

***School of Biological Sciences
Faculty of Science
The University of Hong Kong***

Food & Nutritional Science Major

Prof. Jetty C.Y. Lee

*Associate Director & Associate Professor (Teaching)
Lead Curriculum Coordinator of Food & Nutritional Science
School of Biological Sciences
Email: jettylee@hku.hk*



SCHOOL OF BIOLOGICAL SCIENCES
THE UNIVERSITY OF HONG KONG
香港大學生物科學學院

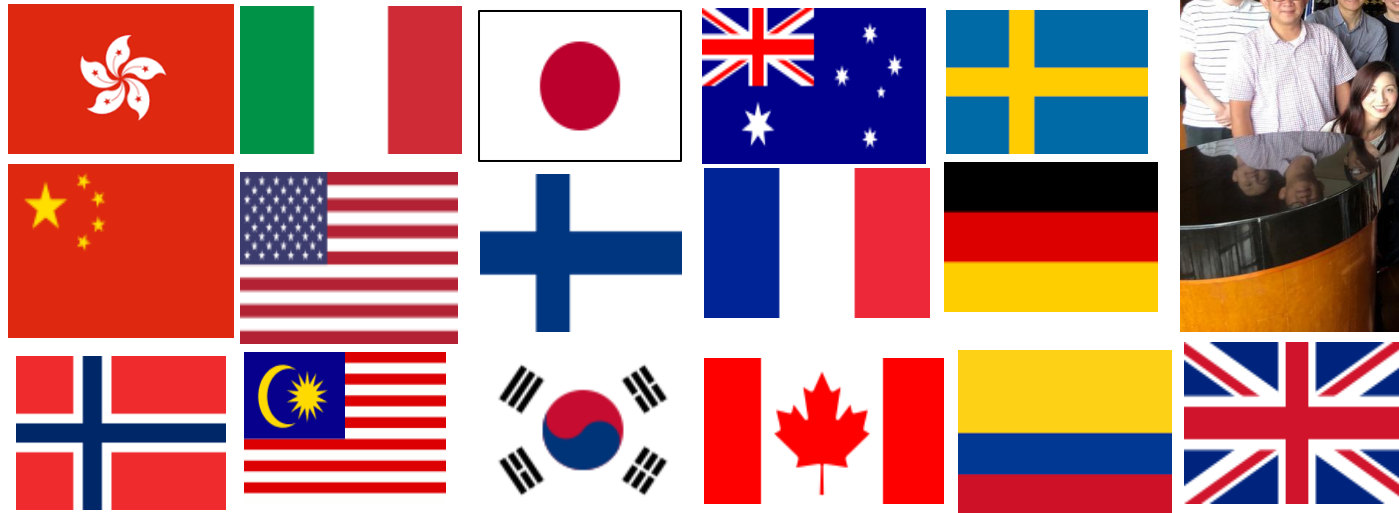
**SHKU
Science**



• **Our School:**

- 35+ academic staffs
- Asia, Australia, China, Canada, UK, Europe, USA
- 20+ post-doctoral fellows
- 150 research postgraduate students
- 18 technical and administrative staff

