Action Taken: 1

Experiential based learning was introduced in the form of ITP that was made mandatory.

Food Processing Technology

Professional Elective and Open Elective Courses for the 2018-19 and 2019-20 Batch B.Tech. students

Professional Elective Courses
Students to register 18 credits from the following courses

S. No.	Course Code	Course Title	Teaching Scheme-hr/Week			Credits
1	18FP2017	Refrigeration, Air conditioning and Cold Storage	3	0	0	3
2	18FP2018	Mechanical Systems for Food Processing	3	0	0	3
3	18FP2020	Bakery, Beverages and Confectionery Technology	3	0	0	3
4	18FP2026	Food Engineering and Packaging Lab	0	0	3	1.5
5	18FP2030	Food Additives	3	0	0	3
6	18FP2031	Plantation and Spices Product Technology	3	0	0	3
7	18FP2032	Fat and Oil Processing Technology	3	0	0	3
8	18FP2033	Technology of Meat, Poultry and Fish	3	0	0	3
9	18FP2034	Drying Technology	3	0	0	3
10	18FP2035	Food Packaging Technology	3	0	0	3
11	18FP2038	Food Additives Lab	0	0	3	1.5
12	18EI2007	Process Control for Food Engineers	3	0	0	3
13	18EI2008	Process Control for Food Engineers Lab	0	0	3	1.5
		Total				18/(34.5)

Open Subject - Electives from other Technical and/or emerging subjects

Students to register 18 credits from the following courses

S. No.	Course Code	Course Title	Teaching Scheme-hr/Week			Credits
1	18FP2027	Food Process Equipment Design	3	0	0	3
2	18FP2029	Computer Aided Food Process Equipment Design Lab	0	0	3	1.5
3	18FP2036	Storage Engineering	3	0	0	3
4	18FP2037	Process Economics and Plant Layout Design	3	0	0	3
5	18FP2040	Material Science for Food Engineers	3	0	0	3
6	19CS2013	Internet of Things for Food Technology	3	0	0	3
7	19CS2014	Python Programming for Food Engineers	3	0	0	3
8	19CS2015	Artificial Intelligence for Food Engineering	3	0	0	3
9		Free elective-1 (Other Department Course)	3	0	0	3
10		Free elective-2 (Other Department Course)	3	0	0	3
		Total				18/(28.5)

B. Tech. (Food Processing and Engineering) – 2020 Batch
PROGRAMME STRUCTURE

S. No.	Category	Credits
1	Humanities and Social Sciences including Management courses	5
2	Entrepreneurship	9
3	Basic Science Courses	20
4	Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc.	18.5
5	Professional Core Courses	66.5
6	Professional Elective courses relevant to chosen specialization/branch	18/24
7	Open courses – Electives from other technical and /or emerging Courses	9
8	Online Courses	5*
9	Project work, seminar and internship in industry or appropriate work place/ academic and research institutions in India/abroad	14*/8**
10	Mandatory Courses [Environmental Studies, Induction Program, Indian	

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Constitution, Value Education, etc.]			**Total**	(non-credit) 160+5*

The students shall earn 5 credits through online courses between 2ⁿᵈ and 7ᵗʰ semester (both inclusive)

ᵇ Full semester project (12 Credits) + Industry Internship (2 Credits)

ᵇᵇ Part semester project (6 Credits) + Industry Internship (2 Credits)

CURRICULUM COMPONENTS

Category 1:
Humanities, Social Sciences and Management Courses

S.No.	Course Code	Course Title		Credit
1		Technical Communication / Other Languages • A Stream - Foreign Languages • B Stream - Online Course • C Stream - Classroom teaching including lab		2
2	18MS2008	Basics of Industrial Economics		3:0:0:3
			Total	5

Category 2:
Entrepreneurship

S.No.	Course Code	Course Title		Credit
1	18MS2009	Entrepreneurship and Basics of Management		3:0:0:3
2	20FP2036	Process Economics and Plant Layout Design		3:0:0:3
3	19CS2015	Artificial Intelligence for Food Engineering		3:0:0:3
			Total	9

