

Course Specifications
Vocational Degree Programme
In
Post-Harvest Technology



Directorate of Training & Lifelong Learning
Ramaiah University of Applied Sciences
University House, New BEL Road, MSR Nagar, Bangalore – 560 054
www.msruas.ac.in

Course Specifications and Syllabus for awards

Vocational Diploma, Vocational Advanced Diploma, Bachelor of Vocational Degree in Post-Harvest Technology

1. Title of the Awards

Vocational Diploma in Post-Harvest Technology
Vocational Advanced Diploma in Post-Harvest Technology
Bachelor of Vocational Degree in Post-Harvest Technology

2. Modes of Study

Full-Time

3. Awarding Institution /Body

Ramaiah University Of Applied Sciences – Bangalore, India

4. Joint Award

--

5. Teaching Institution

Directorate of Training and Lifelong Learning
Ramaiah University of Applied Sciences - Bangalore, India

6. Date of Course Specifications

Feb 2019

7. Date of Course Approval by the Training and Lifelong Learning Council of RUAS

March 2019

8. Course Benchmark

UGC Guidelines

9. Rationale for the Course

India is among one of the fastest growing economies in the world and is the second largest country in terms of population. Feeding the growing population by optimizing the natural resources with sustainability is the new challenge. Producing the food on a very large scale to the growing population is a major challenge. And changing eating habits and life style calls for adapting creative and modern engineering technologies and solutions to produce the food on a large scale.

Trend is changing from conventional way of processing food to a modern and sophisticated way of processing. Changing eating habits of the people calls for adapting new methodologies in developing sustainable solutions to meet the growing needs. Food processing plants, machineries and equipments have to be ultra-modern and sophisticated enough to handle the present requirements.

To make the modern food production systems customer friendly, robust and to ensure ease of operation it calls for employment of skilled labor, built in automation and mistake proof technologies. Machines, equipments have to be manufactured with high precision that guarantee 100% quality food and customer and consumer satisfaction.

On the other hand, though food processing industry is a huge market, there is a big need for skilled and trained manpower to operate and maintain the plants, machines and equipments. Another objective of this course is to impart adequate knowledge develop hands on skills of the young talents to operate and maintain the machines and equipments.

Keeping the above needs in mind, B VOC in Post-Harvest Technology is designed in association with MSRUAS which would through sufficient light on the food / grain processing aspects and developing adequate knowledge and skills to operate and maintain the food / grain processing machines

10. Course Aim

The aim of the course is to develop skilled professionals who can operate and maintain machines, tools and equipments used for food / grain processing in the domestic market.

11. Course Objectives

The objectives of the course are:

1. To impart knowledge on general education including physics, mathematics, electrical, electronics and computer applications
2. To impart knowledge on fundamentals and advancements in food/grain processing technologies, machines and equipments.
3. To repair and maintain various types of machines used in food / grain processing industry
4. To impart knowledge on working in dynamic situations in project sites, interaction with stake holders, managing people and projects, servicing aspects of the food / grain processing plants / machines

5. To create awareness on new technologies and trends in food/grain processing industry

12. Intended Learning Outcomes of the Course

The Intended Learning Outcomes (ILOs) are listed under three headings:

1. Knowledge and Understanding
2. Practical Skills
3. Capability/Transferable Skills.

12.1 Knowledge and Understanding

After undergoing this course students will be able to:

1. To understand various mechanical, electronics and electrical systems present in food processing machines.
2. To understand the concepts of food processing.
3. Read and interpret various safety regulations, labor laws connected with industries.

12.2 Practical Skills

1. Identify various machines, tools and their applications connected with food / grain processing
2. Read and interpret complex drawings related to machines, plants and equipments
3. Independently operate and maintain the machines
4. Visit the sites, gather information and translate into business needs

12.3 Capability/Transferable Skills

After undergoing this course, the student will be able to :

1. Identify and develop an academic project on food / grain processing
2. Plan, organize and execute the activities by keeping in mind the safety, cost and productivity aspects within the team
3. Communicate effectively with stake holders
4. Identify and develop the provisions for continuous improvements

13. Course Structure

A student is required to successfully complete the following modules for the award of the degree. The course is delivered as per the Time-Table for every batch.

