

## **Module Synopses**

### **Semester 1 - PDC 1 Food Product Innovation**

#### **Module 1 - Food Product Design**

The aim of this module is for students to gain a deeper understanding of the approach by which consumers' needs; identified through design thinking process are translated into innovative and commercially viable products. There is also an analysis of the innovation process with emphasis on factors such as constraints of time, cost and manufacturing issues.

#### **Module 2 - Consumer and Sensory Studies**

This module aims to provide deeper knowledge and practical tools in experimental design and sensory analysis. Case studies combined with hands-on sessions using statistical methods needed for sensory and consumer insight work will be used to reinforce understanding in this field.

#### **Module 3 - Food Legislation**

This module exposes students to the practical issues with regard to the regulatory issues in the commercialisation of new food products for key markets. Students will apply the knowledge to evaluate ingredients, products and process for compliance with national and international regulations.

### **Semester 2 - PDC 2 Food Processing**

#### **Module 4 - Sustainable Food Manufacturing**

This module analyses the sustainability issues in food manufacturing. Students will be exposed to novel technologies and processes for converting food wastes to value-added products. The concepts and application of Lean Six-Sigma System will be introduced and applied to improve food processes in order to eliminate waste, decrease variation, enhance product quality and increase productivity.

#### **Module 5 - Applied Food Packaging**

This module offers opportunities to integrate their knowledge of food chemistry with packaging design and materials science. Students will gain competency in applying food packaging knowledge into the shelf life assessment of food products in accordance with performance, economics, and brand value for the company.

#### **Module 6 - Food Operations Management**

This module aims to provide students with an insight into the roles and functions of food operations management in a holistic manner. Blended learning will be adopted to facilitate students' understanding in project management, risk management, selection and management of technology, design of work systems and facilities planning.

## **Semester 3 - PDC 3 Food Safety and Quality Management**

### **Module 7 - Applied Food Analysis**

This module aims to provide an overview of the strategies in the selection of appropriate instrumental techniques. Through case studies, students will apply the strategies in method development, validation and estimation of measurement uncertainty.

### **Module 8 - Advanced Food Microbiology**

This module explores advanced topics in food microbiology including biofilm formation and the pathogenesis of foodborne pathogens and cutting-edge techniques to detect and identify microorganisms associated with food. Updates to microbiological standards, guidelines and specifications will also be discussed.

### **Module 9 - Food Safety Management System**

This module emphasizes auditing techniques using the key concepts of different food safety management systems like ISO22000, British Retail Consortium (BRC) and crisis management programme. Students will work on case studies to deepen their understanding of safety management including current Good Manufacturing Practices (cGMP) and Hazard Analysis Critical Control Point (HACCP) system.

### **Module 10 - Capstone Project**

The capstone project, designed by the company mentor and SP facilitator, allows trainees to apply their knowledge, analytical and trouble-shooting skills specific to his/her area of work. Through the project, students will develop a better understanding of the complex process of safe food production.