Category 3:
Basic Sciences

S.No.	Course Code	Course Title	Credit
1	20MA1017	Basics of Calculus and Linear Algebra	3:0:2:4
2	20MA1018	Transforms and Differential Equations	2:0:2:3
3	20PH1018	Applied Physics for Food Process Operations	2:0:0:2
4	20PH1019	Applied Physics for Food Process Operations Lab	0:0:3:1.5
5	20CH1003	Applied Chemistry for Food Processing Technology	2:0:0:2
6	20CH1004	Applied Chemistry Laboratory for Food Processing Technology	0:0:3:1.5
7	20MA2024	Basics of Probability and Statistics	2:0:2:3
8	20MA2025	Statistical Data Analysis and Reliability Engineering	2:0:2:3
		Total	20

Category 4:
Engineering Sciences

S.No.	Course Code	Course Title	Credit
1	20EE1001	Basic Electrical and Computer Engineering	3:0:0:3
2	20EE1002	Basic Electrical and Computer Engineering Laboratory	0:0:2:1
3	18ME1001	Engineering Drawing	0:0:4:2
4	18ME1002	Engineering Graphics (AutoCAD)	0:0:2:1
5	18ME1004	Workshop/ Manufacturing Practices Laboratory	0:0:2:1
6	20CS1001	Programming for Problem Solving	3:0:3:4.5
7	20FP2001	Food Process Calculations	3:0:0:3
8	20FP2017	Material Science for Food Engineers	3:0:0:3
		Total	18.5

Category 5: Professional Core

S.No.	Course Code	Course Title	Credit
1	20FP1001	Basics of Microbiology	2:0:0:2
2	20FP1002	General Microbiology Lab	0:0:3:1.5
3	20FP2002	Food Chemistry	3:0:0:3
4	20FP2003	Food Analysis Lab –I	0:0:3:1.5
5	20FP2004	Fluid Mechanics for Food Processing	3:0:0:3
6	20FP2005	Fluid Mechanics and Heat Transfer Lab	0:0:3:1.5
7	20FP2006	Applied Food Microbiology	3:0:0:3
8	20FP2007	Applied Food Microbiology Lab	0:0:3:1.5
9	20FP2008	Metabolism and Nutrition	3:0:0:3
10	20FP2009	Food Biochemistry Lab	0:0:3:1.5
11	20FP2010	Process Engineering Thermodynamics	3:0:0:3
12	20FP2011	Dairy Process Engineering	3:0:0:3
13	20FP2012	Unit Operations in Food Processing - I	3:0:0:3
14	20FP2013	Unit Operations in Food Processing Lab	0:0:3:1.5
15	20FP2014	Fruit and Vegetable Processing Technology	3:0:0:3
16	20FP2015	Food Additives	3:0:0:3
17	20FP2016	Food Additives Lab	0:0:3:1.5
18	20FP2018	Heat and Mass Transfer	3:0:0:3
19	20FP2019	Unit Operations in Food Processing - II	3:0:0:3
20	20FP2020	Milling Technology of Cereals, Pulses and Oil seeds	3:0:0:3
21	20FP2021	Food Standards and Regulations	3:0:0:3
22	20FP2022	Food Enzymology Lab	0:0:3:1.5
23	20FP2023	Food Product Technology Lab - I	0:0:3:1.5
24	20FP2024	Food Analysis Lab - II	0:0:3:1.5
25	20FP2025	Engineering Properties of Biological Materials	3:0:0:3
26	20FP2026	Engineering Properties of Biological Materials Lab	0:0:3:1.5
27	20FP2027	Food Packaging Technology	3:0:0:3
28	20FP2028	Food Engineering and Packaging Lab	0:0:3:1.5
29	20FP2029	Food Product Technology Lab - II	0:0:3:1.5
		Total	**66.5**

