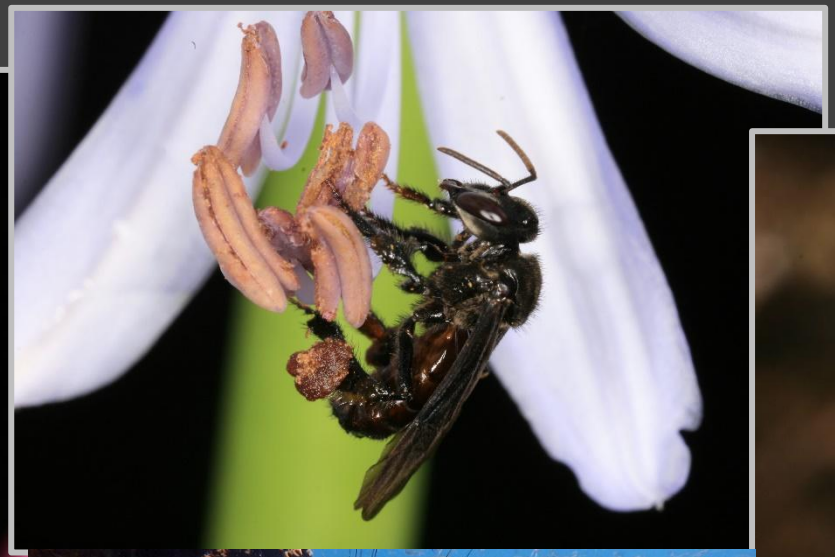
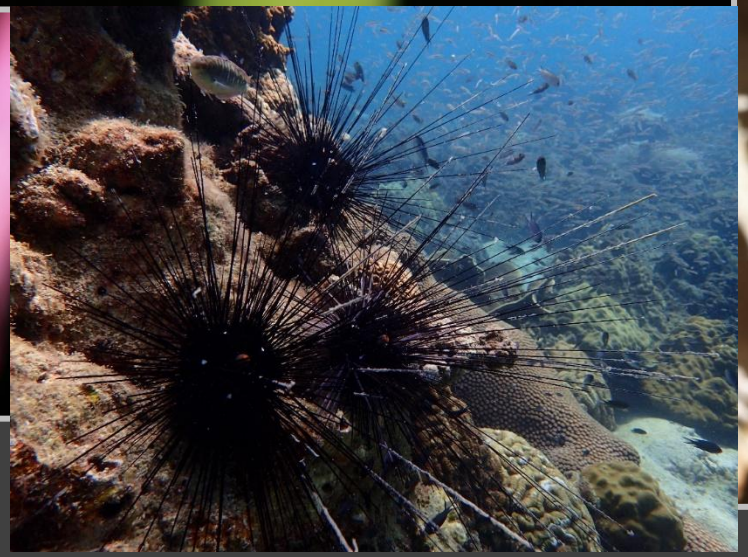
Ecology & Biodiversity

School of Biological Sciences



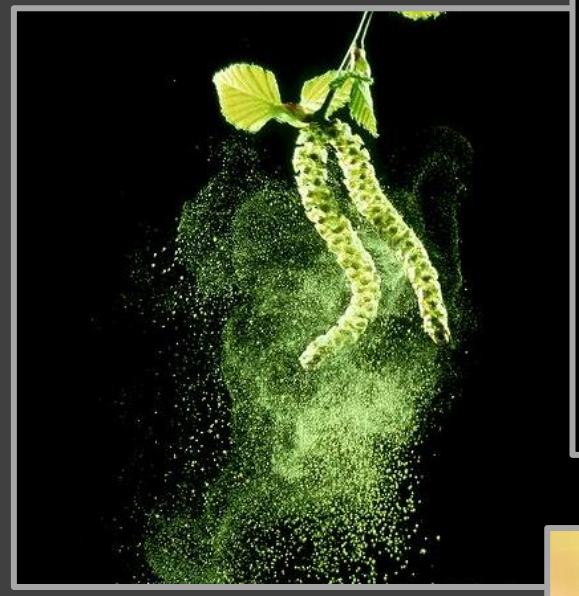


Bachelor of Science

Ecology & Biodiversity (Intensive, Major & Minor)

4-year curriculum

- Diversity of Life
- Interactions between species & their environment
- Regional & global threats on biodiversity



