Bachelor of Technology
in
Food Process Technology

Student Handbook

Faculty of Industrial and Vocational Technology
University of Vocational Technology

March 2015

Rationale for the Food Process Technology Degree:

The food industry is one of the largest industries in the world and needs highly trained professionals to ensure the sustainable supply, production, quality and safety of food.

B .Tech. in Food Process Technology degree enables student to learn the total food process starting from farm to the consumer. To achieve this, the degree provides students with a thorough theoretical, as well as practical and hands-on, approach to all related subjects such as food chemistry, microbiology, processing, food engineering, production, and nutrition and quality assurance techniques. This is done to foster understanding of the physical, chemical and biological changes in foods starting from raw materials, through processing and packaging while ensuring quality and safety.

Students will be specialized in one of three specializing fields related to product technologies later during the third year where they will be trained in all aspects pertaining to that particular food product technology which include production, preservation and development of high quality foods.

Food process technology graduates may have carrier opportunities in the following areas; Food manufacturing industries, food ingredient manufacturing industries, food plant, equipment and packaging material manufacturing industries, retail food distribution and catering sectors, hotel sector, overseas food sector industries etc.
In addition to working in the food manufacturing industries, degree holders also may employed by research institutes, laboratories, or employed by bodies charged with the monitoring of food quality standards.

Anticipated graduate profile:
The prospective Food process Technology graduates are expected to have following knowledge, skills and attitudes described in the profile below.
The food process technology graduate should have;

- Knowledge and conceptual understanding of areas of food science and Technology and total food process starting from farm to the consumer.
- Ability to perceive necessary skills necessary for the food manufacturing institutions and related industry organizations as technologists, managers and researchers
- Technical and intellectual skills to gather data/information and critically analyze the needs of local and international food sector

- Learnt way of searching new knowledge by research and self-study
- A range of transferable skills, which are useful in decision making with regard to handling data/ information and interpretation , computer literacy, information management, team work oral and written presentation/communication
- Built self-confidence for independence, self-motivation, lifelong learning in the relevant field.

Admission Requirements:

Candidates seeking admission to the degree programme should possess;

- Food Technology Diploma (NVQ level 5/6) or
- Agriculture related diploma (NVQ level 5/6) or
- Hotel sector diploma (NVQ level 5/6) or
- Any other related diploma/equivalent, acceptable to the Academic Council of the University

Preference will be given to candidates with relevant work experience

Exemptions may be granted in relevant modules after a proper evaluation for those who have NVQ level 6 or equivalent qualifications. Preference will be given to those applicants having post diploma industrial experience of at least one year.

Student Selection:

Eligible candidates are required to sit for aptitude test. Selection is done based on the marks obtain by the candidates.

Registration:

Registration is the acceptance of the selected applicant as a student in the University. Prior to registration the applicant is issued with an offer letter for a particular academic programme along with a voucher to pay the relevant course fee, of which following may be the constituents:

a) Registration fee – To be paid at the first registration and subsequently at re-registrations
b) Tuition fee
c) Facility fee
d) Library deposit (Refundable)
e) Library fees (nonrefundable)
f) Laboratory fee if applicable (nonrefundable)

The letter calling for registration will request the applicant to produce the original documents of the following:

a) School leaving certificate
b) National Identity Card or Passport
c) Birth Certificate
d) Certificates of all educational qualifications
e) Documents requested to be obtained from the employer
f) Any other documents depending on the study programme
g) Documentary evidence for the payment of the Registration fees, course fees, Library fees, etc.

University has no obligations to refund the above fees in case of a disqualification of an applicant for reasons due to lapse/s from the part of the applicant at the registration stage. The applicant who is duly registered for an academic programme shall become a student of the University and will receive a Student number and a Student Identification Card.

The selected candidate shall personally appear before the registration desk for registration, unless the provision is available for online registration.

Credit system and the Duration:

The course structure is based on module system. Each module has been assigned a Credit Value, depending upon the number of notional hours required to achieve the outcome of the module. Notional hours include directed learning as well as self-directed learning. This system is bench marked with the European Credit Transfer and Accumulation System (ECTS).

Duration of the degree program is 3 academic years. One academic year consists of two semesters. One semester may consist of 15 weeks for weekday programmes and 22 weekends for weekend programmes. Total notional hours per semester, is 750. A total of 25 notional hours is equal to 01 credit. Total number of credits per semester is 30.

