

Food and Nutritional Sciences

The Food and Nutritional Sciences Programme is jointly offered by the Departments of Biochemistry and Biology.

Course List

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Course Description

FNS 0411

Directed Research in Food and Nutritional Sciences I

2 U; 2 STOT; 1st term

In this course, students will undertake a small research project under the supervision of a faculty member. Research work will commence during the summer vacation immediately preceding the student's final year of attendance. The results of the research, as they relate to the recent relevant literature, will be presented as a seminar during the final year.

FNS 0421

Directed Research in Food and Nutritional Sciences II

2 U; 2 STOT; 2nd term

Students will meet periodically with the supervisor to discuss and interpret their research data. These discussions will culminate in the production of a comprehensive written report which will be submitted for assessment at the end of the student's final term of attendance.

FNS 2000

Aspects of Food and Nutritional Sciences

2 U; 2 Lect.; 1st term

This course will provide an overview of various topics in food and nutritional sciences. Lectures will include discussions of specified areas of interest chosen to stimulate and foster students' interest in food and nutritional sciences. The students will be exposed to some issues of current scientific, medical and technological significance.

FNS 2010

Fundamentals of Human Physiology

3 U; 3 Lect.; 1st term

This course involves the study of the functions of the human body, including homeostasis and negative feedback in control of physiological parameters; transport mechanisms; body fluids and the cardiovascular system; the respiratory system: pulmonary function, mechanics of respiration, O₂ and CO₂ exchange and transport; the provision of nutrients and the gastrointestinal system; the renal system and elements of renal function; the nervous system; the endocrine system; sensory physiology; and immunology.

FNS 2011

Fundamentals of Human Physiology Laboratory

1 U; 3 Lab.; 1st term

To accompany FNS 2010.

FNS 3010

Nutrition and Human Development

3 U; 3 Lect.; 2nd term

This course will introduce students to the study of human growth, development, nutrition and health. Particular reference will be made to dietary needs for growth and development and the importance of establishing healthy eating patterns. It includes coverage of pre-natal development, maternal nutrition, infant growth and feeding, growth and nutrition in childhood and adolescence, nutrition in the middle years, and ageing and nutrition.

FNS 3011

Nutrition and Human Development Laboratory

1 U; 3 Lab.; 2nd term

To accompany FNS 3010.

FNS 3030

Nutritional Biochemistry

3 U; 3 Lect.; 1st term

This component will provide students with the background required to appreciate the biochemical aspects of nutrition and the impact of nutrition-related factors on normal human biochemistry. Areas covered include the digestion and absorption of nutrients, energy intake and expenditure, nutrition and metabolism of carbohydrate, cholesterol homeostasis, metabolism of dietary fats and their effect on lipoprotein cholesterol, nitrogen metabolism, and minerals and vitamins and their roles in biochemical processes.

FNS 3031
Nutritional Biochemistry Laboratory
1 U; 3 Lab.; 1st term
To accompany FNS 3030.

FNS 3110
Food Chemistry and Analysis
3 U; 3 Lect.; 1st term
This course will cover the basic chemical and analytical aspects of major food components (water, carbohydrates, lipids and proteins) and minor food components (vitamins, minerals, pigments and food additives including flavors, colorants and preservatives). Emphasis will be made on the chemical reactions and changes in these food constituents during processing, handling and storage. The principles and applications of chemical and instrumental analysis of food will also be discussed.

FNS 3111
Food Chemistry and Analysis Laboratory
1 U; 3 Lab.; 1st term
To accompany FNS 3110.

FNS 4110
Food Technology
3 U; 3 Lect.; 2nd term
In this course, students will examine the principles behind food processing technology, including various conventional equipment used and their effects on the sensory, microbiological and nutritional quality of a range of foods e.g., meats, vegetables, fruits. Topics may also include food processing, waste management, etc., and basic principles of food engineering.