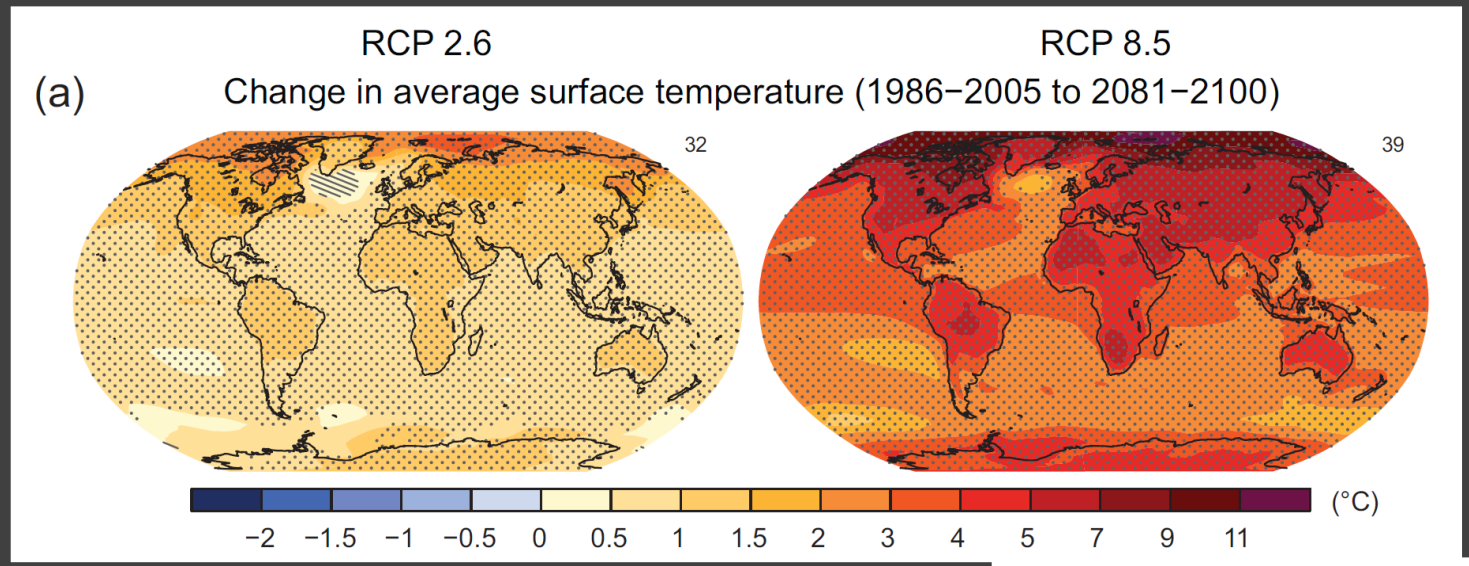
Why choose this major?

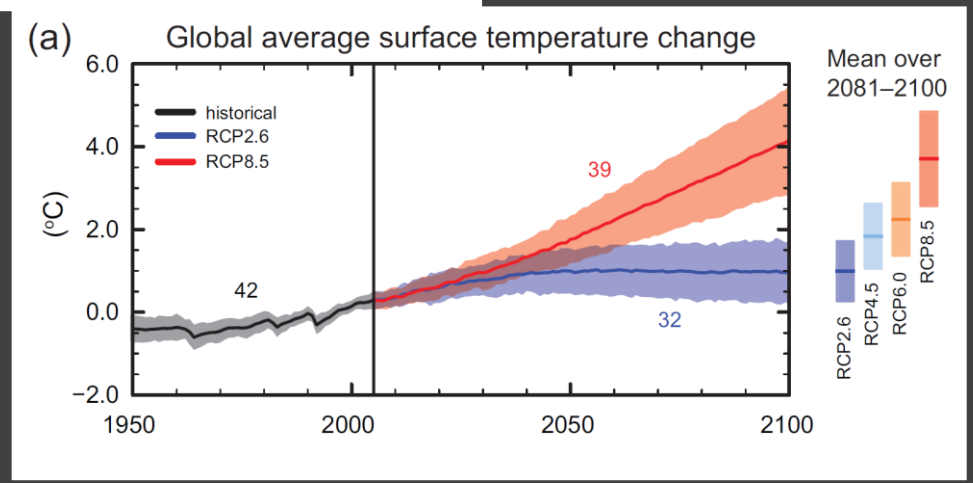
The world is in trouble…

We now live in the Anthropocene

Why choose this major?

The world is in trouble…





Why choose this major?

The world is in trouble…

Why choose this major?