Category 6: Professional Electives

S.No.	Course Code	Course Title	Credit
1	20FP2030	Food Plant Utility Systems	3:0:0:3
2	20FP2031	Refrigeration and Cold Storage Engineering	3:0:0:3
3	20FP2032	Bakery, Beverages and Confectionery Technology	3:0:0:3
4	20FP2033	Plantation and Spices Product Technology	3:0:0:3
5	20FP2034	Meat, Poultry and Fish Processing Technology	3:0:0:3
6	20FP2035	Storage Engineering of Food Materials	3:0:0:3
7	20FP2037	Fat and Oil Processing Technology	3:0:0:3
8	20FP2038	Drying Technology of Food Materials	3:0:0:3
9	20FP2039	Food Analysis Lab – III	0:0:3:1.5
10	20FP2040	Simulation, Modeling and Statistical Computing Lab	0:0:3:1.5
		Total	**18/27**

Category 7: Open Electives

S.No.	Course Code	Course Title	Credit
1	20FP2041	Food Process Equipment Design	3:0:0:3
2	20FP2042	Computer Aided Food Process Equipment Design Lab	0:0:3:1.5
3	20FP2043	Novel Processing Techniques of Food Preservation	3:0:0:3

4	18EI2007	Process Control for Food Engineers		3:0:0:3
5	18EI2008	Process Control for Food Engineers Lab		0:0:3:1.5
6	19CS2013	Internet of Things for Food Technology		3:0:0:3
7	19CS2014	Python Programming for Food Engineers		3:0:0:3
			Total	9/18

Category 8:
Online Courses

S.No.	Courses	Credit
		5
1	The students shall earn 5 credits through online courses between 2nd and 7th semester (both inclusive)	

Category 9:
Internships, Projects, Patent and Products

S.No.	Course Code	Course Title	Credit
1	MP2911 / ITP2911/ SIP2911/ ISP2911/	Mini Project / Industrial Training/ Summer Internship Programme / Internship	2
2	20FP2998	Part Semester Project	6
3	20FP2999	Full Semester Project I	12
		Total	14*/8**

* Full Semester Project
** Part Semester Project

Category 10:
Mandatory Courses

S.No.	Course Title	Credit
1	Value Education	0
2	Environmental Science	0
3	Induction Program	0
4	Constitution of India	0

SEMESTERWISE CURRICULUM
SEMESTER 1

S. No.	Course Code	Course Title	Teaching Hours/Wk			Credits
			L	T	P	
1	20MA1017	Basics of Calculus and Linear Algebra	3	0	1	4
2	20PH1018	Applied Physics for Food Process Operations	2	0	0	2
3	20PH1019	Applied Physics for Food Process Operations Lab	0	0	3	1.5
4	20EE1001	Basic Electrical and Computer Engineering	3	0	0	3
5	20EE1002	Basic Electrical and Computer Engineering Laboratory	0	0	2	1
6	18ME1001	Engineering Drawing	0	0	4	2
7	18MS2008	Basics of Industrial Economics	3	0	0	3
8		Technical Communication	2	0	0	2
9		Mandatory Course-I - Environmental Studies				0
				Total		18.5

SEMESTER 2

S. No.	Course Code	Course Title	Teaching Hours/Wk			Credits
			L	T	P	
1	20MA1018	Transforms and Differential Equations	2	0	2	3
2	20CH1003	Applied Chemistry for Food Processing Technology	2	0	0	2

Action Taken: 2

BTech IoT minor specialization was introduced in the year 2020.

Karunya INSTITUTE OF TECHNOLOGY AND SCIENCES
(Declared as Deemed to be University under Sec. 3 of the UGC Act, 1956)
A CHRISTIAN MINORITY RESIDENTIAL INSTITUTION
AICTE Approved & NAAC Accredited
Karunya Nagar, Coimbatore - 641 114, Tamil Nadu, India

Department of Food Processing Technology
School of Agriculture and Biosciences

Submitted to: The Pro VC(QS), KITS
Copy to: The Dean (ET), KITS.

