CL908 Food Inspection and Control

Module Code: CL908  Module Title: Food Inspection and Control

Module Registrar: Dr. Raymond Wong  Taught To (Course): MSc Environmental Health

Other Lecturers Involved:  Credit Weighting: 10  Semester: 2

Compulsory/optional/elective class: Compulsory  Academic Level: 5

Prerequisites: None

Module Format and Delivery (hours):

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<tr>
<th>Lecture</th>
<th>Tutorial</th>
<th>Assignment</th>
<th>Site Visit</th>
<th>Private Study</th>
<th>Total</th>
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<tr>
<td>24</td>
<td>12</td>
<td></td>
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General Aim

The aim of this credit is to give the student the understanding of the need for and the principles and methods of food inspection and control. Development of the teaching contents is focussed on the emphasis to safeguard public health (e.g. food inspections and audits).

Specific Learning Objectives

- To facilitate the understanding of the Codex Alimentarius for the application of the principle of hazard analysis in the food industry.
- To provide an appreciation of non-legislative control in the food sector through the use of technical standard.
- To understand the factors affecting the spoilage of food and associated economic consequences.
- To become familiar with the process control through the construction of flow charts and management system.
- To provide confidence in the practical application of process control through audit and inspection methodologies.
- To become familiar with the properties and identification of various foodstuffs, e.g. meat, fish, fruit and vegetables, ambient food.
- To understand the importance of meat and fish hygiene and quality and legislation.

Syllabus

- **Food Hazards**
  Microbiological Hazards – Understanding of microbiology, foodborne bacteria, toxins, requirement for bacterial growth & survival, bacterial food-borne illness, viruses, parasites, fungi.
  Chemical Hazards - naturally occurring chemicals: plants, fish, shellfish, mycotoxins; introduced chemicals: residues, environmental contaminants, additives, inappropriate practices.
  Physical Hazards - intrinsic and extrinsic contamination.
  Allergen Hazards – food allergy and food intolerance.

- **Introduction to the Principles of HACCP**
  Foundation and recent development of HACCP; Use and Benefits of HACCP; Examples of What Can Go wrong; Traditional Quality Control versus HACCP; Seven Principles of HACCP; Main Offences & ‘Due Diligence’ Defence.
  HACCP Implementation: The Team; Process Flow Chart & Diagram; Control Measures; Monitoring; Corrective Action; Risk Assessment & Calculation; Critical Control Point; Critical Limit & Target Level.

- **Practical Exercise: How HACCP Work**
  Exercise 1: Cooked Chicken; Exercise 2: Boiled Rice; Exercise 3: Fried Rice
Auditing
Inspection vs Audit; Audit Stages – Preparation, Opening Meeting, Actual Audit, Closing Meeting, Records and Reporting; Essentials of Auditing; Risk Assessment; Identification of Critical Control Points; Monitor & Records for Examination; Purpose and Benefits of Audits; Auditor Qualities; Checklist – Advantages & Disadvantages; Documentation; Discussion – Positive & Negative.

Managing Food Safety - ISO 22000
British Retail Consortium; BRC Global Standard on Food; BRC/IoP Packaging Standard; Benefits of the Standard; Development of ISO 22000:2005; Relationship with ISO 9001:2000; Understanding the requirements of ISO 22000 – Key Elements; Differences with other Food Safety Standards.

Food Inspection & Control – Red Meat
Average Composition of Meat; Post Mortem Changes in Meat; Animal Enteric Pathogens; Microbial Contamination of Meat; Bovine, Ovine Production; Prevention of Contamination; Transport; Slaughter Lairage; Ante Mortem Inspection; Slaughter Process; Post Mortem Inspection; Carcase Washing; Chilling.

Food Inspection & Control – Fish
Pelagic Fish (Fatty Fish); Demersal Fish; Fresh Water Fish; Shell Fish or Molluscs; Crustacea; Fat Content of Fish; Microbiology of Fish; Food Borne Illness Associated with Fish - Scrombrototoxic Poisoning, Shellfish Poisoning; Spoilage of Fresh Fish; Fresh Fish Inspection; Evidence of Freshness; Crustaceans; Fish Transport; Smoke Cured Fish.

Food Inspection & Control – Fruits & Vegetables
Vegetables: Spoilage; General Composition of Higher Plants; Vegetable Composition; Spoilage of Vegetables; Soft Rot; Other Spoilage Conditions.
Fruits: Contents; Important Fruit Spoilage Moulds; Yeasts on Fruit; Storage Methods - Cold storage in air, Controlled atmosphere storage, Transport, Retail storage;

Food Inspection & Control – Eggs
Production Site; Poultry House; Egg Collection Procedures; Egg Storage on Farm; Eggs in Transit; Egg Grading and Packing; General Hygiene; Staff Hygiene; Egg Handling; Packing and Labelling; Storage, Distribution; Eggs at Wholesalers; Eggs at Caterers; Eggs at Retailers.

Invited Presentation from Professional Body/Industry: e.g. British Standards Institution
Practical – Food table (Around 60 food samples covering: Meat, Fish, Seafood, Fruits, Vegetables, Nuts, Ambient Food, Refrigerated Food)

Assessment Method(s) Including Percentage Breakdown and Duration of Exams

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<tr>
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<th>Duration</th>
<th>Weighting %</th>
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<tr>
<td>Examination</td>
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<tr>
<td>Coursework</td>
<td>No. of Assignments</td>
<td>Weighting %</td>
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Coursework / Submission deadlines: None

Main Text Books

Hygiene for Management by Richard A Sprenger, Highfield Publications ISBN 1 871912 60 1


A Guide to HACCP by Donald J Macdonald and Dagmar Engel, Highfield Publications ISBN 1 871912 90 3

HACCP in Microbiological Safety and Quality (Book 4) by The International Commission on Microbiological Specifications for Food (ICMSF), Blackwell Scientific Publications ISBN 0-632-02651-0


Date of Last Modifications: 1 September 2012