The world is in trouble…

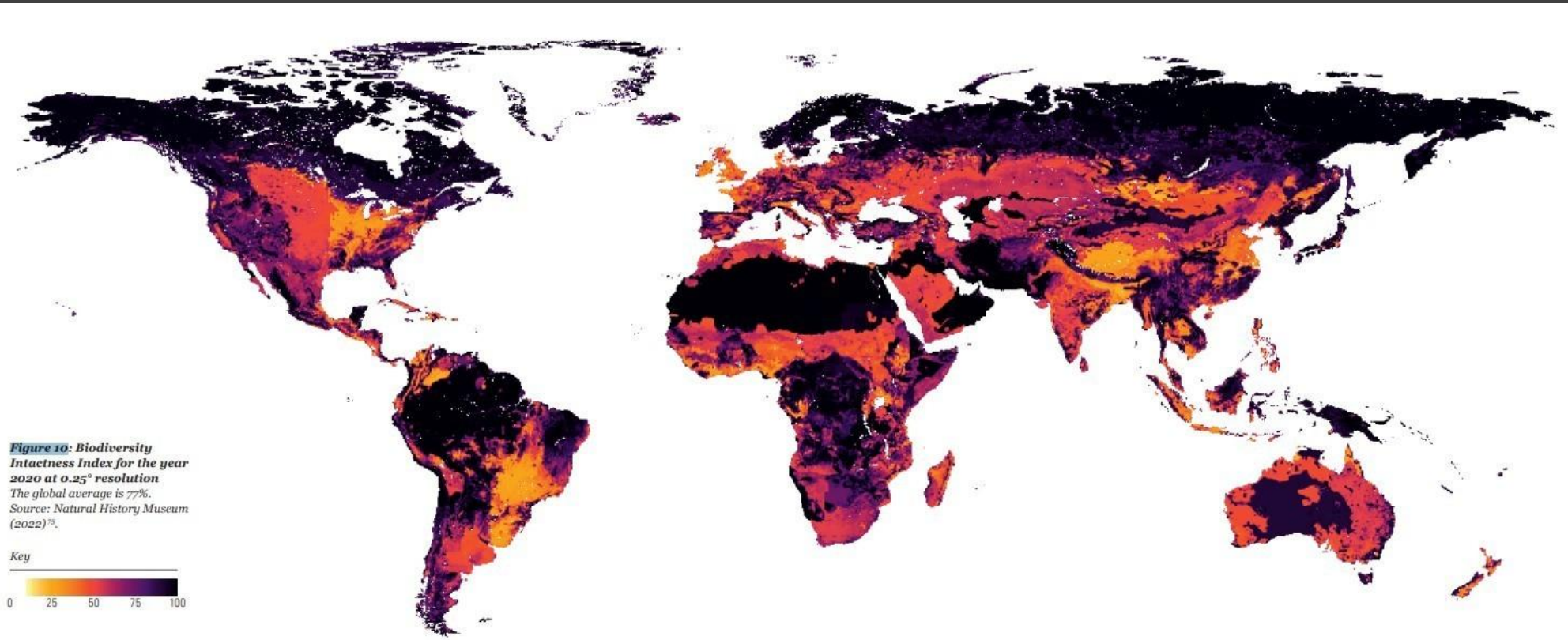


***Figure 10**: Biodiversity Intactness Index for the year 2020 at 0.25° resolution*
The global average is 77%.
Source: Natural History Museum (2022)[73].

Key

https://www.weforum.org/agenda/2022/10/nature-loss-biodiversity-wwf/

Why choose this major?

The world is in trouble…

In the Ecology & Biodiversity Major…

We train scientists who create solutions!

Choose a degree that makes a difference!

Why choose this major?

Interest in Science

Curious about biology, nature & conservation

Enthusiastic about exploring the natural world

- lots of opportunities to get out there!

Love fieldwork and/or laboratory work

- Can also do data intensive projects

Concerned about global environmental issues and protection of nature – and solutions.

What will you learn?

Broad knowledge in ecology, evolution and conservation

Skills to work independently & in team

Develop analytical and critical skills

Communication skills

Understand local & global environmental issues

Innovation & technology = solutions

1st Year

BIOL1110 From molecules to cells

BIOL1309 Evolutionary diversity

SCNC1111 Scientific method and reasoning

SCNC1112 Fundamentals of modern science

CCC

2nd Year

BIOL2102 Biostatistics

BIOL2103 Biological sciences laboratory course

BIOL2306 Ecology and evolution

ENVS2002 Environmental data analysis

CCC

29 core and elective courses

Small classes (12-30 students)

65% of courses with field components

4th Year

BIOL4991 Ecology & biodiversity project (12credits)

BIOL3991 Directed studies in ecology & biodiversity

BIOL4861 Ecology & biodiversity internship

BIOL4304 Ecosystem function & services (23-24)

BIOL4302 Environmental impact assessment

1st Sem. 2nd Sem.

