Department of Chemical Engineering

Minutes of Board of Studies: B.Tech Food Technology

15.07.2021

Minutes of Board of Studies (BoS) meeting of B.Tech Food Technology programme held on 08.07.2021 at office of Head of Department, Chemical Engineering, VFSTR. The External Members were attended meeting through online mode.

Agenda of meeting

1. To discuss and finalize structure and detailed syllabus for B.Tech- Food Technology applicable from 2021-22 admitted batch.

Member Present:

S.No.	Name	Member	Signature
1.	Dr. M. Ramesh Naidu, Head, Dept. of Chemical Engineering, VFSTR, Vadlamudi	Chairman, BoS	
2.	Dr. Rama Chandra Pradhan, Associate Professor, Dept. of Food Process Engineering, NIT Rourkela.	Member	
3.	Dr. Srinivas Maloo, Associate Professor & Head, Dept. of Food Technology, Osmania University-Hyderabad	Member	
4.	Dr. Ch. V.V. Satyanarayana, Professor and Head of the School of Food Engineering, Bapatla.	Member	
5.	Dr. Anuj Kumar, Scientist, CIFT, Kochi	Member	
6.	Mr. Prashant Bagade, Principal Scientist and Head, NCML, Hyderabad	Member	
7.	Mr. Aniket Banerjee, Senior Manager, Marino Foods, Hyderabad	Member	
8.	Dr. Dinkar B. Kamble, Assistant Professor, Dept. of Food Technology, VFSTR	Member	
9.	Mr. Irshaan Sayed, Assistant Professor, Dept. of Food Technology, VFSTR	Member	
10.	Mr. Rahul Vashishth, Assistant Professor, Dept. of Food Technology, VFSTR	Member	

Minutes of the BoS Meeting

1. The chairman greeted all the BoS members.
2. Chairman emphasized broad objectives of the proposed changes in the course structure of B.Tech Food Technology and inclusion of IT/CSE related courses.
3. The chairman also elucidated in detail the suggestions and remarks communicated from various stakeholders.
4. The members of BoS Painstakingly observed the proposals of Department of Chemical Engineering, in the light of suggestions made by expert and recommended a new course structure for B.Tech- Food Technology.

After the discussion it is resolved to:

After thorough discussion, the following are the resolution of BoS meetings.

1. The approved course structure and syllabus is for all years of B.Tech in Food Technology after thorough discussion *(Appendix I)*.
2. The proposed course structure and syllabus is applicable for 2021-22 admitted batch onwards.
3. The course curriculum follows Choice Based Credit System.
4. Major restructuring has taken place in the curriculum which oriented towards IT/CSE based problem solving, project based learning and food safety related aspect.
5. The total percentage of syllabus revision from R-19 to R-21 B.Tech Food Technology is **26.81 %.**
6. Propose the sequential arrangement of all the courses and credits adjustment for all four year of B.Tech in Food Technology.
7. The curriculum is encompassing the courses that enable employability or entrepreneurship or skill development *(Appendix-II)*
8. Inclusion of new courses in the curriculum is reviewed and provided as *Appendix III.*
9. Feedback form from parents, employees, faculties, alumni, and students were collected, analysed and given utmost priority while designing the curriculum and their suggestions are implemented.

Ramesh

Chairman, BoS

APPENDIX-I
(Course Structure)

I Year I Semester

Course Title	L	T	P	C
Engineering Mathematics-I (B)	3	1	0	4
Engineering Physics (B)	3	0	2	4
Engineering Chemistry	2	0	0	2
Food Biochemistry and Nutrition	3	0	2	4
Basics of Electrical and Electronic Engineering	3	0	2	4
Engineering Graphics & Design	0	0	2	1
Introduction to C Programming	3	0	2	4
Constitution of India	1	0	0	1
Physical Fitness, Sports & Games - I	0	0	2	1
Total	**18**	**1**	**12**	**25**

