1. **FST 3205 FOOD PRODUCT DEVELOPMENT**
2. **COURSE INSTRUCTOR:** Gaston A. Tumuhimbise (BSc. Food Science and Technology, MSc Food production Manaement, PhD Candidate)
3. **COURSE TYPE:**

**Core (BFST 111)**

1. **COURSE STRUCTURE:**

Course is 3 credit units (3 CU): 2 lecture hours and 2 practical hours per week for 15 study weeks; [i.e. 30 lecture hours & 30 practical hours, equivalent to 45 contact hours].

1. **COURSE DESCRIPTION**

The concepts of a food ‘product’, ‘new product’, product innovation, product development and product life cycles. Approaches to new food product development. Technologies in product formulation. Quality function deployment during product development. The role of research and development in product development.

1. **COURSE OBJECTIVES**

**General objective**

The commercial end result of food science is the delivery of acceptable foods to consumers. This course is designed to immerse students in the product development process using the product development team approach that is prevalent in the food industry

**Specific objectives**

1. To equip students with knowledge on how to identify the processes and stages required to bring a new food product from conception to commercialization.
2. To equip students with the knowledge on the technical and scientific data that must be available before a product can be manufactured.
3. To equip students with the practical skills of producing in the laboratory a prototype of a new product that has a high probability that it could be produced commercially
4. **3. RECOMMENDED READING LIST**
5. Fuller, G. W. (2005). *New food product development: from concept to market place* (2nd Edition ed.). Florida: CRC Press LLC.
6. Kotler, P. (1988). *Marketing management: Analysis, planning and control* (6th edition ed.). Englewood Cliffs-New Jersey: Prentice Hall.
7. Meyer, R. (1984). Eleven stages of successful new product development. *Food Technology, 9*(2), 71-78.
8. Moskowitz, H. R., Porreta, S., & Silcher, M. (2005). *Concept research in food product and development*. Ames-Iowa: Blackwell Publishing.
9. Resurrecion, V. A. (1998). *Consumer sensory testing for product development* (2nd Edition ed.). Michigan: Willey-Blackwell.
10. **4. COURSE CONTENT, METHODS OF INSTRUCTION, TOOLS AND EQUIPMENT REQUIRED**

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| **TOPIC** | **CONTENT** | **METHOD OF INSTRUCTION / Time allocated** | **TOOLS / EQUIPMENT NEEDED** |
| 1.Introduction to product development as a concept | * Definition of terms
* History of food product development
* Market growth opportunities
* Integrative vs Intensive market growth opportunities
 | Interactive lecture (3 hrs) | Chalk /Markers Blackboard/White boardLCD projector, Computer |
| 2. The marketing mix | * Definition of terms
* Price decisions
* Promotional tools
 | Interactive lecture (3 hrs) | Chalk /Markers Blackboard/White boardLCD projector, Computer |
| 3. Developing , Testing and Launching new products | * Definitions
* Types of new products
* Product formulation and specification
* Stages in new product development
* Consumer adoption of new food products

  | Interactive lecture (4 hrs)Practicals (22 hrs) | Chalk /Markers Blackboard/White boardLCD projector, Computer |
| 4. Product life cycle  | * Definitions
* Importance of product life cycle
* Stages in product life cycle
* Management of products through the life cycle
 | Interactive lecture (5 hrs) | LCD projector, Computer |
| Marketing research and information systems | * Definitions
* Definition of research problem
* Data collection instruments
* Research approaches and sampling procedures
 | Interactive lecture (3 hrs)Exercise (4hrs) | Chalk /Markers Blackboard/White boardLCD projector, Computer, Flip charts |
| Product quality | * What does quality mean?
* Communication of product quality
* Management of quality through time
* Packaging and labeling
 | Interactive lecture (4 hrs)Practical (3 hrs | Chalk /Markers Blackboard/White boardLCD projector, Computer, Flip charts |
| 7. Product assessment  | * Evaluation of quality attributes
* Safety assessment
* Shelf-life assessment
* Regulation compliance
* Determination of acceptable variance-control limits
 | Interactive lecture (4 hrs)Practical (5 hrs) | Chalk /Markers Blackboard/White boardLCD projector, Computer, Flip charts |

1. **SUMMARY OF TIME NEEDED**

Interactive lectures covering theory 30 hrs

Laboratory -based practicals 30 hrs

1. **OVERALL COURSE EVALUATION**

Continuous Assessment Test 10%

Product developed and report 30%

University examination 60%