FNS 4111
Food Technology Laboratory
1 U; 3 Lab.; 2nd term
To accompany FNS 4110.

FNS 4120
Behaviour and Information Studies
3 U; 3 Lect.; 1st term
The major portion of this course will introduce the students to the design of surveys as an important tool of nutrition work. We will examine the survey as a research instrument: deciding objectives, collecting data by different methods and from special groups, statistical methods and objectivity, data management and interpretation, report writing, and new approaches to dietary assessment. The final portion of this course will introduce health behaviour theory, research, and practice as it is applied in nutrition interventions. It will draw from such fields as cognitive and organizational psychology, marketing, and communications in an attempt to explore some of the influences of food choice as well as methods in current use to influence health behaviour at the individual, interpersonal, and group levels.

FNS 4121
Behaviour and Information Studies Laboratory
1 U; 3 Lab.; 1st term
To accompany FNS 4120.

FNS 4130

Food Industry Economics and Management Studies

3 U; 3 Lect.; 1st term

This course is designed to develop an awareness of the applications of management in the food related industries, introducing students to the economic framework within which the food industry operates.

FNS 4131

Food Industry Economics and Management Studies Laboratory

1 U; 3 Lab.; 1st term

To accompany FNS 4130.

FNS 4140

Food Service Systems and Catering Studies

3 U; 3 Lect.; 2nd term

This course will cover the practical and organizational skills needed for basic food preparation. It will also include critical evaluation of food production and service systems - traditional and modern hospital catering; the determining factors in menu planning and their application to sectors of the catering industry; compilation of menus; recipe modification for large-scale production; costing aspects; product standardization and quality control; safety and hygiene aspects related to the storage, production and service of commodities; relevant statutory requirements for safe and hygienic practices within catering operations; the factors involved in the control and use of food commodities - purchasing, storage, preparation and service; and practical food preparation and service. Students will then be introduced to accepted food production and service techniques which will reinforce and apply to the above. Analytical skills will be applied in the appraisal of menu items, commodities and processes and their influence on consumer acceptability.

FNS 4141

Food Service Systems and Catering Studies Laboratory

1 U; 3 Lab.; 2nd term

To accompany FNS 4140.

FNS 4150

Introduction to Medical Nutrition Therapy

3 U; 3 Lect.; 1st term

This component will introduce the aetiology and dietary management of selected diet-related diseases including obesity; anorexia and other eating disorders; diabetes mellitus; cardiovascular disease including hyper-lipidaemias; diseases of the alimentary canal, liver, kidney and gall bladder; gout; cancer; pancreatitis and food allergies. It will also cover nutritional concern for AIDS patients and the interaction of drugs and nutrients. Medical nutrition therapy examines the theory behind the treatment of disease with the help of diet. The related applied aspects of dietetics, including the practical skills associated with the preparation, use and evaluation of special diets, and the development of interview and communication skills, will also be covered.

FNS 4151

Introduction to Medical Nutrition Therapy Laboratory

1 U; 3 Lab.; 1st term

To accompany FNS 4150.

FNS 4160

Nutrition Planning and Food Policy

3 U; 3 Lect.; 2nd term

This course will explore the historical emergence of food and nutrition policies from their multisectoral agricultural, population, health, environmental, economic, technological, and political origins. The class will investigate case studies from the international arena, but focus on Asian regional food and nutrition policy developments. Because nutrition promotion to the public is an integral component of these policies, a final portion of this course is devoted to the design of effective nutrition promotion and communication strategies for specific groups, including needs assessment, planning, implementation and evaluation.

FNS 4161

Nutrition Planning and Food Policy Laboratory

1 U; 3 Lab.; 2nd term

To accompany FNS 4160.

FNS 4170

Food Product Development and Quality Control

3 U; 3 Lect.; 1st term

This course explores various stages of food product development, and the importance of quality assurance. Topics include idea development, taste-panelling, shelflife, packaging, production, costing procedures, market research and advertising, commercialization, food ingredient functionality, food product optimization, food regulations, the ISO 9000 series of standards, HACCP, etc.