B. Tech. in Food Process Technology degree currently operates as a 3 year weekend Programme.

Course Structure:
Module Code:

AF10501	-	AF	-	Department offering the module
		1	-	Semester
		05	-	Number of Credits
		01	-	Serial number of the module

Module Code	Module Title	Type	Credits	Year I		Year II		Year III	
				S-I	S-II	S-I	S-II	S-I	S-II
MS10480	Engineering Mathematics I	C/G	4	√					
AF10501	Introduction to Food Technology	C/G	5	√					
AF 10602	Introduction to Raw & Processed foods	C/G	6	√					
AF 10503	Food Preservation	C/G	5	√					
AF 10404	Food & Nutrition	C/G	4	√					
AF 10605	Food Chemistry	C/G	6	√					
LS 10308	Communication Skills	C/NG	3	√					
AF 20701	Principles of Food Analysis	C/G	7		√				
AF 20602	Post-harvest Biology and Technology	C/G	6		√				
AF 20703	Food Microbiology	C/G	7		√				
AF 20704	Food Engineering	C/G	7		√				
AF 20305	Introduction to Statistical Methods	C/G	3		√				
FS 20308	Communication Skills	C/NG	3		√				
AF 30601	Food Processing Technology Fundamentals	C/G	6			√			
AF 30602	Food Safety and Quality Control	C/G	6			√			
AF 30503	Sensory Evaluation	C/G	5			√			
AF 30505	Food Packaging	C/G	5			√			
AF 30506	Food Hygiene and Plant Sanitation	C/G	5			√			
AF 30307	IT Applications in Food Industry	C/G	3			√			
AF 40601	Food Product Development and Evaluation	C/G	6				√		
AF 40302	Nutraceuticals and Functional Foods	C/G	3				√		
AF 40503	Introduction to Management & Finance	C/G	5				√		
AF 40504	Marketing Management in Food Industry	C/G	5				√		
AF 40505	Research Methods and Experimental Design	C/G	3				√		
AF 40306	Enzymes in Food Industry	C/G	3				√		
AF 40307	Organic Food Production	C/G	3				√		
Specialization Streams: Grains, Fruits, Vegetables, Spices and Herbal Product Technology									
AF 50601	Grain ,Nuts and Oil seed Product Technology	C/G	6					√	
AF 50802	Fruit and Vegetable Product Technology	C/G	8					√	
AF 50803	Spice Product Technology	C/G	6					√	
AF 51011*	Industry Training	C/G	10					√	
Fish, Meat and Dairy Product Technology									
AF 50604	Fisheries Product Technology	C/G	6					√	
AF 50805	Dairy Product Technology	C/G	8					√	
AF 50606	Meat Product Technology	C/G	6					√	
AF 51011*	Industry Training	C/G	10					√	
Culinary and Bakery Product Technology									
AF 50407	Introduction to Culinary Technologies	C/G	4					√	
AF 50608	Introduction to Kitchen Operations and Management	C/G	6					√	
AF 50609	Food and Beverage Service Management	C/G	6					√	
AF 51011*	Industry Training	C/G	10					√	
AF 50611*: Applicable for weekend programme									
AF 61001	Industry Based Project	C/G	10						√
AF 60402	Project Management	C/G	4						√
AF 60403	Waste Management in Food Industries	C/G	4						√
MS402	Entrepreneurship Development	C/G	4						√
MF60402	Environmental Management and Cleaner Production	C/G	4						√
MF60204	Occupational Health & Safety	C/G	2						√

Module Type:

The degree consists of Compulsory (C) modules, Elective (E) modules and Optional (O) modules. Core compulsory modules and Elective modules designated as GPA modules will be used to calculate the grade point averages.

C - Compulsory
E - Elective
O - Optional
G - GPA
NG - Non GPA

Work Based / Industrial Training:

Fifth semester of the study programme is dedicated to this component of the degree. Purpose of this module is to enable students to apply competencies required through the academic programme to workplace experiences.

Students studying the degree during weekdays will be placed in various industrial establishments/worksites related to their fields of studying for a period of six months through National Apprentice and Industrial Training Authority (NAITA) under undergraduate in plant training scheme.