I Year II Semester

Course Title	L	T	P	C
Engineering Mathematics-II (B)	3	1	0	4
Programming for Problem Solving	3	0	2	4
Principles of Food Preservation and Processing	3	1	0	4
Food Chemistry	3	0	2	4
English Proficiency and Communication Skills	0	0	2	1
Technical English Communication	2	0	2	3
Environmental Science	2	0	0	1
Workshop	1	0	2	2
Physical Fitness, Sports & Games - II	0	0	2	1
Total	**17**	**2**	**12**	**24**

II Year I Semester

Course Title	L	T	P	C
Food Microbiology	3	0	2	4
Thermodynamics and Heat Engines	3	1	0	3
Fluid Mechanics and Hydraulics	3	0	2	4
Probability and statistics	3	0	2	4
Data Structures	2	0	2	3
Life Skills – I #	0	0	2	0
Technical Seminar – I	0	0	2	1
Intra-Disciplinary Projects – I	0	0	3	1
Physical Fitness, Sports & Games – III	0	0	2	1
Total	**14**	**1**	**17**	**21**

II Year II Semester

Course Title	L	T	P	C
Meat, Fish, Poultry Process Technology	3	0	0	3
Food Processing Operations	3	0	2	4
Fruits and Vegetables Processing	3	0	2	4
Heat and Mass Transfer	3	0	2	4
Open Elective- I	3	0	0	3
Open Elective- I	3	0	0	3
Life Skills – II	0	0	2	1
Technical Seminar - II	0	0	2	1
Intra-Disciplinary Projects - II	0	0	2	1
Total	**18**	**0**	**12**	**24**

III Year I Semester

Course Title	L	T	P	C
Bakery and Confectionary Technology	3	0	2	4
Food Safety and Quality Management	3	1	0	4
Cereal, Pulses and Oilseed Process Technology	3	0	2	4
Open Elective- III	3	0	0	3
Human Values, Professional Ethics & Gender Equity	2	0	0	2
Soft Skills Laboratory	0	0	2	1
Employability Skills - I	0	0	2	0
Inter-Departmental Projects - I	0	0	4	2
Department Elective – I	3	0	0	3
Total	**17**	**1**	**12**	**23**

III Year II Semester

Course Title	L	T	P	C
Dairy Technology	3	0	2	4
Food Packaging	3	0	2	4
Open Elective- IV	3	0	0	2
Open Elective- V	2	0	0	1
Professional Communication Laboratory	0	0	2	1
Modular Course	0	0	0	1
Employability Skills - II	0	0	2	1
Inter-Departmental Projects - II	0	0	4	2
Department Elective - II	3	0	0	3
Open Elective- VI (Swayam /NPTEL)	3	0	0	3
Total	**17**	**0**	**12**	**22**

IV Year I Semester

Course Title	L	T	P	C
Food Plant Layout and Equipment Design	3	-	2	4
Processing Technology of Spices and Plantation Crops	3	-	-	3
Principles of Management and Organizational Behaviour	3	-	-	3
Societal - Centric and Industry Related Projects	-	-	6	3
Department Elective – III*(Swayam/NPTEL)	3	-	-	3
Department Elective – IV*(Swayam/NPTEL)	3	-	-	3
Total	**15**	**-**	**8**	**19**

IV Year II Semester

Course Title	L	T	P	C
Internship / Project Work	-	-	24	12
Total	**-**	**-**	**24**	**12**

L= Lecture; T= Tutorial; P= Practical; C= Credits

The courses that are highlighted denote implementation of "Choice Based Credit System" (CBCS)