Advanced Level

Capstone

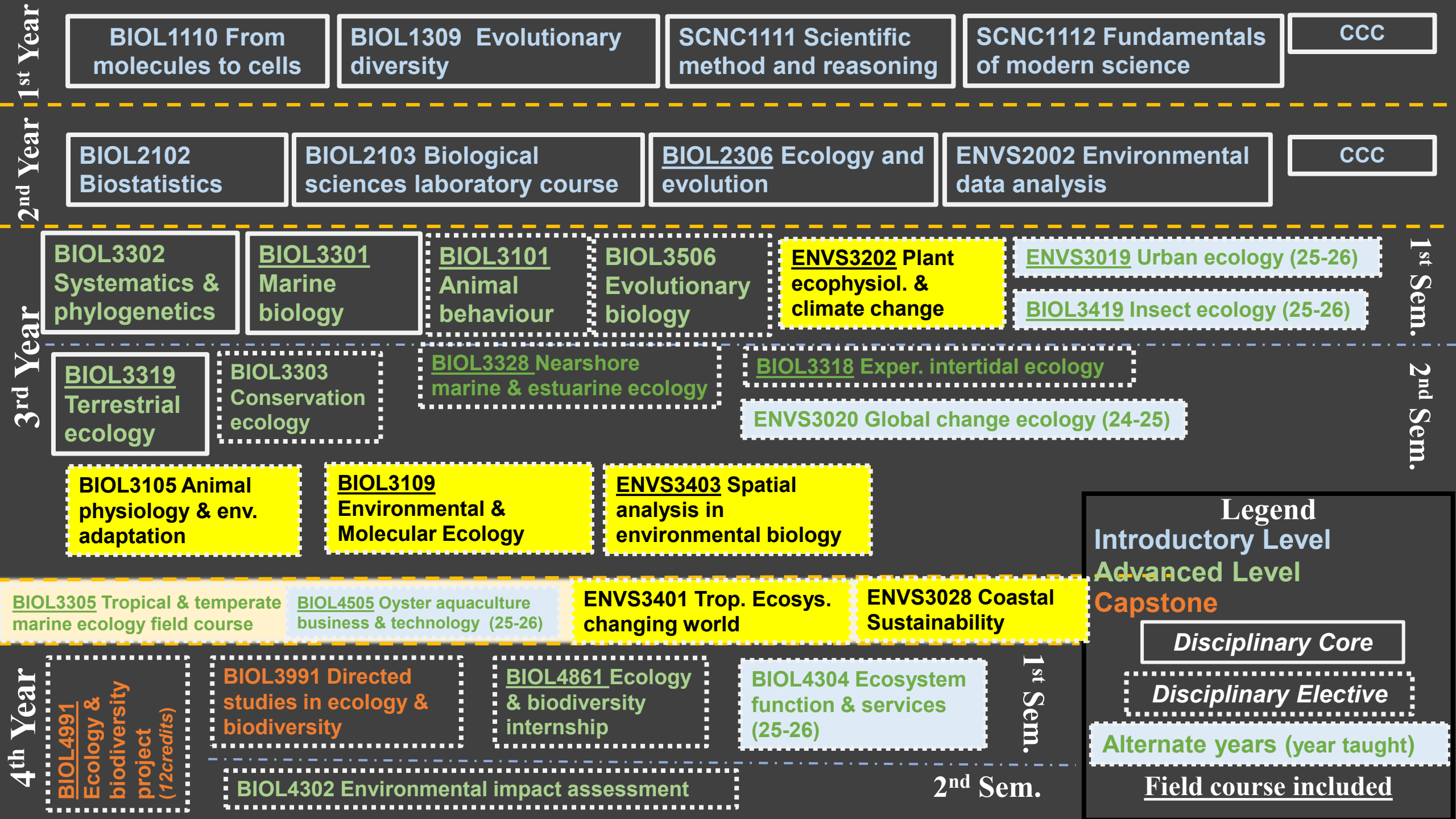
Disciplinary Core

Disciplinary Elective

Alternate years (year taught)

Field course included

6 new electives added from 2024/25!


1st Year
BIOL1110 From molecules to cells
BIOL1309 Evolutionary diversity
SCNC1111 Scientific method and reasoning
SCNC1112 Fundamentals of modern science
CCC
2nd Year
BIOL2102 Biostatistics
BIOL2103 Biological sciences laboratory course
BIOL2306 Ecology and evolution
ENVS2002 Environmental data analysis
CCC
3rd Year
1st Sem.
BIOL3302 Systematics & phylogenetics
BIOL3301 Marine biology
BIOL3101 Animal behaviour
BIOL3506 Evolutionary biology
ENVS3202 Plant ecophysiol. & climate change
ENVS3019 Urban ecology (25-26)
BIOL3419 Insect ecology (25-26)
2nd Sem.
BIOL3319 Terrestrial ecology
BIOL3303 Conservation ecology
BIOL3328 Nearshore marine & estuarine ecology
BIOL3318 Exper. intertidal ecology
ENVS3020 Global change ecology (24-25)
BIOL3105 Animal physiology & env. adaptation
BIOL3109 Environmental & Molecular Ecology
ENVS3403 Spatial analysis in environmental biology
BIOL3305 Tropical & temperate marine ecology field course
BIOL4505 Oyster aquaculture business & technology (25-26)
ENVS3401 Trop. Ecosys. changing world
ENVS3028 Coastal Sustainability
4th Year
BIOL4991 Ecology & biodiversity project (12credits)
BIOL3991 Directed studies in ecology & biodiversity
BIOL4861 Ecology & biodiversity internship
BIOL4304 Ecosystem function & services (25-26)
1st Sem.
BIOL4302 Environmental impact assessment
2nd Sem.
Legend
Introductory Level
Advanced Level
Capstone
Disciplinary Core
Disciplinary Elective
Alternate years (year taught)
Field course included

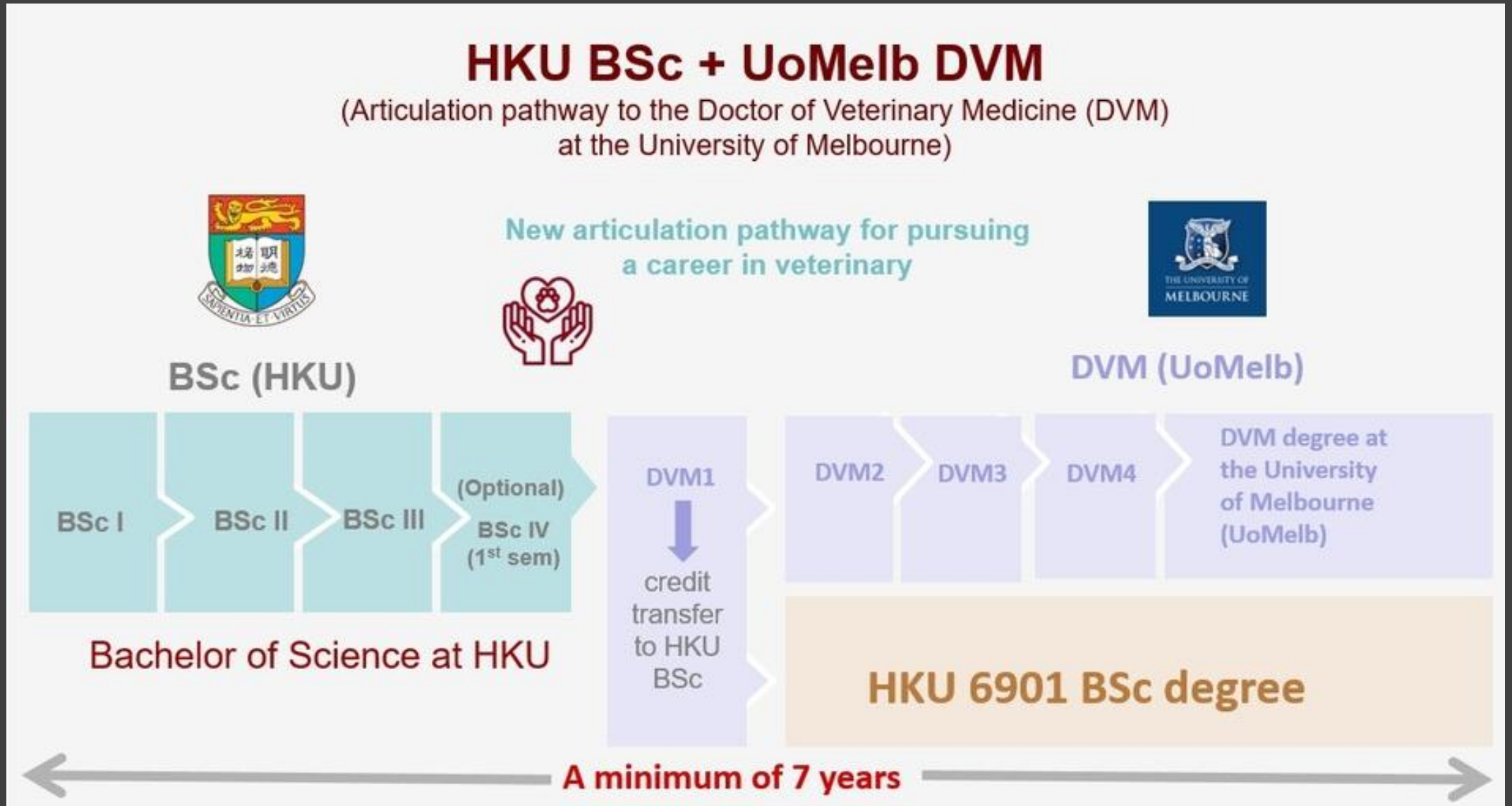
Intensive Major in Ecology & Biodiversity

