familiarize the students with the food industry and prepare them for the industrial environment. All students are required to complete this training before graduation. Students are also required to present their experience in front of a team of faculty and get scored for that. The fulfillment of IFT requirements is a continuous process which requires FSN to monitor IFT activities and comply with new requirements. Once the department become a member of IFT, it will much easier to keep the program up-to-date.</p>	
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6	KPI (4.1) Ratio of student to teaching staff	19:1	14:1	19:1	17:1	The department exceeded its target for faculty student ratio which can reflect well on faculty availability for students and for carrying other activities related to other objectives of the department such as research projects and brining external funding and community service.The average of faculty:student ratio for 4 US universities was (University of IL, Michigan State university, Ohio state university, and University of Wisconsin) is 1:17.	1:14
7	KPI (4.2): Students' overall rating of course quality (Average rating of students on a five scale on overall evaluation of courses)	4/5	3.74/5	3.87/5		Students' satisfaction with the overall courses quality came close to target by around 7%, which is within the departments' means to achieve the targeted value. Some of the areas that can be	4/5

						targeted to improve course quality is course scheduling and making more adjustments to accommodate changes due to the introduction of the prep year. In addition, more freedom for students to register at the department of their choice, that way they will have better appreciation of the courses.	
8	KPI (4.3): proportion of teaching staff with Ph.D degree.	55%	50%	100% (Agriculture engineering at KSU)	52%	The department is moving to the right direction for coming close by 2% of Ohio State University and other universities as well, in the proportion of teaching staff with Ph.D. degree. This is considered meeting the target benchmark. This is also reflected on the distribution of the faculty between full professors, associate, and assistant, where FSN is about 7% less	55%

						full professors and associates than Ohio State University and comparable numbers in lecturers.	
9	KPI (4.4): Proportion of students entering the program who successfully completed the first year	4.75/5 (95%)	4/5 (80%)	3.5/5 (70%)		Students' registration is done by the registrar office without department involvement. The number of planned registrations is not the same as actual registration because students change major. For that reason the department decided to take Food chemistry as indicator of who will be FSN student. The numbers used for the above calculations were taken from the FSN 316 (food chemistry) registration and FSN 456 (quality control) for those who successfully finished the first year. The data indicated 80% of the students passed to the second year. This	4.75/5 (95%)

						could be due to students taking organic chemistry before food chemistry as mandated in the schedule. Organic chemistry (Chem 101) could be a good help for students when taking food chemistry.	
10	KPI (4.5) Proportion of students entering the FSN undergraduate program who complete the program in minimum time	The department is targeting 80% graduation in 4 years, which is the minimum time set by the Ministry of Higher Education	9%	80%	Target Ohio State university graduation rate was 83% on 2013	Based on the 2013 graduation, 42% of the students graduate after five years while 39% graduated after 6 years and the remaining graduated in more than 6 years. This could be attributed to pre-requested courses offered by the science department or due to the internship program which requires one whole semester (12 credits) to complete. Since students are assigned to the department by the registrar office and not by their choice, this could have adverse effect on their starting	80%

						time after acceptance. This can be observed by the number of the registered students and the number of those who actually start the program.	
11	KPI (4.6) Under students' satisfaction domain, the overall ratio on the quality of their course by answering. <i>I am happy with this course in general</i> , in the course evaluation survey.	4.5/5	3.7/5	3.66/5		The FSN quality of teaching is approved by students at 74%, which is 16% less than the target. It is clear from this data faculty participation in workshop training offered by the DSD at KSU. Teaching staff appeared to have good communication skills and provide the students with what needed to fulfill the NQF domain requirements. The teaching quality could improve to reach the target by looking at students surveys every semester and try to point out the area of the least score and develop a plan for	4.5/5

						improvement. Low score by students could be related to factors other than the teaching quality, but that can be observed by looking at other sections of students' survey dealing with facilities, registration planning, course timetable, and other types of questions in the survey questionnaire.	
12	KPI (5.3) Students evaluation of the academic and career counselling (average rating on the adequacy of career and academic counselling on five points scale), Code#5.3	4.5/5 satisfaction with the program academic and career counselling	3.6/5	4.5/5		The results achieved were apparent in the number of students and alumni who were satisfied with this skill as shown by the positive feedback we receive during our annual review of the program. The program was also benchmarked against the Institute of Food Technologists (IFT) of Chicago, Illinois. The program was also verified and was given accredited by the Agriculture Institute of	4.5/5