Chairman, BoS

DEPARTMENT OF CHEMICAL ENGINEERING

R-21 Departmental Elective Courses

Course Title	L	T	P	C
Refrigeration Engineering and Cold Chain	3	-	-	3
Engineering properties of Food Material	3	-	-	3
Instrumental Methods of Food Analysis	3	-	-	3
Instrumentation and Process Control	3	-	-	3
Emerging Trends in Food Processing	3	-	-	3
Food Additives	3	-	-	3
Nutraceuticals and Functional Foods	3	-	-	3
Grain Storage Technology	3	-	-	3
Maintenance of Food Equipment	3	-	-	3
Food Toxicology Agrochemical Residue in Food	3	-	-	3
Strategy and Marketing of Food Products	3	-	-	3
Extrusion Technology	3	-	-	3
Food Biotechnology	3	-	-	3
Bioprocess Engineering	3	-	-	3
Food Plant Layout Management and Utilities	3	-	-	3
Post-Harvest Management of Fruits and Vegetables	3	-	-	3
Project Planning Preparation and Management	3	-	-	3
Waste Management and by Product Utilization	3	-	-	3
Nano Technology	3	-	-	3
Sensory analysis of Food	3	-	-	3
Food Business Management and Entrepreneurship Development	3	-	-	3
Food Supply Chain Management	3	-	-	3
Beverage Technology	3	-	-	3

Ramesh

Chairman, BoS

APPENDIX-II

List of courses that enable employability or entrepreneurship or skill development in the R-21 B. Tech- Food Technology

Sl. No.	Semester (Year)	Course Name	Employability/ Entrepreneurship/ Skill development
1.	First Year (Semester I)	Engineering Mathematics-I (B)	Skill development
2.	First Year (Semester I)	Engineering Physics (B)	Skill development
3.	First Year (Semester I)	Engineering Chemistry	Skill development
4.	First Year (Semester I)	Food Biochemistry and Nutrition	Skill development
5.	First Year (Semester I)	Basics of Electrical & Electronics Engineering	Skill development
6.	First Year (Semester I)	Introduction to C Programming	Skill development
7.	First Year (Se II)	Engineering Mathematics - II (B)	Skill development
8.	First Year (Semester II)	Programming for Problem Solving	Skill development
9.	First Year (Semester II)	Principles of Food Processing and Preservation	Skill development
10.	First Year (Semester II)	Food Chemistry	Skill development
11.	First Year (Semester II)	English Proficiency & Communication Skill	Skill development
12.	First Year (Semester II)	Technical English Communication	Skill development
13.	First Year (Semester II)	Workshop	Skill development
14.	Second Year (Semester I)	Food Microbiology	Skill development
15.	Second Year (Semester I)	Thermodynamics and Heat Engines	Skill development
16.	Second Year (Semester I)	Fluid Mechanics and Hydraulics	Skill development
17.	Second Year (Semester I)	Probability and Statistics	Skill development
18.	Second Year (Semester I)	Data Structures	Skill development
19.	Second Year (Semester I)	Intra-Disciplinary Projects – I	Skill development
20.	Second Year (Semester II)	Meat, Fish, Poultry Process Technology	Skill development
21.	Second Year (Semester II)	Food Processing Operations	Skill development
22.	Second Year	Fruits and Vegetables Processing	Skill development

	(Semester II)		
23.	Second Year (Semester II)	Heat and Mass Transfer	Skill development
24.	Second Year (Semester II)	Intra-Disciplinary Projects – II	Skill development
25.	Third Year (Semester I)	Bakery and confectionery Technology	Skill development
26.	Third Year (Semester I)	Food Safety and Quality Management	Skill development
27.	Third Year (Semester I)	Cereals, Pulses and Oilseed Process Technology	Skill development
28.	Third Year (Semester I)	Human Values, Professional Ethics & Gender Equity	Employability
29.	Third Year (Semester I)	Employability Skills-I	Employability
30.	Third Year (Semester I)	Inter Departmental Projects-I	Skill development
31.	Third Year (Semester II)	Dairy Technology	Skill development
32.	Third Year (Semester II)	Food Packaging	Skill development
33.	Third Year (Semester II)	Professional Communication Laboratory	Skill development
34.	Third Year (Semester II)	Modular Course	Employability
35.	Third Year (Semester II)	Employability Skill -II	Employability
36.	Third Year (Semester II)	Inter- Departmental Project- II	Employability
37.	Fourth Year (Semester I)	Food Plant Layout and Equipment Design	Skill development
38.	Fourth Year (Semester I)	Processing Technology of Spices and Plantation Crops	Skill development
39.	Fourth Year (Semester I)	Principles of Management and Organizational Behaviour	Skill development
40.	Fourth Year (Semester I)	Societal- Centric and Industry Related Projects	Employability
41.	Fourth Year (Semester II)	Project work/ Internship	Skill development
42.		Refrigeration Engineering and Cold Chain	Skill development
43.		Instrumental Methods of Food Analysis	Employability
44.		Instrumentation and Process Control	Skill development
45.		Emerging Trends in Food Processing	Skill development
46.		Nutraceuticals and Functional Foods	Skill development