<http://www.biosch.hku.hk>



SBS Staff of multi-national



The Kadoorie Building

Biological Sciences

Coordinator
Prof. Benoit Guenard

Ecology & Biodiversity

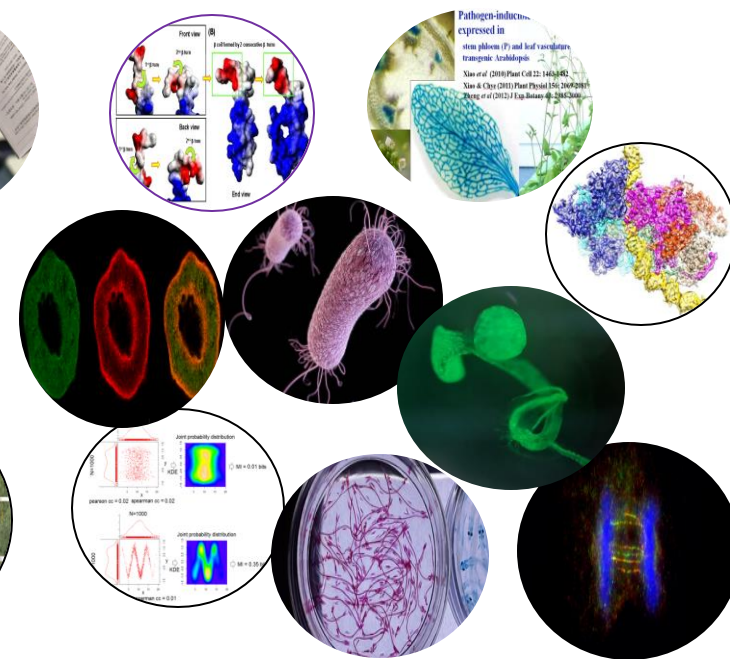
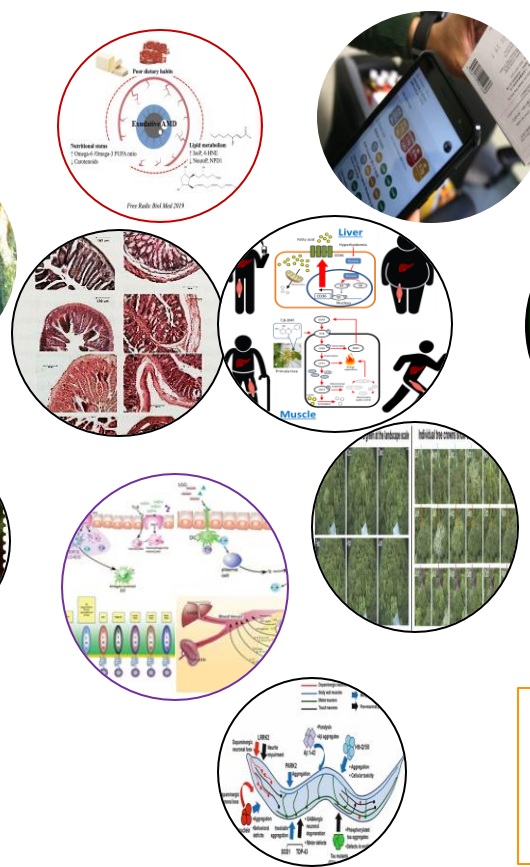
Coordinator
Prof. Bayden Russell

Food & Nutritional Science

Coordinator
Prof. Jetty C.Y. Lee

Molecular Biology & Biotechnology

Coordinator
Prof. Karen Yuen



BS, E&B, MB&B
Intensive Majors
Accredited by Royal
Society of Biology



Other Minor:

- Marine Biology

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



Nov 09th 2017



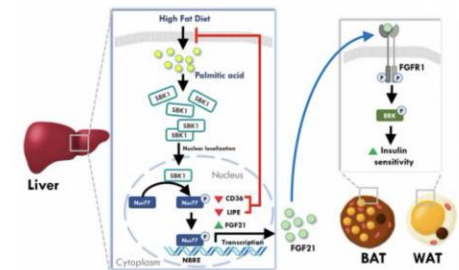
HKU nutrition scientist releases first report on Salt Content in Common Packaged Food Categories in Hong Kong and new food app to help Hongkongers make healthier food choices

Apr 19th 2018



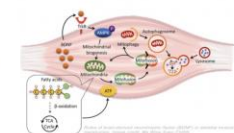
HKU biologists find a new protective factor against excessive lipid accumulation in the liver of obese mouse – providing a potential treatment for fatty liver disease 港大發現新型蛋白有效減少肝臟脂肪積聚 - 可緩解脂肪肝病徵

By Eric Lee
Apr 16th 2022



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 26th 2021



HKU dietetics research identifies low GI diet a potential Type 2 diabetes prevention strategy

By Eric Lee
Dec 08th 2020



Type 2 diabetes is a lifelong condition that causes blood sugar level to become too high and the complications could be life-threatening. Great fluctuations in post-meal blood glucose levels is suggested to be a contributing factor of type 2 diabetes development. Therefore, reducing post-meal blood glucose fluctuation is believed to be beneficial for type 2 diabetes prevention.

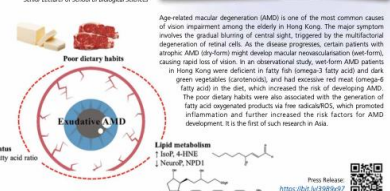
efficiency of cereal straw for production

May 04th 2017



Poor Dietary Habits May Increase the Risk Factors for MVD Development

By Dr Jetty Chung Yung LEE,
Senior Lecturer of School of Biological Sciences



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

By Eric Lee
Jan 13th 2022



Overexpression of truncated ACP4 variant promotes salt tolerance in soybean hairy roots. Scale bar = 1 cm



HKU-led research reveals hidden sources of non-nutritive and low-calorie 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) ...