Accredited degree by the

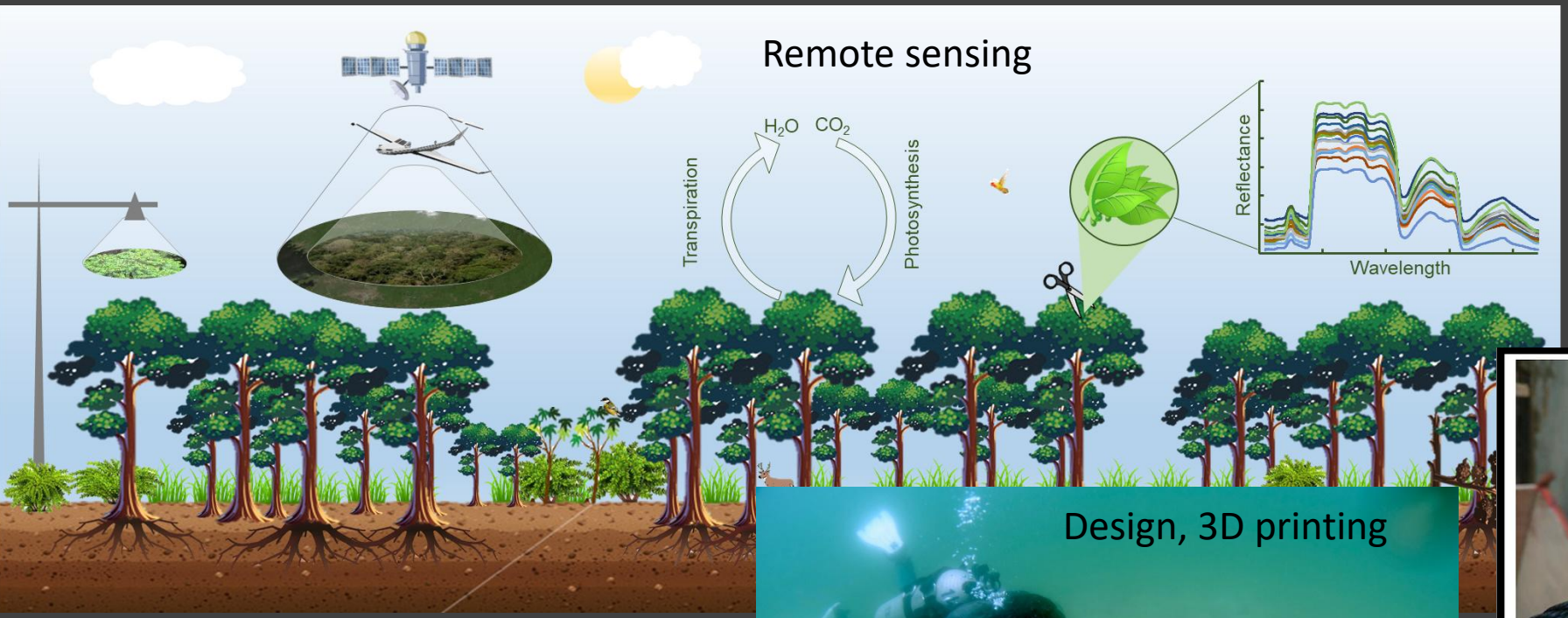
Minor in Marine Biology

(36 credits)