FNS 4171

Food Product Development and Quality Control Laboratory

1 U; 3 Lab.; 1st term

To accompany FNS 4170.

FNS 4180

Food Microbiology

3 U; 3 Lect.; 2nd term

This course considers the microorganisms in food safety, spoilage, and production. Topics discussed include food-borne disease agents and their control, food sanitation/ hygiene, growth parameters of food spoilage agents, destruction of microbes in food, food fermentations, and the biotechnology of microbes as a resource for the food industry. The principles and practices of modern and rapid analytical methods for monitoring microbiological qualities of foods will also be discussed.

FNS 4181

Food Microbiology Laboratory

1 U; 3 Lab.; 2nd term

To accompany FNS 4180.

FNS 4190

Food Toxicology

3 U; 3 Lect.; 2nd term

This course aims to give students an overview of food toxicology. Topics include the principles of toxicology, determination of food toxicants, toxicity testing, biotransformation, natural toxins in animal and plant foodstuffs, fungal toxins, industrial waste contaminants, pesticide residues, food additives and toxicants generated during processing.

FNS 4191
 Food Toxicology Laboratory
 1 U; 3 Lab.; 2nd term
 To accompany FNS 4190.

Study Scheme

1. Major Programme

Students are required to complete a minimum of 62 units of courses as follows:

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|--------|---|----------|
| (i) | Required Courses (Please see Note):
FNS 2000, 2010/2011, 3010/3011, 3030/3031, 3110/
3111, BCH 2010#/2710#, 2030#/2730#, BIO 2310/
2312#, 3410#/3412# | 38 units |
| (ii) | One group of elective courses from: | 24 units |
| (a) | Six elective courses with laboratories from:
FNS 4110/4111, 4120/4121, 4130/4131, 4140/
4141, 4150/4151, 4160/4161, 4170/4171,
4180/4181, 4190/4191; or | |
| (b) | Five elective courses with laboratories from those
listed in (ii)(a) plus STOT courses FNS 0411
and 0421; or | |
| (c) | Five elective courses with laboratories from those
listed in (ii)(a) plus one elective course with
laboratory from either BCH 4050#/4650#,
4060#/4660#, 4130#/4730#, BIO 4320#/4322#,
4410#/4412# or ENS 3320#/3920#; or | |
| (d) | Four elective courses with laboratories from
those listed in (ii)(a) plus one elective course
with laboratory from either BCH 4050#/4650#,
4060#/4660#, 4130#/4730#, BIO 4320#/4322#,
4410#/4412# or ENS 3320#/3920#, plus STOT
courses FNS 0411 and 0421. | |
| Total: | | 62 units |

to be included in the Major GPA as well

Recommended course pattern

<i>First Year of Attendance</i>	21 units
1st term : FNS 2000, 2010/2011, BCH 2010/2710	
2nd term : BCH 2030/2730, BIO 2310/2312	
<i>Second Year of Attendance</i>	21 units
1st term : FNS 3030/3031, 3110/3111, BIO 3410/3412	
2nd term : FNS 3010/3011 Plus one elective course with laboratory	
<i>Third Year of Attendance</i>	20 units
The rest of elective courses not yet taken from (ii)	
Total: 62 units	

Note: Students should obtain Grade “D” or above in the courses of FNS 2000, 2010/2011, BCH 2010/2710, 2030/2730, and BIO 2310/2312. Otherwise, they are required to repeat the courses. Students who cannot meet the Grade “D” requirement in any one of the courses mentioned above after two attempts will be required to withdraw from the University. Please refer to Reg. 15.2(d) of the General Regulations Governing Full-time Undergraduate Studies.

2. *Faculty Language Requirement*

(Please refer to the “Faculty Language Requirement” of Faculty of Science for details)