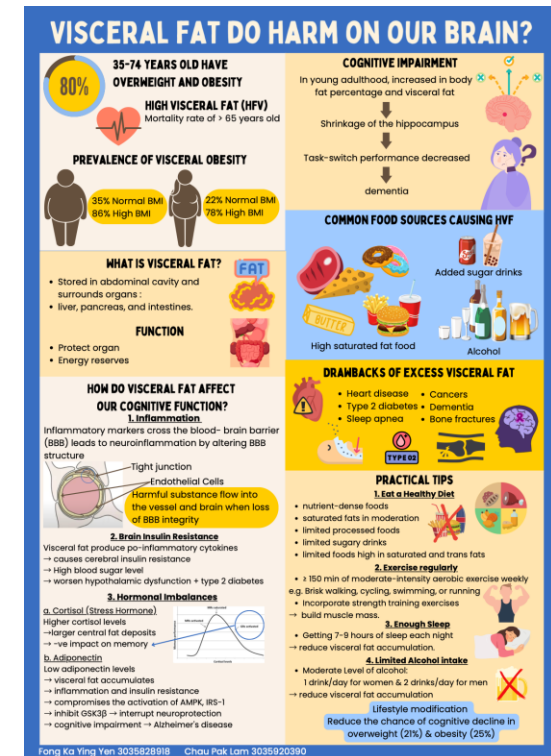
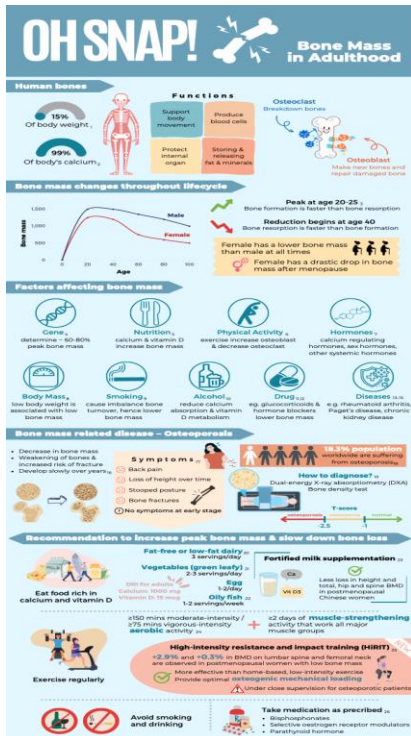
READ MORE

