### School of Biological Sciences Faculty of Science The University of Hong Kong Food & Nutritional Science Major/Minor Prof. Jetty C.Y. Lee

Lead Curriculum Coordinator Faculty, Academic & Course Selection Adviser for Food & Nutritional Science Chair, Undergraduate Teaching (SBS) Email: jettylee@hku.hk





## Since 1991 First Food & Nutrition Programme Established in **Hong Kong**





港大混合益生菌新法

EREE

港大研益生菌醫肝癌 低廣治療方案 已由國際專利



HKU biologists reveal how obesity damages the skeletal muscle metabolism A naturally occurring flavone is identified as a potential drug for obesity treatment By Eric Lee Nov 24th 2021



Increasing efficiency of cereal straw for biofuel production May 04th 201



港大研混合益生菌 望低成本抗胆



engineering Nov 09th 2017



Poor Dietary Habits May Increase the Risk Factors for AMD Developmen











HKU scientists discover activation mechanisms in soybean for adaptation to saline soil in hope of improving agriculture productivity By Eric Lee











HKU-led research reveals hidden sources of non-nutritive and lowcalorie sweeteners in pre-packaged foods Jul 14th 2021

A recent study led by Assistant Professor Dr Jimmy Chun Yu LOUIE, and BSc (Food and Nutritional Sciences



in all



## **COMPULSORY**

## Must take all courses

1. Introductory level courses (60 credits)				
Disciplinary Core Courses: Science Foundation Courses (12 credits)				
SCNC1111	Scientific method and reasoning (6)			
SCNC1112	Fundamentals of modern science (6)			
Disciplinary Core Courses (36 credits)				
BIOL1110	From molecules to cells (6)			
BIOL1201	Introduction to food and nutrition (6)			
BIOL2101	Principles of food chemistry (6)			
BIOL2103	Biological sciences laboratory course (6)			
BIOL2220	Principles of biochemistry (6)	Take either BIOL2220 or BIOC2600 to fulfill this 36 credits requirement, but not both. BIOL2220 and BIOC2600 are mutually exclusive.		
BIOL2512	Applied statistics in food and nutrition (6)			
BIOC2600	Basic biochemistry (6)	Take either BIOL2220 or BIOC2600 to fulfill this 36 credits requirement, but not both. BIOL2220 and BIOC2600 are mutually exclusive.		

## **DISCIPLINARY ELECTIVES**

### Take 2 courses

Disciplinary Electives (12 credits)At least 12 credits selected from the following courses:CHEM1042General chemistry I (6)CHEM2442Fundamentals of organic chemistry (6)GEOG2013Sustainable development (6)GEOG2152Health and medical geography (6)GEOG2154Healthy food, place, and sustainability (6)

## **Advanced level: COMPULSORY**

## Must take all courses

2. Advanced level courses (30 credits)Disciplinary Core Courses (12 credits)BIOL3202Nutritional biochemistry (6)BIOL3203Food microbiology (6)

### **Advanced level: ELECTIVES**

#### Choose 3 courses (two must be BIOL3XXX and/or BIOL4XXX)

<b>Disciplinary Elective</b>	s (18 credits)			
At least <u>12 credits of advanced level BIOL3XXX and/or BIOL4XXX course from the list below:</u>				
BIOL3204	Nutrition and the life cycle (6)			
BIOL3205	Human physiology (6)			
BIOL3207	Principles of toxicology (6)			
BIOL3209	Food and nutrient analysis (6)			
BIOL3211	Nutrigenomics (6)			
BIOL3216	Food waste management (6)			
BIOL3217	Food, environment and health (6)			
BIOL3218	Food hygiene and quality control (6)			
BIOL3606	Diet and disease (6)	Changed to BIOL4616 Diet &		
BIOL3608	Food commodities (6)	chronic diseases		
BIOL4201	Public health nutrition (6)	Changed to BIOI 3602		
BIOL4202	Nutrition and sports performance (6)	Sports nutrition		
BIOL4205	Food technology (6)			
BIOL4209	Functional foods (6)			
BIOL4411	Plant and food biotechnology (6)			
BIOC3606	Molecular medicine (6)			
STAT3617	Sample survey methods (6)			
GEOG3202	GIS in environmental studies (6)			
POLI3121	Environmental policy (6)			
BBMS4004	Public health genetics (6)			

## We ENDORSE your SPECIALTY Specialization Certificate (Issued by the School of Biological Sciences)

## **Areas for Specialization:**

### Nutrition and Public Health: help

students to prepare for further studies or career related to dietetics, public health and/or nutrition, 'Shows your strength as a nutritionist for a community'





Food Security: interdisciplinary studies on global development related to food, environment, health and sustainability, 'Shows your strength as a potential advisor, stakeholder and/or contributor in global awareness, education and policy~ESG'

## **Specialization**

4. Those who want to specialize in the Nutrition and Public Health Studies should pass the following course: Introduction level courses - 2 Disciplinary Core Courses: Science Foundation: SCNC1111 and SCNC1112; 6 Disciplinary Core Courses: BIOL1110, BIOL1201, BIOL2101; BIOL2102, BIOL2103, BIOL2220 or BIOC2600; 2 Disciplinary Electives: CHEM1042 and CHEM2442.