Those who are studying during weekends are required to undertake work based training in their places of work, under supervision of a senior officer. Work undertaken during this period should be different from the normal routine work which he/she is supposed to attend in his/her job.

Final Year Industry Based Project:

Students of B. Tech. Food Process Technology should undergo a project work for a period of one semester, during the 3rd year. This module comprised of 10 credits. The project work is arranged by the department of Food technology at UNIVOTEC in consultation with the food industries in the country. The purpose of the Module is to get hands-on experience on various aspects of food industries that form the strong foundation for the young food technologists. The department will allot students to the industry, in consultation with the industry concerned and based on students specialization field. On completion, of the programme each

student should prepare a project report duly certified by the supervisor in the industry. Consequently, a seminar/presentation should be conducted in the department to present the finding of the project work. The project report attested by the internal supervisor of the department will be evaluated by the external examiner and a viva voce will be conducted.

Course Assessment System:

The performance of each student in each module will be evaluated by continuous assessments and a semester-end examination.

The weightings assigned for the continuous assessment component and the semester - end examination of a module will be as follows.

* Continuous Assessment 40% - 70%
* Semester - End Examination 60% - 30%

- The continuous assessment may consist of assignments, quizzes, laboratory work, practical, tutorials, demonstrations, presentations, projects, oral tests and mid semester tests. Weightings of each of these components used in the determination of the final grade for each module should be clearly conveyed in writing to the students at the commencement of each module along with the outline of the module.

- The students should maintain 80% of attendance and satisfy the requirements specified in each module descriptor to be eligible to sit for the semester-end examination.

- All Candidates should obtain at least 30% of the marks allocated for continuous assessment to get qualified to sit for the semester - end examination.

Grading System and Computation of Grade Point Average (GPA):

A letter grade shall be awarded to each module. The cut-off marks for each grade and the corresponding grade points are given below.

Grades	Marks	Grade Point
A+	90 or above	4.00
A	80 – 89	3.70
B+	70 – 79	3.30
B	60 – 69	3.00
C+	50 – 59	2.70
C	40 – 49	2.00
D	30 – 39	1.00
E	01 – 29	0.00
F	0	0.00

1. Grade D or above is required to earn credits for a module.

2. A minimum 30% should be obtained from continuous assessment for eligibility to sit for the end semester exam.
3. A minimum requirement of 30% should be obtained from the semester - end Examination in order to obtain a grade D or above for a module.

4. A student satisfying continuous assessment requirements and getting between 1 – 29 marks for the semester end examination receives a symbol as E(ET) while a student getting 0 for the semester end examination receives symbol F(ET). A student satisfying semester end examination requirements and getting between 1 and 29 marks for the continuous assessment receives a symbol as E(CA) a student getting 0 for the continuous assessment receives symbol as F(ET). A student getting between 1 and 29 marks for both the semester end examination & the continuous assessment receives the Grade E while a student getting 0 for both the semester end examination & continuous assessment receives the Grade F. A student must repeat the part of the module examination/complete module examination having Grade E or F & must improve up to Grade D or C. The modules having Grade D are allowed to repeat only when the Semester Grade Point Average (SGPA) of a particular semester is less than 2.00. By repeating only the semester end examination/continuous assessment or both, the Grades F, E or D can be improved only up to a C grade and considered for calculating Grade Point Average (GPA). Repeating continuous assessment or semester end examination is considered as repeating the whole module.

Academic Concession:

Academic Concession may be granted to a student with the approval of the Faculty Board, in the event that a student is unable to sit for the semester-end examination due to illness or other compelling reason. In such instances the student must notify the Dean of the faculty within 48 hours of the cause. Further, the student should make an appeal with supporting documents to the Dean for an Academic Concession within one week from the date of the examination. The continuous assessment component can be carried forward to the next examination as the first attempt.

Semester Grade Point Average (SGPA):

The calculation of the Semester Grade Point Average will be based on the Grade Points earned for all modules registered in a semester (except those awarded with academic concession) weighted according to number of credits. The SGPA is rounded to the nearest second decimal place. The SGPA is reported on transcripts and Statement of Results that may be issued for each semester.