Vocational Diploma

Semester-1

General Education: 12 Credits, 180 Hours				
S. No.	Code	Module Title	Credit	Hours
1	VGE057	Physics	4	60
2	VGE050/31	Mathematics & Statistics	4	60
3	VGE021	Bio - Chemistry	4	60
Vocational Education: 18 Credits, 270 Hours				
S. No.	Code	Module Title	Credit	Hours
1		Basic Workshop Practices (Fitting, Sheet metal, Welding, Rolling, Bending)	6	90
2	VPT002	Computer Application	6	90
3	VPT004/005	Engineering Drawing	6	90

Semester-2

General Education: 12 Credits, 180 Hours				
S. No.	Code	Module Title	Credit	Hours
1	VGE008	Basic Electrical Systems	4	60
2	VGE039	General Communication - English	4	60
3	VGE030	Engineering Materials	4	60
Vocational Education: 18 Credits, 270 Hours				
S. No.	Code	Module Title	Credit	Hours
1		Introduction to Food & Grain Technology	6	90
2		Turning & Milling Operations	6	90
3		Metrology GD & T Measurements	6	90

VMT – Vocational Machine Tool

Vocational Advanced Diploma

Semester-1

General Education: 12 Credits, 180 Hours				
S. No.	Code	Module Title	Credit	Hours
1	VGE009	Basic Electronic Circuits	4	60
2		Basics of Hydraulics & Pneumatics	4	60
3		Element of Mechanical Design	4	60
Vocational Education: 18 Credits, 270 Hours				
S. No.	Code	Module Title	Credit	Hours
1		Fundamentals of Food Engineering	6	90
2		Inspection & Quality Control	6	90
3		Machine Drawing and 3D Modeling	6	90

Semester-2

General Education: 12 Credits, 180 Hours				
S. No.	Code	Module Title	Credit	Hours
1	VGE099	Elements of Mechatronics	4	60
2	VGE106	Sensors & Signals	4	60
3	VGE031	Principles of Management	4	60
Vocational Education: 18 Credits, 270 Hours				
S. No.	Code	Module Title	Credit	Hours
1		Food Processing Engineering - 1	6	90
2		Electrical & Electronics Systems Simulation & Analysis	6	90
3		Project 1	6	90

Vocational Degree**Semester-1**

General Education: 12 Credits, 180 Hours				
S. No.	Code	Module Title	Credit	Hours
1	VGE045	Customer Relationship Management	4	60
2	VGE093	Business Communication English	4	60
3		Industrial Automation	4	60
Vocational Education: 18 Credits, 270 Hours				
S. No.	Code	Module Title	Credit	Hours
1		Food Processing Engineering - 2	6	90
2		PLC & Its Applications	6	90
3		New Product Development	6	90

Vocational Degree**Semester-2**

General Education: 12 Credits, 180 Hours				
S. No.	Code	Module Title	Credit	Hours
1		Operations Management (include estimation & costing)	4	60
2		Good Shop Floor Practices	4	60
3		Labor laws, Occupational Health and Safety	4	60
Vocational Education: 18 Credits, 270 Hours				
S. No.	Code	Module Title	Credit	Hours
1		Emerging Technologies in Food Processing	6	90
2		Seminars & Presentations	2	30
3		Project Work - 2	10	150

14. Delivery Structure

The course is in a semester pattern with an average of 30 hours of interactions per week and 15 weeks per semester

15. Teaching and Learning Methods

The module delivery comprises of a combination of few or all of the following:

1. Face to Face Lectures using Audio-Visuals
2. Demonstrations
3. Laboratory/Field work/Workshop
4. Industry Visit
5. Group Exercises
6. Project Exhibitions
7. Technical Festivals

16. Assessment and Grading

Each module is assessed for a total of 100 marks with two tests each of 25 marks and a final examination of 50 marks for general education modules and similar pattern is followed for vocational based modules with emphasis on skills. A candidate is required to score a minimum of 40% overall in each of the modules.

17. Failure

If a student fails in a module, he/she is required to take up the make-up examination.

18. Attendance

A student is required to have a minimum attendance of 75% in each of the modules.

19. Award of Class

As per the Academic Regulations for Vocational Programme.

20. Student Support for Learning

Students are given the following support:

1. Module notes
2. Reference books in the library
3. Magazines and Journals
4. Internet facility
5. Computing facility
6. Laboratory facility
7. Workshop facility
8. Staff support
9. Lounges for discussions
10. Any other support that enhances their learning

21. Quality Control Measures

Following are the Quality Control Measures:

1. Review of module notes
2. Review of question papers
3. Student feedback
4. Opportunities for the students to see their assessed work
5. Staff student consultative committee meetings
6. Student exit feedback
7. Subject Assessment Board
8. Programme Assessment Board

