



School of Biological Sciences (SBS)

Major in Biological Sciences/
Major in Biological Sciences (Intensive)

Dr. Karen Yuen - Major Coordinator
Dr. Gary Chan – Deputy Coordinator



About us

School of Biological Sciences:

- **>40 Academic staff from > a dozen of nations (*Scientists in a global village*)**
- **~50 Technical and administrative staff**
- **~400 Undergraduate students (all SBS majors)**
- **~200 Postgraduate research students (PhD and MPhil)**
- **~30 postdoctoral fellows**



Major in Biological Sciences

- Designed for students seeking a **broad-based training in the concepts and methodologies of Biological Sciences**
- **Inquiry-driven** learning environment to understand and appreciate life processes at different levels of biological organization.
- Emphasizes on both **core concepts and applications**.
- Experiential learning activities (through **Capstone experience**).
- Emphasizes on **scientific analysis, critical thinking, organizational and communication skills (transferrable skills)**.
- Suitable for students entering the **research, teaching profession or pursuing careers that require comprehensive knowledge in biological sciences and scientific mind**.

Curriculum for Major in Biological Sciences

Category	Courses	No. of credits	%
University Education	Common core English Chinese	36 12 6	22.5
Major	Biological Sciences	96	40
Electives	Free choices or courses leading to a 2 nd major or minor (s)	90	37.5
Total		240	100

- A student usually takes 10 courses (6 credits/course) each year

Major in Biological Sciences

Requirement: 96 credits

- 1. Introductory Courses (48 credits)**
- 2. Advanced level courses (42 credits)**
- 3. Capstone requirement (6 credits)**

Major in Biological Sciences

1. Introductory Courses (48 credits)

Science Foundation Courses (12 credits)

- SCNC1111 Scientific method and reasoning
- SCNC1112 Fundamentals of modern science

Disciplinary Courses (36 credits)

- BIOL1110 From molecules to cells
- BIOL1309 Evolutionary diversity
- BIOL2102 Biostatistics
- BIOL2103 Biological sciences laboratory course
- BIOL2220 Principles of biochemistry (or BIOC2600)
- BIOL2306 Ecology and evolution

Major in Biological Sciences

2. Advanced level courses (42 credits)

Students will gain exposure and training in **three disciplinary areas:**

A. Genetics, Molecular & Cell Biology,

B. Ecology, Systematics, and Evolution

C. Physiology and Organismic Biology

A. Genetics, Molecular & Cell biology (at least 2 courses/12 credits)

BIOL3401 Molecular biology (6)

BIOL3402 Cell biology and cell technology (6)

BIOL3404 Protein structure and function (6)

BIOL3408 Genetics (6)

B. Ecology, Systematics and Evolution (at least 2 courses/12 credits)

BIOL3301 Marine biology (6)

BIOL3302 Systematics and phylogenetics (6)

BIOL3303 Conservation ecology (6)

BIOL3319 Tropical terrestrial ecology (6)

BIOL3506 Evolutionary biology (6)

C. Physiology and Organismic Biology

(at least one course/6 credits from each list)

List I

- BIOL3105 Animal physiology (6)**
- BIOL3205 Human physiology (6)**
- BIOL3403 Immunology (6)**
- BIOL3406 Reproduction and reproductive biotechnology (6)**
- BIOL3503 Endocrinology (6)**

List II

- BIOL3314 Plant structure and evolution (6)**
- ENVS3202 Plant physiology and climate change (6)**
- BIOL4411 Plant and food biotechnology (6)**

List III

- BIOL3109 Environmental microbiology (6)**
- BIOL3203 Food microbiology (6)**
- BIOL3508 Microbial physiology and biotechnology (6)**
- BIOL4401 Medical microbiology and applied immunology (6)**

Major in Biological Sciences

3. Capstone requirement (6 credits)

[Pre-requisites: Pass in at least 24 credits of advanced level disciplinary core/elective biological sciences courses (BIOL3XXX or BIOL4XXX) in the Biological Sciences Major] (usually by Year 3 2nd semester, summer or Year 4)

One of the following courses:

BIOL3994 Directed studies in biological sciences (6 credits)

BIOL4964 Biological sciences internship (6 credits)

BIOL4994 Biological sciences project (12 credits)

BIOL4964 Biological sciences internship

- At least **160 hours** valuable workplace training

Institutions, organizations and companies offering internship for Major in Biological Sciences in recent years:

HKU

- School of Biological Sciences, School of Biomedical Sciences, Faculty of Medicine, Department of Psychology

National University of Singapore

- Acoustic Research Lab

Al-Farabi Kazakh National University

HKSAR Government

- Agriculture, Fisheries and Conservation Department
- Leisure and Cultural Services Department