						Canada (AIC). These two recommendations are excellent indicators of the soundness of the program.	
13	KPI (6.4). Stakeholder evaluation of library services (Average rating on adequacy of library services on a five point scale) by agreeing with statement: <i>Helpful library services are available to me as needed</i>	4.5/5	3.7/5	3.69/5		Most of the data collected is related to services offered by the institution with little has to do with the department. The department responsibility lies on informing students and guide them through making use of these services. In addition, anywhere the department can help the institution with providing support to students such as making sure textbooks are available and suggesting relevant books to their department.	4.5/5
14	KPI (7.3) Average overall rating of adequacy of facilities and equipment in a survey of teaching staff	4.5/5 teaching staff satisfaction with the	3.5/5	4.5/5		Teaching staff are 4.5/5 satisfied with the class rooms' preparation. The department did	4.5/5

		facilities				not meet its target benchmark because of the adequacy of research facilities. FSN established acquisition committee to respond to requests for instrumentation by teaching staff. The department possess a good number of high tech instrumentation commonly used in food and nutrition and comparable with most known US universities in the area of food science i.e., Ohio state, Michigan state, and University of Wisconsin. Improvement is needed in safety and maintenance in labs and better teaching staff training. The FSN will also prepare and display standard operating procedure for all instruments.	
15	KPI (10.3) Proportion of full time member of teaching staff with at least one refereed publication	Target was set at 4 out of 5 faculty	5/5	4/5		The department exceeds its target for publication which is a	4.5/5

	during previous year Code#10.3					<p>result of the highly focused faculty members on research. Seven faculty members of the department are consultants with the Saudi Food and Drugs Agency, Consumer Protection Association, and Ministry of Commerce. Six faculty members of the department were very successful in bringing outside funds. Overall, 21 big projects (two years at least) were funded by King Abdulaziz City for Science and Technology (KACST) and 32 projects were funded by the Research Center at the College of Food and Agricultural Sciences in the last five years. Three projects are under consideration by KACST and the National Plan at this point. These projects involve 15 faculty members (79%</p>	
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						of FSN faculty members).	
16	KPI: (9.1) Proportion of teaching staff leaving the program for reasons other than retirement	0% (no teaching staff would like to leave the program except for retirement)	0%	0% (agriculture engineering)		At this point no teaching staff left for any reason other than retirement. On the contrary, many teaching staff members of FSN are still very active even after retirement age.	0%
17	KPI (10.1) Number of refereed publication in the previous year per full time equivalent member of teaching staff (Publications based on the formula in the Higher Council Bylaw excluding conference presentations)	Average 4 papers per faculty member (last year)	Average was 3.7 papers per faculty	Average 2.1 papers per faulty members (44/21)		The number of published papers by faculty members of the department indicates high productivity which can be connected to the number of the projects financed by external institutions. These publications were published in peer reviewed journals listed under ISI with a good impact factor.	Average 4 papers per faculty member
18	KPI (10.3) Proportion of full time member of teaching staff with at least on refereed publication during the previous year.	100% of the faculty	93% of faculty members have at least one publication	76% (Agriculture Engineering)		Although some faculty members didn't have one publication last year, they have submitted papers	100% of the faculty with at least one publication