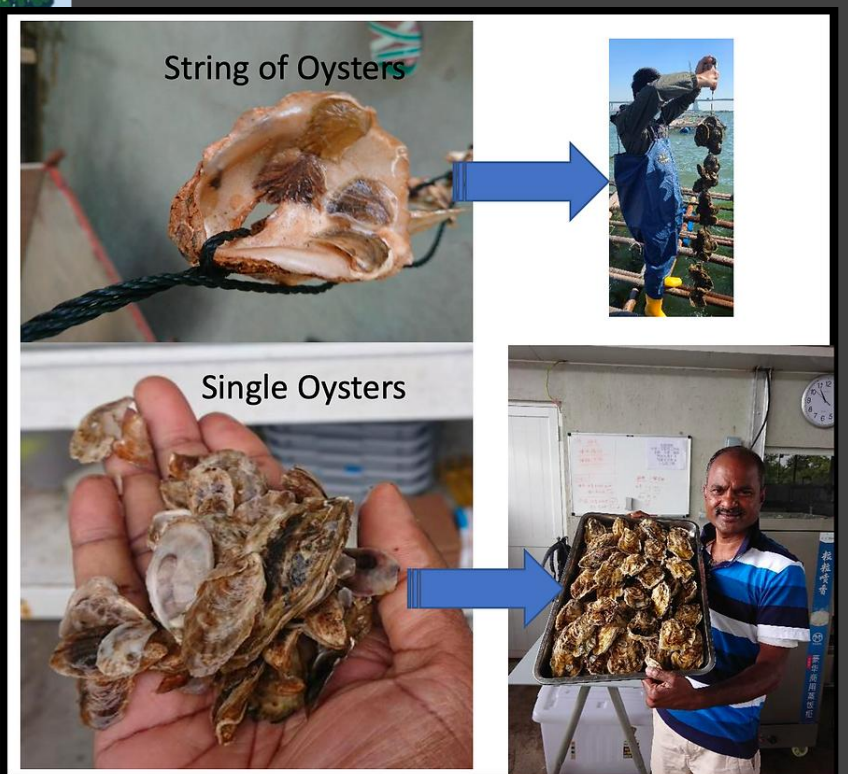
Articulation pathway

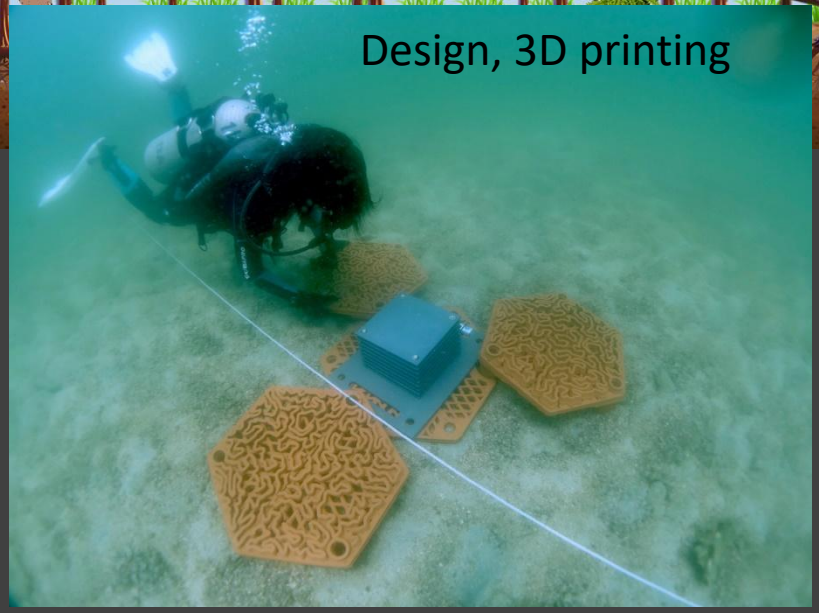


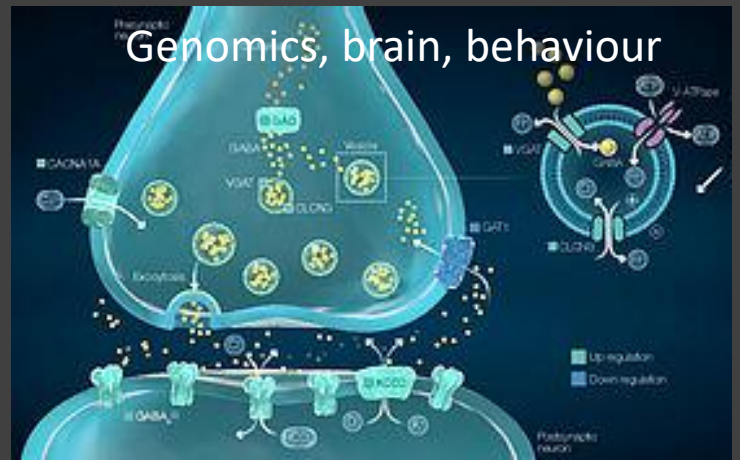
Teaching with technology



Aquaculture technology, enhanced production, business skills







Teaching with technology

Machine Learning to analyze behaviour

A diverse and international team

17 World-class researchers

Pro
Evo
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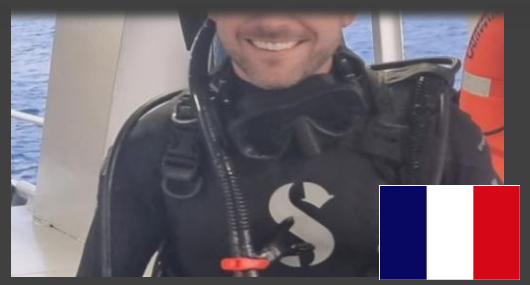
> 1000 publications in ecology & conservation