Food Science

TRANSLATE

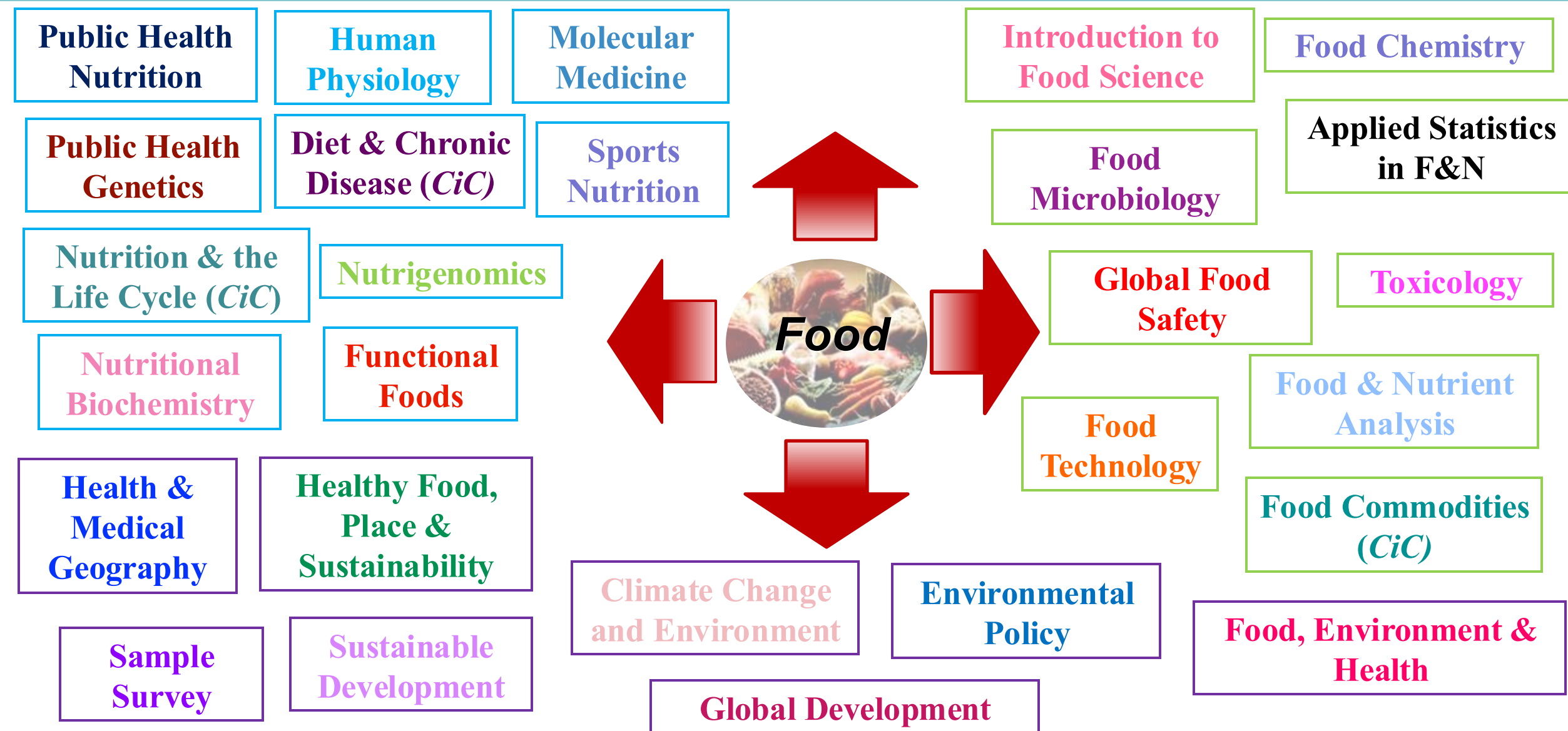
Security
Sustainability

Health
Nutrition





What do FNS students learn?



FNS Syllabus (Major)

COMPULSORY

Must take all courses

1. Introductory level courses (48 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)
BIOL2512	Applied statistics in food and nutrition (6)
BIOC2600	Basic biochemistry (6)

FNS Syllabus (Major)

Advanced level: COMPULSORY

Must take all courses

Disciplinary Core Courses (12 credits)

BIOL3202

Nutritional biochemistry (6)

BIOL3203

Food microbiology (6)

FNS Syllabus (Major)

Advanced level: ELECTIVES

Choose 5 courses (two must be BIOL3XXX and/or BIOL4XXX)

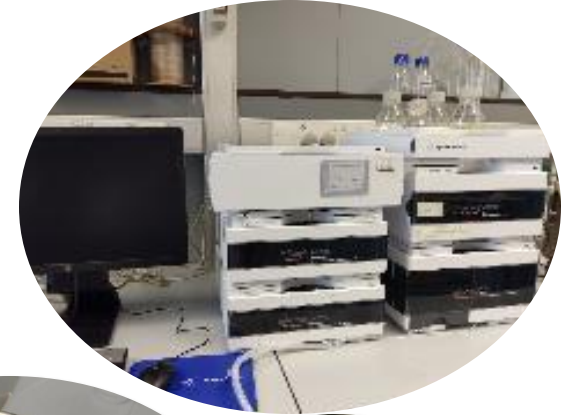
BIOL3204	Nutrition and the life cycle (6)
BIOL3205	Human physiology (6)
BIOL3207	Principles of toxicology (6)
BIOL3209	Food and nutrient analysis (6)
BIOL3211	Nutrigenomics (6)
BIOL3216	Food waste management (6)
BIOL3217	Food, environment and health (6)
BIOL3218	Global food safety (6)
BIOL3602	Sports Nutrition (6)
BIOL3608	Food commodities (6)
BIOL4201	Public health nutrition (6)

BIOL4205	Food technology (6)
BIOL4209	Functional foods (6)
BIOL4411	Plant and food biotechnology (6)
BIOL4616	Diet and Chronic Diseases (6)
BIOC3606	Molecular medicine (6)
SDST3617	Sample survey methods (6)
GEOG3203	Climate change and the environment (6)
POLI3121	Environmental policy (6)
BBMS4004	Public health genetics (6)