						under review. In some cases, faculty are on sabbatical leave or temporarily taking administrative assignment. It is also very common these days for the paper to take quite a bit of time after acceptance and before it is given full citation	
19	KPI (10.4) Number of papers or reports presented at academic conferences during the past year per full time members of teaching staff.	19 papers per year per faculty member	20 papers were presented at academic conferences	4/5 (80%)		Most of these conferences are international, but some are regional or local. This activity is pretty much supported and encouraged by KSU administration. Faculty members are given full financial support by KSU. Faculties members are also given financial support from other institutions as part of project support so that to present the outcome of the project.	19 conference papers
20	KPI (10.5) Research income from	2 Millions	845,000 Saudi	785,000 Saudi		At this point, the	2 Millions

	external sources in the past year as a proportion of the number of full time teaching staff members.	Saudi Riyals	Riyals per faculty member	Riyals per faculty member (agriculture engineering)		department target is every faculty member to have one project with external support. The 2 million Saudi Riyals target was set because it is the limit of King Abdul-aziz financial support for approved project. A number of project submitted by faculty members of the department are under review and may get accepted late September 2014.	Saudi Riyals per faculty member
21	KPI (11.1) Proportion of fulltime teaching and other staff actively engaged in community service activities	4.5/5	4.2/5	0.2/5 (4%)		Around 84% of the faculty members are actively involved with community service. The activity is two types, long term and short term. In the most part, the activity is consultation and administrative assignments. As mentioned above, these activities are focused on consulting the Saudi Food and	4.5/5

						<p>Drug Administration and the Consumer Protection Agency. These agencies are benefiting from the expertise of the faculty and the faculties are informed about the need of the agency which will reflect well on possible input to the department curriculum. Therefore, students will be prepared for performing well if they take a position with these agencies. Some faculty members are invited by different media outlet to participate in discussion related to food and nutrition.</p>	
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Analysis of KPIs and Benchmarks: (list strengths and recommendations)

Strengths:

- 1 The vision, mission, and objectives are clear, appropriate, aligned with the college and the university mission, reflect the interest of internal and external Stakeholders, used as bases for strategic and operational plans for the department
2. The FSN exceeded the ratio of faculty to student ratio compared with three major US universities in the area of food science and nutrition. This allow for better interaction between teaching staff and students and lowers the teaching load on faculty which reflected well on their research activities and community service.



3. Although, FSN graduation rate is low relative to international universities, it is within the 4-6 years set by the Saudi Ministry of Higher Education.
4. Students are satisfied with the kind of career preparation are receiving after graduation from FSN.
The faculty on the other hand are satisfied with the research and teaching facilities at the department. This is reflected well on the research activities at the department which resulted in excellent publication rate of faculty members at peer reviewed journals.
5. The FSN department has defined the learning outcomes for its students. The department systematically assesses students learning outcomes by conducting student's surveys for all courses, surveys of faculty and alumni, as well as employers.
6. The establishment of the Academic Quality Assurance and the Quality Management System Committee at FSN is a good addition to ensure quality management of the program performance and curriculum evaluation.
7. The program curriculum has been benchmarked against Institute of Food Technologists of Chicago (IFT), the largest food science and technology worldwide responsible for developing and updating food science related issues and suggests curriculum for use by departments all over the world.
8. The program made a huge jump by including a mandatory internship program that involves a good number of employers, especially private sector. This is big for students and for program evaluation by stakeholders (employers).
9. The department invited external reviewers from local universities (King Faisal University) and consultant from the office of quality of the College of Food and Agriculture Sciences at King Saud University. The reviewers endorsed the program objectives and outcome. This endorsement is supported by allowing students from FSN to attend courses at King Faisal University and get the same credit as KSU.
10. Academic advising and social support for students is making a difference as shown by the outcome of the survey where 75% were satisfied.
11. The quality of teaching is maintained by the FSN faculty who are taking advantage of the Deanship of Skills and Development workshops. The high quality of teaching is supported by the good response of students to the surveys.
12. Compared to international standards, faculty members of FSN are well qualified. The FSN hosts 55% PhD holder within its staff versus 52% of Ohio State University.
13. Every faculty and teaching staff members of the department have a computer to assist in their duties such as preparing power point presentations for their lectures, write publications, and do the daily administrative tasks. Computers are available for students as well, where two computers labs are available in the department.