Prof. Benoit Guénard
Insect ecology



Prof Matthieu Leray
Coral reef biodiversity

Prof. Bayden Russell
Marine ecology

Prof. Rajan Vengatesen
Ocean acidification

A diverse and international team

Prof. Juha Merila
Evolution

Prof. Gray Williams
Intertidal Ecology

Prof. David Baker
Coral reef ecology

Prof. Tim Bonebrake
Global change ecology

Prof. Benoit Guénard
Insect ecology

Prof Matthieu Leray
Coral reef biodiversity

Prof. Bayden Russell
Marine ecology

Prof. Rajan Vengatesen
Ocean acidification

A diverse and international team

Prof. Justin Penn
Climate science

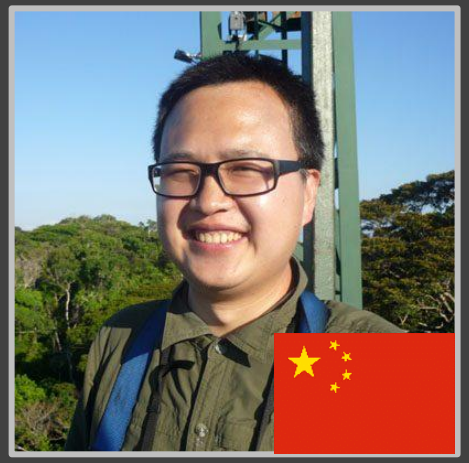
Prof. Louise Ashton
Ecosystem function

Prof. J. D. Gaitán-Espitia
Ecophysiology

Prof. Celia Schunter
Population genetics

Prof. Matthew Seymour
Environmental DNA

Prof. Simon Sin
Animal Behaviour



Prof. Jin Wu
Plant remote sensing

Dr. Billy Hau
Ecological restoration

Prof. Hannah Mumby
Behavioural ecology

BIOL2306 Ecology & Evolution

- **Introduction to the interaction between organisms and their environment and the central role of evolution**
- **Understand and explain the significance of nature using scientific methods**

BIOL2306 Ecology & Evolution

- **5-day field course!**
- **Study both marine and terrestrial ecosystems & organisms of Hong Kong**
- **Familiarize with scientific methods to study organisms and their environments**