Food & Nutritional Science Lab

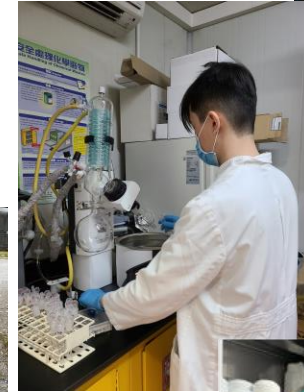
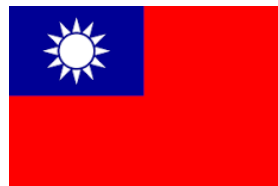
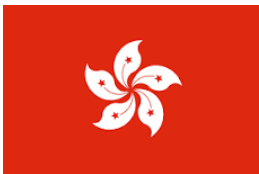
The Kadoorie Biological Sciences Building

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



FNS CAPSTONE

- Project (Final year and directed studies)
- Internship (hospital, food companies, NGO, field course research); University of British Columbia; University of Eastern Finland; Temasek Life Sciences, Singapore, (Deakin University, Australia)



Where do FNS Graduates go?



EATOLOGY



L'ORÉAL



Johnson & Johnson



Education Bureau
The Government of the Hong Kong Special Administrative Region



Dairy Farm

Jobs

- Marketing
- QA/QC
- Product Development
- Food Services (e.g. hotels, restaurants, catering)
- Logistics
- Procurement
- Nutritionists
- Health Inspectors
- Clinical Trial Unit
- Hospital Laboratory Technicians
- Research Laboratory
- Biotechnology
- e-Retail
- Entrepreneur
- Venture Capital



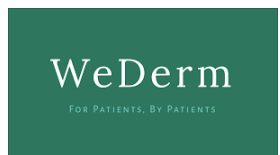
LKS Faculty of Medicine
Clinical Trials Centre
香港大學臨床試驗中心



Food and Environmental Hygiene Department
The Government of the Hong Kong Special Administrative Region



醫院管理局
HOSPITAL
AUTHORITY



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

- Principles of toxicology
- Global food safety
- 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

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



Top Best **Lee Kum Kee** Sauce
Reviews



- *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
- Sports nutrition
- Diet and chronic disease
- Public health nutrition

Additional elective courses (not in the curriculum)

- 3 Courses

Capstone

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



ONASH University



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
- Sports nutrition
- Diet and chronic diseases
- Public health nutrition

+ Kinesiology Minor (HKU School of Public Health)

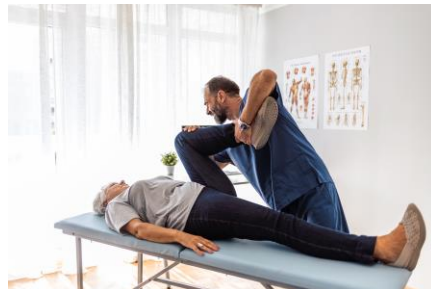
Capstone

- 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***



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’*

FNS Syllabus (Major)

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; BIOL2103, BIOL2220, BIOL2512 or BIOC2800.

Advanced level courses - 2 Disciplinary Core Courses: BIOL3202 and BIOL3203; any 5 Disciplinary Electives in the list (4 must be BIOL3XXX or BIOL4XXX): BIOL3204, BIOL3206, BIOL3211, BIOL3217, BIOL3602/BIOL4202, BIOC3606, STAT3617, and BBMS4004. One course - BIOL4201 or BIOL3606/BIOL4616; Free elective courses: 2 courses - CHEM1041, CHEM1042, CHEM1043, CHEM2442.

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; BIOL2103, BIOL2220, BIOL2512 or BIOC2800.

Advanced level courses - 2 Disciplinary Core Courses: BIOL3202 and BIOL3203; any 5 Disciplinary Electives in the list (4 must be BIOL3XXX or BIOL4XXX): BIOL3207, BIOL3209, BIOL3217, BIOL3218, BIOL3608, BIOL4201, BIOL4209, GEOG3203, POLI3121, STAT3617, and BBMS4004. One course - BIOL4205 or BIOL4411; Free elective courses: 2 courses - GEOG2013, GEOG2030, GEOG2152, GEOG2154

Capstone requirement: any 1 Capstone Course: |

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

FNS Syllabus (Minor)

COMPULSORY *Choose 2 courses*

Required courses (36 credits)

1. Introductory level courses (12 credits)

Disciplinary Electives (12 credits)

At least 12 credits 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)

BIOC2600	Basic biochemistry (6)
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Take either BIOL2220 or BIOC2600 to fulfill this 12 credits requirement, but not both. BIOL2220 and BIOC2600 are mutually exclusive.