14. Outstanding academic or administrative performance is recognized and rewarded throughout KSU as well as at FSN.

15. The department was able to attract external funding from private sector and from King Abdul-Aziz City for science and Technology. The total research funding of FSN last two years was 16 million Saudi Riyals.

16. FSN faculty published an average of 4 papers / year with about 93% of faculty members with at least one publication. FSN faculty members attended 19 international conferences and presented papers in every one.

17. The department is well connected with the local food industry and the public sector which will facilitates support for the internship program. A number of faculty members are consultant to the Saudi Food and Drugs Administration and the Consumer Affairs Agency.

Recommendations for improvement:

The mission of the department needs to be communicated to more private industry, alumni, and be better utilized in the daily activities of the department, especially in the area of QMS. The low ratio of faculty to student should be better utilized to expand research and seek external funding by writing grant proposals to public and private funding agencies. The expansion of research will automatically have a positive effect on the quality and quantity of publications including patents.

-The graduation rate can be accelerated by closely monitoring students at the beginning of their college education and give advice to them regarding courses and help them to develop a three years plan and monitor their annual progress rate.

-The department needs more control over registration information of students for data collection and better understanding of any issues that stand in front of students' normal progress.

-Comprehensive training for all members of FSN on the NCAAA requirements. In addition, we request NCAAA to communicate directly with departments for any new information regarding accreditation procedures or new or updated forms

-The department needs to establish permanent contact with international and national universities known for their strong food science and nutrition program so that to establish standardized benchmarking.

-At this point, we have three types of formes need to be filled twice a year for all surveys of all courses, which is not practical. One form is for AIC, another for the Deanship of Quality and a third for NCAAA, We suggest that, except for AIC, the two forms should be merged into one form. Forms are also need to be in Arabic and English I.e., questions can be in Arabic followed by English. That will be helpful for documentation of our survey.

-Since the department doesn't have budget control, we suggest that Standard 8 and 9 will be general for all departments within CFAS. We also suggest a separate form for external funding budget for every department.

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NOTE The following definitions are provided to guide the completion of the above table for Program KPI and Assessment.

KPI refers to the key performance indicators the program used in the SSR and approved by the institution (if applicable at this time). This includes both the NCAAA suggested KPIs chosen and all additional KPIs determined by the program (including 50% of the NCAAA suggested KPIs and all others).

Target Benchmark refers to the anticipated or desired outcome (goal or aim) for each KPI.

Actual Benchmark refers to the actual outcome determined when the KPI is measured or calculated.

Internal Benchmarks refer to comparable benchmarks (actual benchmarks) from inside the program (like data results from previous years or data results from other departments within the same college).

External Benchmarks refer to comparable benchmarks (actual benchmarks) from similar programs that are outside the program (like from similar programs that are national or international).

KPI Analysis refers to a comparison and contrast of the benchmarks to determine strengths and recommendations for improvement.

New Target Benchmark refers to the establishment of a new anticipated or desired outcome for the KPI that is based on the KPI analysis.

Student Learning Outcome Assessment

Use the rating scale with 5 reflecting the higher value and 1 the lowest value

	Learning Domains for Learning Outcomes Rating Scale	1	2	3	4	5
1.0	Knowledge Content – Assessment					
	Do the knowledge content requirements align with the requirements normally expected by a professional society or employers?					X
2.0	Cognitive Skills – Assessment					
	Do the cognitive skill requirements align with the requirements normally expected by a professional society or employers?					X
3.0	Interpersonal Skills and Responsibility – Assessment					
	Do the interpersonal skills and responsibility requirements align with the requirements normally expected by a professional society or employers?				X	
4.0	Communication, Information Technology, Numerical – Assessment				X	
	Do the communication, information technology, and numerical requirements align with the requirements normally expected by a professional society or employers?					