Advanced level courses - 2 Disciplinary Core Courses: BIOL3202 and BIOL3203; any <u>3 Disciplinary Electives</u> with at least 2 must be at BIOL3XXX and/or BIOL4XXX in the list: BIOL3204, BIOL3205, BIOL3207, BIOL3209, BIOL3211, BIOL3217, BIOL4616, BIOL4201, BIOL3602, BIOL4209, BIOC3606, STAT3617, and BBMS4004.Of which, student must take BIOL4616 and/or BIOL4201 to fulfil the requirement Capstone requirement: any 1 Capstone Course: BIOL3992, BIOL4922, BIOL4962, and BIOL4992.

5. Those who want to specialize in the Food Security Studies should pass the following course: Introduction level courses - 2 Disciplinary Core Courses: Science Foundation: SCNC1111 and SCNC1112; 6 Disciplinary Core Courses: BIOL1110, BIOL1201, BIOL2101; BIOL2102, BIOL2103, BIOL2220 or BIOC2600; 2 Disciplinary Electives: GEOG2013, GEOG2030, GEOG2152 and GEOG2154. Advanced level courses - 2 Disciplinary Core Courses: BIOL3202 and BIOL3203; any 3 Disciplinary Electives with at least 2 must be at BIOL3XXX and/or BIOL4XXX in the list: BIOL3207, BIOL3216, BIOL3217, BIOL3218, BIOL4816, BIOL3608, BIOL4201, BIOL4205, BIOL4209, BIOL4411, GEOG3202, POLI3121; STAT3617, and BBMS4004. Of which, student must take BIOL4411 and/or BIOL4205 to fulfil the requirement Capstone requirement: any 1 Capstone Course: BIOL3992, BIOL4922, BIOL4962, and BIOL4992.

It is <u>NOT</u> written in HKU transcript. School of Biological Sciences (SBS) will issue a certificate of specialization when you complete your BSc in FNS



# **FNS CAPSTONE**



- Project (Final year and directed studies)
- Internship (hospital, food companies, NGO, field course research)





of dishes zed for

Mixed Fruits.







diet and orders

# **FNS Syllabus (Minor)**

# **COMPULSORY**

## Choose 2 courses

Required courses (36 credits) 1. Introductory level courses (12 credits) Disciplinary Electives (12 credits)				
At least 12 credi	its selected from the following courses:			
BIOL1110	From molecules to cells (6)			
BIOL1201	Introduction to food and nutrition (6)			
BIOL2101	Principles of food chemistry (6)			
BIOL2220	Principles of biochemistry (6)	Take either BIOL2220 or BIOC2600 o fulfill this 12 credits requirement, but not both. BIOL2220 and BIOC2600 are mutually exclusive		
BIOC2600	Basic biochemistry (6)	Take either BIOL2220 or BIOC2600 o fulfill this 12 credits requirement, but not both. BIOL2220 and BIOC2600 are mutually exclusive.		

# **FNS Syllabus (Minor)**

### Advanced level: ELECTIVES Choose 4 courses

2. Advanced lev Disciplinary Fle	el courses (24 credits) ctives (24 credits)	
At least 24 cred	lits selected from the following courses:	
BIOL3202	Nutritional biochemistry (6)	
BIOL3203	Food microbiology (6)	
BIOL3204	Nutrition and the life cycle (6)	
BIOL3205	Human physiology (6)	
BIOL3207	Principles of toxicology (6)	[previous title: Food and nutritional toxicology (6) ]
BIOL3209	Food and nutrient analysis (6)	
BIOL3211	Nutrigenomics (6)	
BIOL3216	Food waste management (6)	
BIOL3217	Food, environment and health (6)	
BIOL3218	Food hygiene and quality control (6)	
BIOL 3606	Diet and disease (6)	Changed to BIOL4616 Diet & chronic diseases
BIOL3608	Food commodities (6)	
BIOL4201	Public health nutrition (6)	
BIOI 4202	Nutrition and sports performance (6)	Changed to BIOL3602 Sports nutrition
BIOL4205	Food technology (6)	[previous title: Food
		processing and engineering (6)]
BIOL4209	Functional foods (6)	
BIOL4411	Plant and food biotechnology (6)	

1 course = 6 credits

## **NO SPECIALIZATION**

# **Food & Nutritional Science Lab**

#### The Kadoorie Biological Sciences Building

- FNS Teaching Laboratory (1/F)
- Kitchen & Nutrition Room (5/F)
- Analytical Laboratory (5/F)