Take either BIOL2220 or BIOC2600 to 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 level courses (24 credits)

Disciplinary Electives (24 credits)

At least 24 credits 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)
BIOL3209	Food and nutrient analysis (6)
BIOL3211	Nutrigenomics (6)
BIOL3216	Food waste management (6)
BIOL3217	Food, environment and health (6)
BIOL3218	Global food safety (6)
BIOL3602	Sports Nutrition (6)
BIOL3608	Food commodities (6)
BIOL4201	Public health nutrition (6)
BIOL4205	Food technology (6)
BIOL4209	Functional foods (6)
BIOL4411	Plant and food biotechnology (6)
BIOL4616	Diet and Chronic Diseases (6)

NO SPECIALIZATION

We GUIDE Students to a Career Path



To Doctor of Veterinary Medicine (DVM) at University of Melbourne (UoMelb)

★2 degrees from the 2 universities – the HKU BSc degree and the DVM in UoMelb in as fast as 7 years

Eligibility:

- Successful completion of a minimum of 6 semesters
- Gaining 186 credits under 6901 BSc programme



Articulation Pathways

Seamless articulation to widely recognised postgraduate programmes in HK and overseas

- In collaboration with the University of Melbourne (UoMelb) in Australia, HKU Science provide a pathway to BSc 6901 students of the following majors to articulate into the DVM of the UoMelb:
- Biological Sciences
- Molecular Biology & Biotechnology
- Ecology & Biodiversity
- **Food & Nutritional Science**

**Career Path –
Veterinary Doctor**

We GUIDE Students to a Career Path



Everest Tsang
Class of 2022 FNS
Doctor of Veterinary
Medicine University of
Melbourne

HKU BSc + UoMelb DVM

(Articulation pathway to the Doctor of Veterinary Medicine (DVM)
at the University of Melbourne)



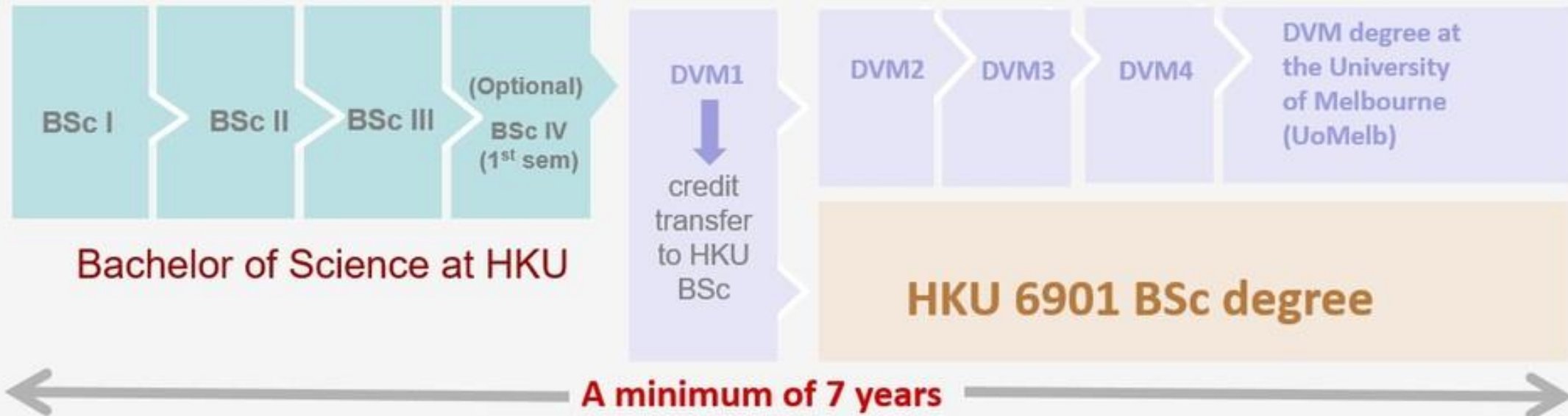
BSc (HKU)



New articulation pathway for pursuing
a career in veterinary



DVM (UoMelb)



We GUIDE Students to a Career Path

Articulation Pathways

Career Path – Prepare you to devote to industries or government labs



To Taught Postgraduate (TPG)
Programmes at HKU Science

4 years

6901 BSc



1 year or
1.5 years

**Full-time Taught Postgraduate (TPG)
Programmes at HKU Science**

Eligibility:

- Selected students in the Faculty who meet CGPA requirement will only need to pay 50% of the tuition fee

MSc(Food Industry: Management & Marketing)
MSc(Food Safety & Toxicology)

FNS Alumni



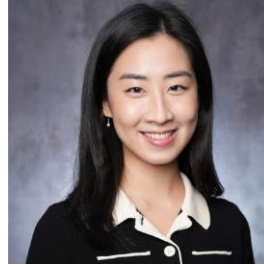
Winnie Ma
Class of 2024
MSc in Dietetics
Kings College, UK



Kelly Mok
Class of 2023
Clinical Operations
Partner, Roche
Hong Kong



Wing Ming (Samson) Cheung
Class of 2022
DPhil Student
University of Oxford
Croucher Scholar, UK



Marlie Hung
Class of 2022
PgD (Dietetics)
HKUSPACE



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



Rachel Fan
Class of 2021
Product Developer
DFI Retail Group, HK



Carmen Lei
Class of 2021
Private Practice Dietitian
in Aged Care
Australia



Lotte Lee
Class of 2021
KFC, Jardine
Restaurant Group, HK



Katie Cheng
Class of 2021
Graduate Recruitment Support
HSBC, HK



Anahita Garg
Class of 2021
Product Developer
SharkNinja, USA



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



Athena Ling
Class of 2020
Senior Procurement
Lee Kum Kee International
Holdings Ltd, HK



Dorothy Yeung
Class of 2020
Assistant Policy Researcher
Our Hong Kong Foundation



Yan Yee Charley Wong
Class of 2016
Senior Nutritionist
Nu Pharm Limited, HK



Harry Yau
Class of 2017
PhD Scholar
National University of
Singapore



Chaucer Ma
Class of 2015
Mills Fabrica
Manager: Partnership



Rosita Chu
Class of 2014
Business Manager
Johnson & Johnson
Innovative Medicine, HK



Amy Lau
Class of 2013
Product Developer
Unilever, UK



Dr Victoria Wong
Class of 2010
UK Health Security Agency
Senior Scientist



Dr Jimmy Louie PhD
AdvAPD FRSPH
Class of 2004
Associate Professor
Dietetics Programme Director
Swinburne University
Australia



Support Undergraduates to Research: Innovation & Entrepreneurship



Clean label product examples



Vitasoy Boisson De Soya Noir: Black Soy Drink (Singapore, Feb 2015)
Claims/Features: Made with non genetically engineered black soybeans.



Nature's Cuppa Organic Ceylon Tea (Malaysia, Mar 2015)
Claims/Features: Unbleached, chlorine-free tea bags, GMO-free. No artificial chemical, fertilizer, and pesticides. Certified organic, and no added artificial preservatives.



Owl Nightfield Soy Bean Curd Pudding (Singapore, Apr 2015)
Claims/Features: Non-GMO, organic, soybeans. Original. No preservatives, colors and flavors. Certified halal.



主持介紹



孔令喬 Keshia Kung
註冊藥劑師



林博謙 Water Lam
註冊營養師



Cathy
健身教練
健康身心靈內容創作



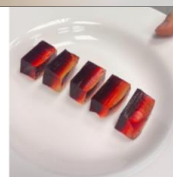
郭瑩瑩 Cherry Kwok
註冊中醫



黃穎童 Raine Wong
溫疹顧問



李健彰 Harrison Li
濕疹顧問
(The Eczema Manual)