5.0	Psychomotor Skills – Assessment					
	Do the psychomotor skills requirements align with the requirements normally expected by a professional society or employers?			X		
	Total Scores			3	8	10
	Composite Score					21
Analysis of Student Learning Outcomes (Provide strengths and recommendations for improvement): <p>The FSN department leadership has agreed on a number of outcomes that all graduates should be able to accomplish with a great deal of success. The outcomes are in accordance with the National Qualification Framework (NQF) and divided into major and specific outcomes. The major outcomes include communication, critical thinking, and socio-ethics of their profession. The specific outcomes are strictly related to technical knowledge on food science or human nutrition and the ability of the student to apply technical rules to their respective profession. Students are expected to demonstrate how to locate, interpret, evaluate and use professional literature to make decisions and apply principles from the various facets of food science or human nutrition and related disciplines to solve practical, real-world problems.</p> <p>A number of measureable indicators (KPs) were incorporated to assess the learning outcomes (LO's) which are directed in a form of surveys towards current student opinion, faculty performance, and alumni. These KPIs are rated on 5 points scale:</p> <ol style="list-style-type: none"> 1. Students overall evaluation of the quality of their learning experiences at the institution, target 4/5. 2. Proportion of courses in which student evaluations were conducted during the year, target 4/5. 3. Proportion of programs in which there was independent verification of student's achievement within the institution target 2.5/5. 4. Ratio of students to teaching staff, target 19:1 which is external benchmark 17:1 of 4 US universities (University of IL, Michigan State university, Ohio state university, and University of Wisconsin). 5. Students overall rating on the quality of their courses, target 4/5. <p>The results achieved(actual benchmark) relative to internal and external benchmarks are; About 3.2 out of 5 students were satisfied with their experience at KSU (64%), whereas 4/5 thought that their experience in the department was good. The FSN evaluates 100% of the courses every semester and process the collected data. FSN department reached 1:14 faculty student ratio which exceeds the target (1:17).</p> <p>Comments and analysis The department didnot meet the target of the overall experience of students at KSU who participated in the survey. To</p>						

meet its goal, the department needs to look at possible reasons for the 64% satisfaction rather than 80% including comparing data related to students experience at the institution with the experience at the department. The department met its target by surveying all courses taught at the department. The data is analyzed statistically and submitted to the faculty members responsible for the course for possible indicators. The department exceeded its target for faculty student ratio which can reflect well on faculty availability for students and for carrying other activities related to other objectives of the department such as research projects and bringing external funding and community service. Students' opinion on course quality was close to their overall experience about the department. One can infer from this data that courses quality played a major role on students' opinion of the department.

Another set of KPIs were related to LO's with respect to students appropriate scientific base at the end of their education:

1. Percentage of students entering programs who successfully complete first year, target was 4.5/5 and actual 5/5 (100%).
2. Proportion of students entering undergraduate programs who complete those programs in minimum time, target 2.5/5 and actual 0.5/5 (9%).
3. The overall rating of students on the quality of internship from answering the Question; The activities taught me life-long learning, target is 4.2/5 (85%) and actual 4.1/5 (82%).

Comments and analysis

Based on the 2013 graduation, 42% of the students graduated after five years while 39% graduated after 6 years and 10% in four years, while the remaining graduated in more than 6 years. The percent of students finishing the first year successfully was 100% which exceeded the targeted number. The delay in graduation could be attributed to pre-requested courses offered by the science department or due to the internship program which requires one whole semester (12 credits) to complete. Since students are assigned to the department by the registrar office and not by their choice, this could have adverse effect on their starting time after acceptance. This can be observed by the number of the registered students (around 90) and the number of those who actually start the program (around 50). The internship program benefit was highly appreciated by the students who gave it score of 4.1/5 (81%). The low score of the number of students who finish the program within the specified time which is 4 years could be attributed to the inability of the students to take summer courses. This could be addressed by opening at least two summer courses. In addition, students come to department after they complete the prep year and take some courses at the science department which are considered prerequisite for courses within the department that could be another reason for the delay. As a final note, about 70% of the students complete the program within 4 years and one semester.