Minutes of BoS meeting (Online) -Department of Food Processing Technology held on 16th August 2022 at 10.00 am.

Meet Link:
http://meet.google.com/axp-gdhd-bgy
Members Present:
1. **Chairman** - Dr. Sajan Kurien, Professor & Dean, SAB, KITS.
2. **Convener** - Dr. K. Thangavel, Professor & Head, FPT.

External Members of BoS:
1. Dr. P. Vennila, Professor (Food Science and Nutrition), Post-Harvest Technology Centre, Tamil Nadu Agricultural University, Coimbatore.
2. Dr. N. Ramasubramanian, Director, VR Food Tech., Chennai
3. Er. S. Rino John, Scientist-C, Bureau of Indian Standards, Coimbatore Branch Office, Coimbatore.
4. Dr. A. Immanuel Selvakumar, HOD (EEE) - Special Invitee

Internal Members of BoS:
1. Dr. T.V.Ranganathan, Professor
2. Dr. S.Gobikrishnan, Asst.Professor
3. Er. Dayanand Peter, Asst.Professor
4. Dr. R. Emilin Renitta, Assoc.Professor
5. Dr. Rituja Upadhyay Assoc.Professor, Curriculum Coordinator
6. Dr. M.M.Pragalyaashree, Asst.Professor
7. Dr. R. Freeda Blessie Asst.Professor
8. Dr. Arunkumar, H. S. Asst.Professor
9. Dr. M. Nagaraju Asst.Professor
10. Dr. Vijayalakshmi Kovuru Asst.Professor
11. Dr. Sumit Sudhir Pathak Asst.Professor
12. Dr. G. Mohan Naik Asst.Professor

Agenda for Discussion
1. To revise the Curriculum and Syllabus for M.Sc. Food Science and Technology programme for the academic year 2022-23.
2. Approval of Curriculum and Syllabus for B.Tech Food Processing and Engineering with minor specialization in IoT.
3. To discuss the PO's PSO's and PEO's for M.Tech Food Processing and Engineering and MSc. Food Science and Technology

22FP2048	IoT and Deep Learning for Food Quality	L	T	P	C
		2	0	0	2

Course Objectives:

1. To understand the importance of IoT and Deep Learning for Food Industry Environment.

2. To know the principles behind food quality evaluation.

3. To gain knowledge on application of IoT and Deep Learning in food quality evaluation.

Course Outcomes

At the end of the course, the student will be able to

1. Understand the basics of IoT
2. Implement the Feed forward Neural Networks.
3. Write programming for Convolutional Neural Networks
4. Apply IoT and Deep Learning for Quality Evaluation of Meat, Poultry and Seafood
5. Apply IoT and Deep Learning for Quality Evaluation of Fruits and Vegetables
6. Apply IoT and Deep Learning for Quality Evaluation of Grains

Module 1: Fundamentals of IoT (5 hours)

Internet of Things (IoT): Definition, IoT Functional Diagram, Technologies Enabling IoT, Sensors, Networks, Standards, Data Analytics, Intelligence

Module 2: Deep Learning - FNN (5 hours)

Machine Learning and Deep Learning, Feed forward Neural Network- Architecture, Training, Validation and Testing – Prediction and Classification Tasks using Python

Module 3: Deep Learning - CNN (5 hours)

Fundamentals of Computer Vision Technology, Image Acquisition Systems, Object Measurement Methods

Object Classification Methods, Introduction to Hyper spectral Imaging Technology Convolutional Neural Network- Architecture, Training, Validation and Testing – Implementation of CNN using Python

Module 4: Quality Evaluation of Meat, Poultry and Seafood (5 hours)

IoT and Deep Learning based quality evaluation of meat cuts, Cooked Meats, Quality Evaluation of Poultry Carcass and Seafood

Module 5: Quality Evaluation of Fruits and Vegetables (5 hours)