47.		Grain Storage Technology	Skill development
48.		Maintenance of Food Equipment	Employability
49.		Food Toxicology Agrochemical Residue in Food	Skill development
50.		Strategy and Marketing of Food Products	Entrepreneurship
51.		Extrusion Technology	Skill development
52.		Food Biotechnology	Skill development
53.		Bioprocess Engineering	Skill development
54.		Food Plant Layout Management and Utilities	Employability
55.		Post-Harvest Management of Fruits and Vegetables	Skill development
56.		Project Planning Preparation and Management	Entrepreneurship
57.		Waste Management and by Product Utilization	Employability
58.		Nano Technology	Skill development
59.		Sensory analysis of Food	Employability
60.		Food Business Management and Entrepreneurship Development	Entrepreneurship
61.		Engineering properties of Food Material	Skill development
62.		Food Supply Chain Management	Entrepreneurship
63.		Beverage Technology	Skill development
64.		Food Additives	Skill development

Chairman, BoS

DEPARTMENT OF CHEMICAL ENGINEERING

APPENDIX-III

List of New Courses in the R-21 B. Tech- Food Technology Curriculum

Sl. No.	Semester (Year)	Course Name	Employability/ Entrepreneurship/ Skill development
1.	First Year (Semester I)	Engineering Chemistry	Skill development
2.	First Year (Semester I)	Food Biochemistry and Nutrition	Skill development
3.	First Year (Semester I)	Introduction to C Programming	Skill development
4.	First Year (Semester II)	Principles of Food Processing and Preservation	Skill development
5.	First Year (Semester II)	Food Chemistry	Skill development
6.	Second Year (Semester I)	Food Microbiology	Skill development
7.	Second Year (Semester I)	Thermodynamics and Heat Engines	Skill development
8.	Second Year (Semester I)	Fluid Mechanics and Hydraulics	Skill development
9.	Second Year (Semester I)	Data Structures	Skill development
10.	Second Year (Semester II)	Meat, Fish, Poultry Process Technology	Skill development
11.	Second Year (Semester II)	Food Processing Operations	Skill development
12.	Second Year (Semester II)	Fruits and Vegetables Processing	Skill development
13.	Second Year (Semester II)	Heat and Mass Transfer	Skill development
14.	Third Year (Semester I)	Bakery and confectionery Technology	Skill development
15.	Third Year (Semester I)	Food Safety and Quality Management	Skill development
16.	Third Year (Semester I)	Cereals, Pulses and Oilseed Process Technology	Skill development
17.	Third Year (Semester II)	Dairy Technology	Skill development
18.	Third Year (Semester II)	Food Packaging	Skill development
19.	Fourth Year (Semester I)	Food Plant Layout and Equipment Design	Skill development
20.	Fourth Year (Semester I)	Processing Technology of Spices and Plantation Crops	Skill development

21.		Instrumental Methods of Food Analysis	Employability
22.		Sensory analysis of Food	Employability
23.		Food Business Management and Entrepreneurship Development	Entrepreneurship
24.		Engineering properties of Food Material	Skill development
25.		Food Supply Chain Management	Entrepreneurship

Ramesh

Chairman, BoS