<p>More KPIs:</p> <p>With respect to alumni satisfaction with the learning outcome of their education at FSN, 3.2/5 (64%) graduates of the program thought that they received knowledge that help them to develop their critical thinking and problem solving skills, 3.6 out of 5 thought that the program helped them in their career, and 4 out of 5 were able to compare themselves with graduates from other universities.</p> <p>Comments and analysis</p> <p>What program managers need to do, is to provide more academic advice to our students and communicate to them the availability of this service. Alumni thought that computer application in their field was not to their satisfaction as well as less choices between courses offered, and academic advise was not offered as expected (only 1.7/5 (34%) were satisfied). To improve results, more computer application and broader course choices for students. FSN can also do better job on providing more information to our seniors regarding the marketplace and put more emphasis on the courses that are directly related to local commodities. Program managers believe that some of these limitations of the program pointed out by alumni are addressed by the newly implemented plan, where students chose courses at the last semester. With regard to computer application, the program needs to do more.</p>		
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ADDITIONAL DETAILS AND IMPORTANT NOTES

The following documents should be provided as **ONE** hard copy and also in an electronic format using a USB or CD. This information must be submitted to the NCAAA at least four months prior to the date of the review.

The SSRP should be on A4 paper, unbound, printed on one side, page numbered, and with a table of contents for reference. A list of acronyms used in the report should be included as an attachment.

ATTACHMENTS – IMPORTANT NOTES

Where evidence is provided for each section of the SSRP, such as attachments, it is recommended that these documents be contained in the NCAAA portal and hyperlinked to the relevant section in the document.

ENSURE THAT THE ATTACHMENTS PROVIDED ARE RELEVANT AND RELATED TO THE SSRP.

- ***Attachments must be current and not less than 2 years old***
- ***Use a short descriptive file names to identify the contents of each attachment.***
- ***Photos, excessive letters, emails, notes, memos , surveys etc and numbers of files are not encouraged. These types of documents can be shown when the review team arrives at the institution.***

It is important that the following documents are submitted as a minimum with the SSRP.

- I. **Completed *Self-Evaluation Scales* template for programs.** The completed scales should include star ratings, independent comments, and indications of priorities for improvement as requested in the document, and should be accompanied by a description of the processes used in investigating and making evaluations.
- II. ***Program Specifications***
- III. ***Annual Program Report*** – provide two reports for the last two years
- IV. A brief summary of the outcomes of **previous accreditation processes or Mach Review** (if any) including program accreditations and any special issues or recommendations emerging from them.
- V. A copy of the program description from the **bulletin** or **handbook**, including descriptions of courses, program requirements and regulations.
- VI. **Three samples of *Course Specifications*** for each level; three for each year or twelve altogether.
- VII. A completed ***Periodic Program Profile***.

DURING THE REVIEW

The following documents should be available for the review panel during the visit. Members of the panel may ask for some of it to be sent to them in advance.

- VIII. All ***Course Specifications, Field Experience Specifications, Annual Course Reports*** and ***Annual Program Reports***.
- IX. Faculty handbook or similar document with information about faculty and staffing policies, professional development policies and procedures and related information.
- X. CVs for faculty and staff teaching in the program and a listing of courses for which they are responsible.
- XI. Copies of survey responses from students and other sources of information about quality such as employers, other faculty, etc.
- XII. Statistical data summarizing responses to these surveys for several years to indicate trends in evaluations.
- XIII. Statistical data on employment of graduates from the program.
- XIV. Representative samples of student work and assessments of that work.

If the program is one that is offered by a private institution and that has provisional accreditation a supplementary report should be attached listing requirements of the Ministry or other organization to which it is responsible for special accreditation, and providing details of the extent to which those requirements have been met.

Authorized Signatures

Dean / Program Chair	Name	Title	Signature	Date
Program Dean or Chair of the Board of Trustees Main Campus				
Vice Rector				