IoT and Deep Learning based quality evaluation of apples, citrus fruits and vegetables
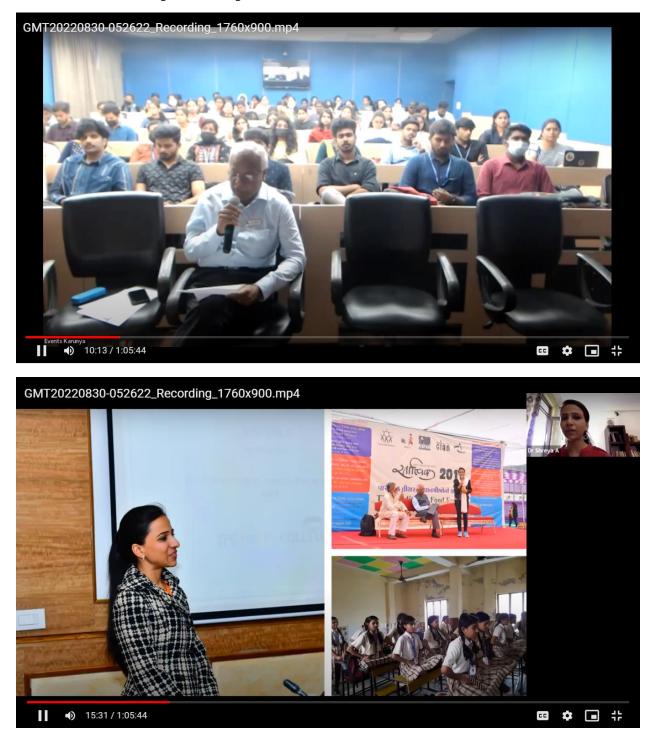
Module 6: Quality Evaluation of Grains (5 hours)

IoT and Deep Learning based quality evaluation of wheat, rice, corn and maize

Text Books

1. Sun, D. W. (Ed.). (2016). Computer vision technology for food quality evaluation. Academic Press.

2. McEwen, A., & Cassimally, H. (2013). Designing the internet of things. John Wiley & Sons.

Action Taken: 3

A section on entrepreneurship skills for students to focus on innovation, incubation and entrepreneurship skills was conducted online on 30.08.2022

← 📥 🗑 ✉ ⋮

Nestle Selects – Nutrition officer trainee – CTP ➤ Inbox ☆

Hari Baskar 2279 30 Sep ↩ ⋮
to Pragalyaa, PREMNATH, RANGAN... ⌄

To
The IPC's - Biotech / Food

Sir/Mam,

CTP is happy to announce the following students from Biotech and Food have been offered by Nestle India for the role of Nutrition officer trainee.

1. Nirupa-Msc.Biotech
2. Anisha-B. Tech Biotech
3. Sanjay Praveen- B. Tech Biotech
4. Naresh-B. Tech Food Processing Engineering
5. Deepak-M. tech Food Processing Engineering
6. Rajashree-B. Tech Biotech

The above mentioned students will go for a 3 day OJT training at coimbatore during the second week of Oct.
Post that the students will receive the offer letter from Nestle.

Salary During the training :

The trainee will be eligible for the following during the training tenure.

Allowances	Eligibility
Stipend	Rs 25,000/- per month
Daily Allowance in Headquarter location	Rs 225/- per day market working

ACTION TAKEN REPORT 2021-22

The stakeholders have appraised the updated course contents, knowledge of the students, willingness towards continuous learning, communication skills, satisfactory level of response from the Institution, etc. The action taken report on the following feedback is mentioned here.

Sl. No.	Feedback	Action taken
1	Employers suggested that students need more of industry experience.	Experiential based learning was introduced in the form of ITP that was made mandatory.
2	Parents requested that some specialization courses like machine learning, supply chain management and IoT can be implemented.	BTech IoT minor specialization was introduced in the year 2020.
3	Students suggested curriculum need to support entrepreneurship skills among students.	A session on entrepreneurship skills for students to focus on innovation, incubation and entrepreneurship skills was conducted online on 30.08.2022.
4	Alumnus requested that more core companies may be invited for campus interviews.	Core companies like Nestle visited the campus.