The formula for calculating SGPA is given below.

$$\text{Semester GPA (SGPA)} = \frac{\Sigma\ (\text{Number of Credits for a semester module x Grade point obtained for the module})}{\text{Total number of credits for the Semester}}$$

Final Grade Point Average (FGPA):

The Final Grade Point Average is the absolute academic standing of the student calculated on the basis of SGPA. The FGPA will be calculated using the following formula.

$$\text{Final GPA (FGPA)} = \frac{\Sigma\ (\text{Semester GPA})}{\text{Number of Semesters}}$$

Unsatisfactory Standing on Academic Performance:

If the student's SGPA falls between 1.99 and 1.50 the student will be placed on Academic Warning.

A student who falls into one of the following categories of the SGPA will not be permitted to register for a new module until the SGPA is upgraded to 2.00 or more.

i. SGPA < 1.50 in any two semesters

ii. SGPA < 1.50 in any semester and 1.50 ≤ SGPA < 2.00 in any two semesters

iii. 1.50 ≤ SGPA < 2.00 in any three semesters

Graduation Requirements:

Credit Requirements:

A student should satisfy the following requirements in order to be awarded with Bachelor of Technology in Food Process Technology.

(i) A minimum total of 180 credits from modules specified.

(ii) A minimum Final Grade Point Average (FGPA) of 2.00

(iii) Any other mandatory requirement specified by the Academic Council

Key to Final Results (FGPA – Final Grade Point Average):

FGPA	**Final Results**
3.7 or Above	First Class
3.30 – 3.69	Second Upper
2.70 – 3.29	Second Lower
2.00 – 2.69	Ordinary Pass
Below 2.00	Incomplete

Academic Calendar - 2015

Full Time - Week Days

Month	Duration	January				February				March					April				May				June					July					August					September					October					November				December				
Week		1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	5	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	1	2	3	4	5
Exam - S2 (2014/2015) & Exam Board	26.01.2015 - 06.02.2015 & 02.04.2015																																																						
Exam - S4 (2013/2014) & Exam Board	05.02.2015 - 16.02.2015 & 23.04.2015																																																				
Exam - S6 (2011/2014) & Exam Board & Convocation	18.02.2015 - 27.02.2015 & 28.05.2015 & 22.07.2015																																																			
Selection Test - (2015/2016)	15.02.2015																																																			
Industry Training - S5 (2013/2014)	02.03.2015 - 20.09.2015																																																			
Registration (2015 / 2016)	09.03.2015																																																			
Foundation (2015 / 2016)	16.03.2015 - 24.04.2015																																																			
New Year Vacation	10.04.2015 - 20.04.2015																																																			
Academic Session - S1 (15/16) & S3 (14/15)	05.05.2015 - 21.08.2015																																																			
Study Leave	24.08.2015-04.09.2015																																																			
Exam - S1 (15/16) & S3 (14/15) & Exam Board	07.09.2015 - 18.09.2015																																																			
Vacation	21.09.2015 - 09.10.2015																																																			
Academic Session - S2 (15/16) & S4 (14/15) & S6 (13/14)	12.10.2015 - 23.01.2016																																																			

Part Time - Weekend

Month	Duration	January				February				March					April				May				June					July					August					September					October					November				December				
Week		1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	5	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	1	2	3	4	5
Academic Session - S2 (14/15) & S4 (13/14)	03.01.2015 - 14.06.2015																																																					
Study Leave	20.06.2015 - 28.06.2015																																																				
Exam -S2 (14/15) & S4 (13/14) & Exam Board	04.07.2015 - 19.07.2015 & 27.08.2015																																																				
Vacation	25.07.2015 - 02.08.2015																																																			
Academic Session - S3 (14/15) & S5 (13/14)	08.08.2015 - 17.01.2016																																																			
Selection Test - 2015/2016	15.02.2015																																																			
Registration	14.03.2015																																																			
Foundation	21.03.2015 - 26.04.2015																																																			
New Year Vacation	18.04.2015 - 19.04.2015																																																			
Academic Session - S1 (15/16)	09.05.2015 - 11.10.2015																																																			
Study Leave	17.10.2015 - 18.10.2015																																																			
Exam - S1 (15/16)	24.10.2015 - 08.11.2015																																																			
Academic Session - S2 (15/16)	14.11.2015 - 17.04.2016																																																			