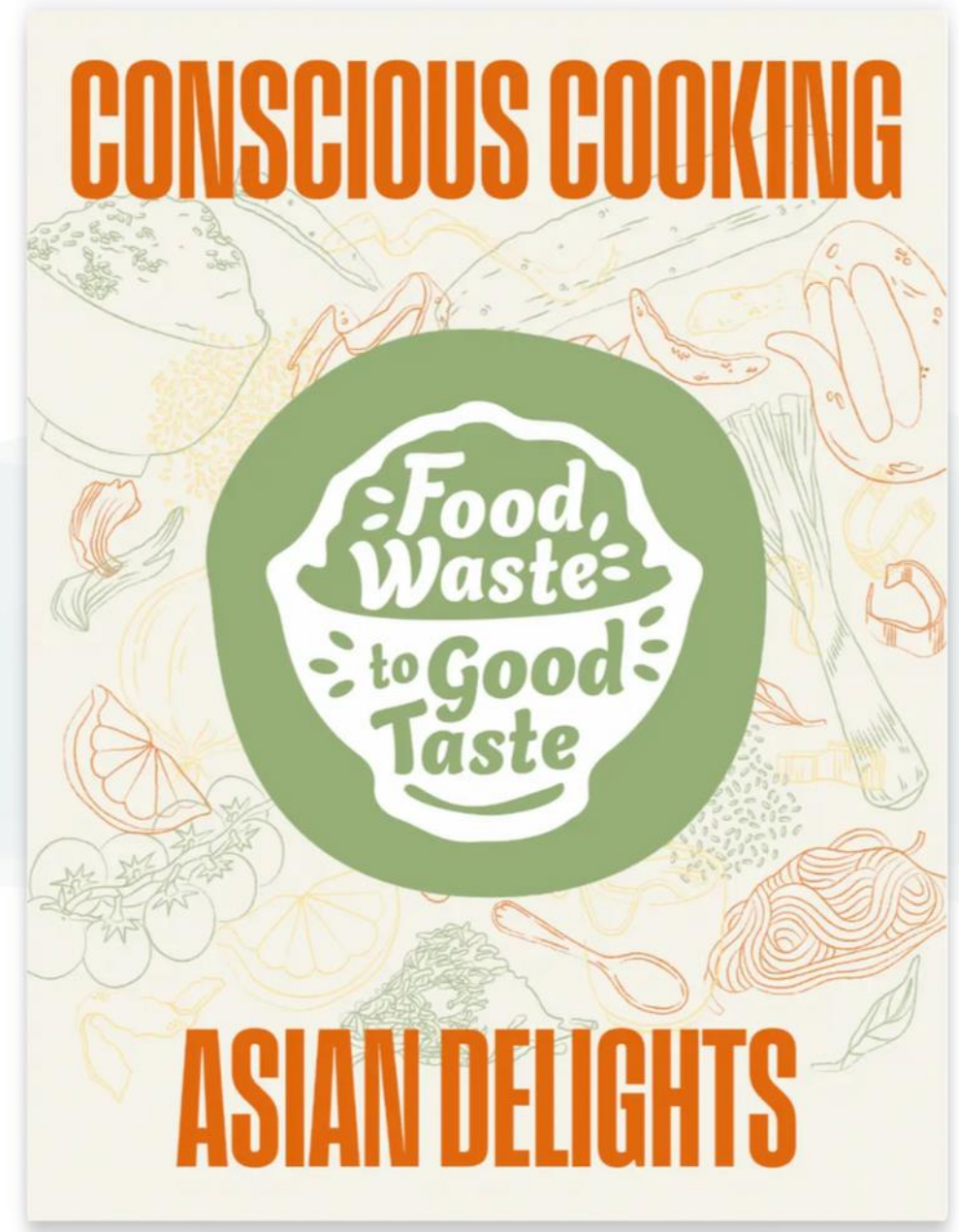


<https://www.youtube.com/watch?v=I6XISBWLop8&t=1s>

Launched in 2022, Food Waste to Good Taste began with educational and student innovation seminars to raise awareness about Hong Kong's food waste problem. The project then evolved to include hands-on workshops for F&B practitioners, providing them with practical skills and knowledge to minimise waste in their operations. This year's cookbook marks a milestone.

OUR COOKBOOK

Unlock the hidden potential of your kitchen scraps and unleash your inner chef with Conscious Cooking - Asian Delights. We transform often-overlooked ingredients into culinary delights, inspiring a culture of conscious cooking. Featuring recipes from nine of Hong Kong's top chefs passionate about reducing food waste, food-saving expert Carla Martinesi of CHOMP, and HKU students. This cookbook will be your guide to delicious and sustainable eating.



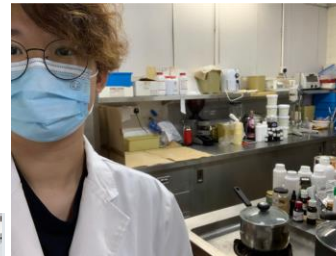
SBS have undergraduates from local and international countries

Undergraduates' Life at SBS FNS

Student-Teacher Interaction



Innovation



Experiential Learning



Undergraduates of FNS Students: We CONNECT, Stay CONNECTED





Prof. Jetty C.Y. Lee

Email: jettylee@hku.hk

*thank
you*