## Where do FNS Graduates go?



# Jobs



# We GUIDE Students to a Career Path

#### **Disciplinary core courses**

6 Foundation courses

#### **Disciplinary electives**

 2 Courses (depends on Specialization)

#### Advanced Disciplinary electives

- Food microbiology
- Nutritional biochemistry



### Centre for Food Safety

The Government of the Hong Kong Special Administrative Region

#### Advanced disciplinary electives

- Principles of toxicology
- Food hygiene and quality control
- Food and nutrient analysis
- Food microbiology
- Food technology
   Capstone
- Internship e.g. quality assurance, quality control

- Quality control/quality
   assurance
- Hygiene inspector
- Food safety
- HACCP auditor license

# We GUIDE Students to a Career Path

#### Disciplinary core courses

6 Foundation courses

#### **Disciplinary electives**

 2 Courses (depends on Specialization)

#### Advanced Disciplinary electives

- Food microbiology
- Nutritional biochemistry



**Top Best Lee Kum Kee Sauce** 





#### Advanced disciplinary electives

- Principles of toxicology
- Functional foods
- Food commodities
- Food technology
- Food and nutrient analysis

#### Capstone

 Internship in food product development, knowledge of exchange projects

- Product development in industry
- Research and analytical laboratory e.g. DFI, Lee Kum Kee

## We GUIDE Students to a Career Path Dietitian (HKUSPACE, Australia, UK, Canada)

#### Disciplinary core courses

6 Foundation courses

#### **Disciplinary electives**

 2 Courses (depends on Specialization)

#### Advanced Disciplinary electives

- Food microbiology
- Nutritional biochemistry



#### Advanced disciplinary electives

- Nutrition and the life cycle
- Human physiology
- Molecular medicine
- Diet and chronic disease
- Public health nutrition

# Additional elective courses (not in the curriculum)

• 3-4 Courses

#### Capstone

- Final Year Project
- Food and nutritional science internship e.g. public health, community nutrition, health company, hospital authority, NGO

## We GUIDE Students to a Career Path

#### Disciplinary core courses

6 Foundation courses

#### **Disciplinary electives**

 2 Courses (depends on Specialization)

#### Advanced Disciplinary electives

- Food microbiology
- Nutritional biochemistry









#### Advanced disciplinary electives

- Nutrition and the life cycle
- Human physiology
- Diet and chronic diseases
- Public health nutrition

#### + Kinesiology Minor (HKU School of Public Health)

#### Capstone

- Final Year Project
- Food and nutritional science internship e.g. public health, community nutrition, health company, hospital authority, NGO
- Masters:
  - Physiotherapy
  - Occupational therapy
  - Clinical Speech therapy



Innovations that are guided by smallholder farmers, adapted to local circumstances, and sustainable for the economy and environment will be necessary to ensure food security in the future.

— Bill Gates —

ARKE

AZQUOTES







Clean label product examples

to Good Taste



#### Þ DOGCARE

## ergraduates to Research: preneurship



NATURAL & ORGANIC

SAFE FOR DOGS









微生態配方

A States

大型雙路醫療員院課題 自然醫师課約 化美皮膚













Omm UM



SBS have undergraduates from local and international countries

## **Undergraduates' Life at SBS FNS**



Student-Teacher Interaction



6













**Experiential** 

Learning

## **FNS Alumni**





**Everest Tsang** Hoi Yeung Tong Class of 2023 Class of 2022 Doctor of Veterinary Masters Physiotherapy Medicine University of PolvU Melbourne



Marlie Hung Class of 2022 PgD (Dietetics) HKUSPACE



Ivan Chim Class of 2022 Assistant Product Manager L'Oreal, HK



Max Chuen Class of 2022 MSc (Dietetics) UCL, UK



Natalie Kwong

Class of 2022

Graduate Trainee.

Cathay Pacific

Catering, HK



Celine Kosasih Class of 2021 Specialist, product development and innovation, Starbucks Asia Pacific



Michelle A Tjoa Lotte Lee Class of 2021 **Business Analyst** McKinsey & Co ΗK



Class of 2021 Corporate Management PG, Master of Food Trainee Jardine Restaurant Group, HK



Anahita Garq Class of 2021 Science, Cornell University



Carmen Lai Class of 2021 Senior Category Officer. GNC DFI Retail Group, HK



Vivian Choi Class of 2020 Regulatory Affairs Associate Reckitt. HK



Charis Cheung Class of 2020 **Business Analyst** Manulife, HK



Vivien Cheuna Class of 2019 Dietitian Eating Disorder Research Officer Australia



Tania Hartono Class of 2019 Global Digital Commerce National University of Tokyo, Japan



Harry Yau Class of 2017 PhD Scholar Singapore



Chaucer Ma Class of 2015 Mills Fabrica Digital Marketing



Amy Lau Class of 2013 New Product and Process Development UK Health Security Agency Specialist at Nestlé



Dr Victoria Wong Class of 2010 Senior Scientist



Dr Jimmy Louie PhD AdvAPD FRSPH Class of 2004 Associate Professor Swinburne University Australia (former Assistant Professor HKU FNS)

### Undergraduates of FNS Students: We CONNECT, Stay CONNECTED







## Prof. Jetty C.Y. Lee

Email: jettylee@hku.hk