Prince of Wales Hospital

- Department of Obstetrics and Gynaecology

Ocean Park Hong Kong

World Wide Fund Hong Kong

Ecosystems Limited

Au Law Organic Farm

Geb Impact Technology Company Ltd

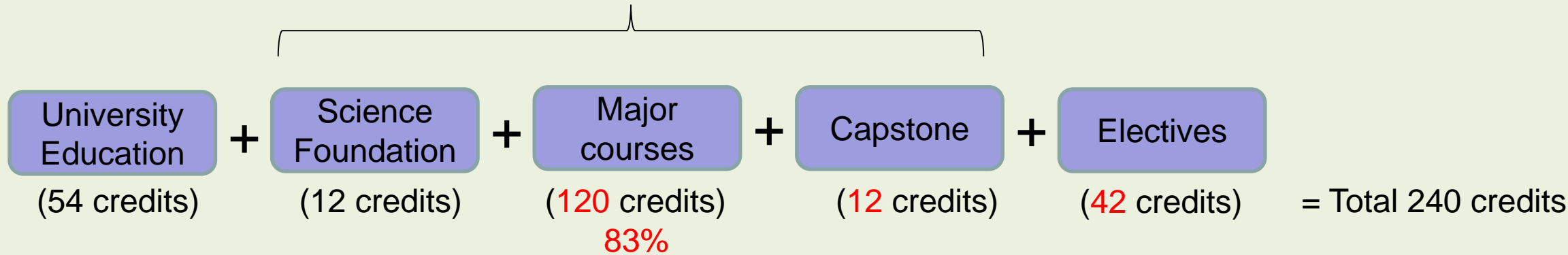
Tai Pan Bread and Cakes

Bright Future Pharmaceutical Laboratories

Avalon Biomedical (Management) Co. Ltd

Major in Biological Sciences (Intensive)

Intensive Major: 144 credits (96 in regular Biol Sci major)



Key features of the intensive major:

- Two additional introductory level courses: CHEM1042 and CHEM1043 (General Chemistry I & II)
- Five additional advanced level courses
- More disciplinary electives available for selection:
 - BIOL4416 Stem cells and regenerative biology
 - BIOL4417 Omics and systems biology
 - BIOL4302 Environmental impact assessment
 - BIOL3101 Animal behavior
 - BIOL3319 Tropical terrestrial ecology
- Capstone requirement: BIOL4994 Biological Sciences Project (12 credits)
- Accreditation by the Royal Society of Biology (UK) since 2017

Research Divisions for FYP or directed studies



Ecology and Biodiversity



Molecular and Cell Biology



<https://www.biosch.hku.hk/about-us/our-staff/>

Read about our faculty members' research & potential FYP

Large Scale Aquarium



Plant Growth Chamber



Facilities

Fresh Water Aquarium



Tissue Culture Room



Green House



Equipment

Analytical

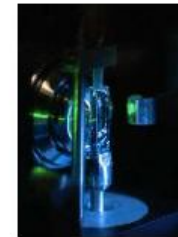


ICP-OES, PE Optima 8300



Real-Time PCR

Facilities



Flow cytometer



Atomic Absorption Spectrometer



LC/MS/MS



GC /MS



HPLC



Microcalorimeter,
GE Micro iTC 200



Confocal
microscope



Genetic Analyzer

Major in Biological Sciences graduates

Career prospects

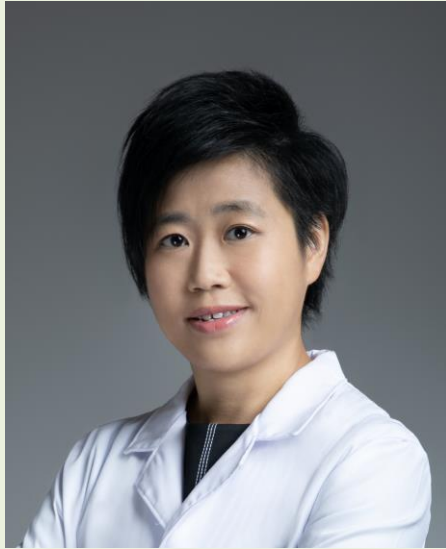
- *postgraduate studies (MPhil, PhD)*
- *secondary school teachers*
- *scientific officers*
- *technicians in pharmaceutical industry
healthcare industry, academic and
government laboratories*
- *environmental consultancy*
- *civil servants*

In Hong Kong and across the world



Major in Biological Sciences/ Major in Biological Sciences (Intensive)

Coordinator:



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For latest information on curriculum:

<https://webapp.science.hku.hk/sr4/servlet/enquiry?frmid=MenuP>