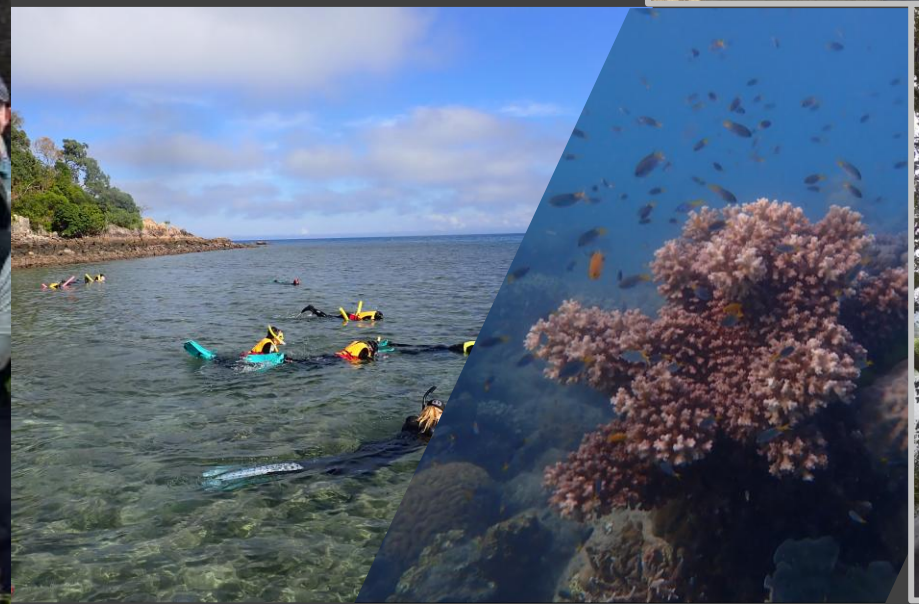
Hands on learning

15 courses with field components offered

Tropical & temperate ecology

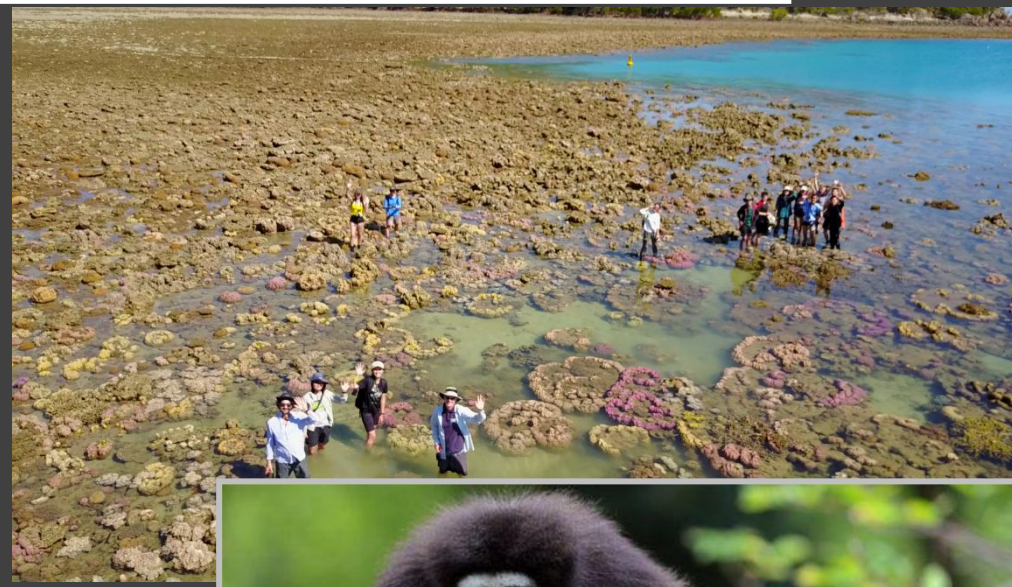
Terrestrial ecology

Marine & coastal ecology



Overseas field courses

- Borneo
- Thailand
- Malaysia
- Taiwan
- South Africa
- China



Make an impact!

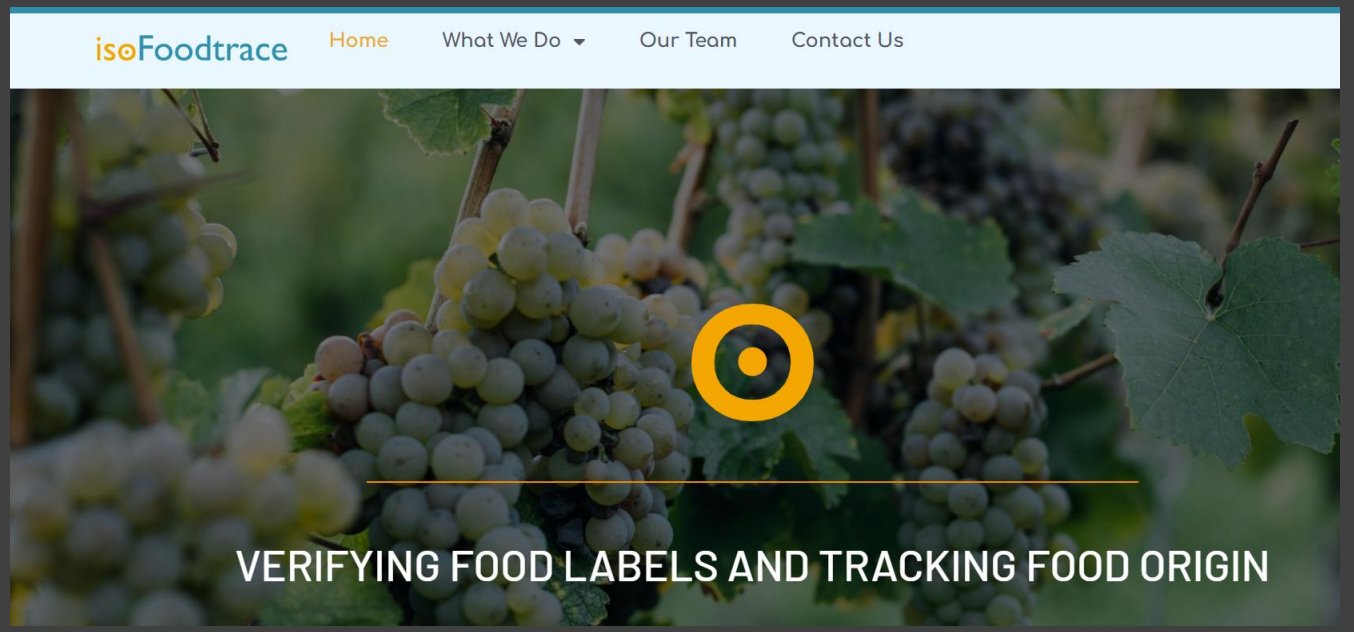
Many opportunities to engage into research as an undergraduate among research laboratories!

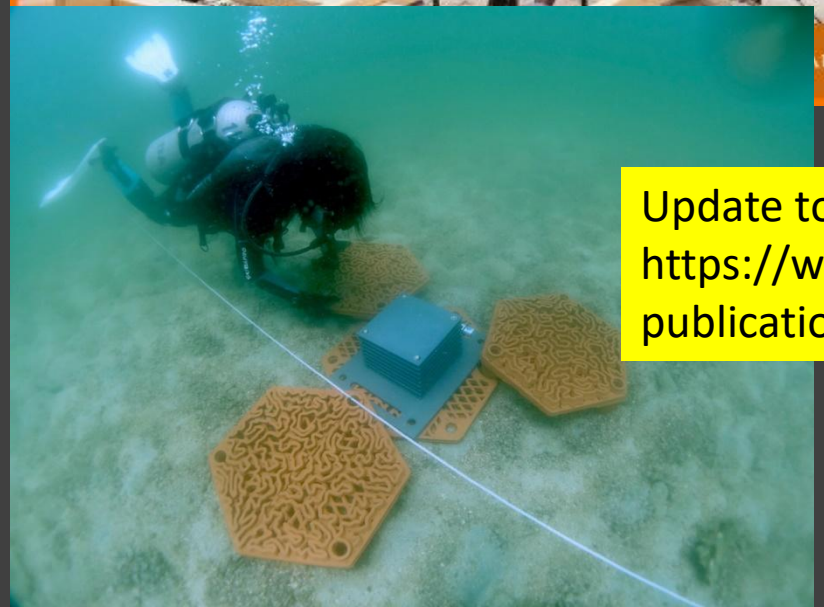
Swire Institute of Marine Science

Kadoorie Centre

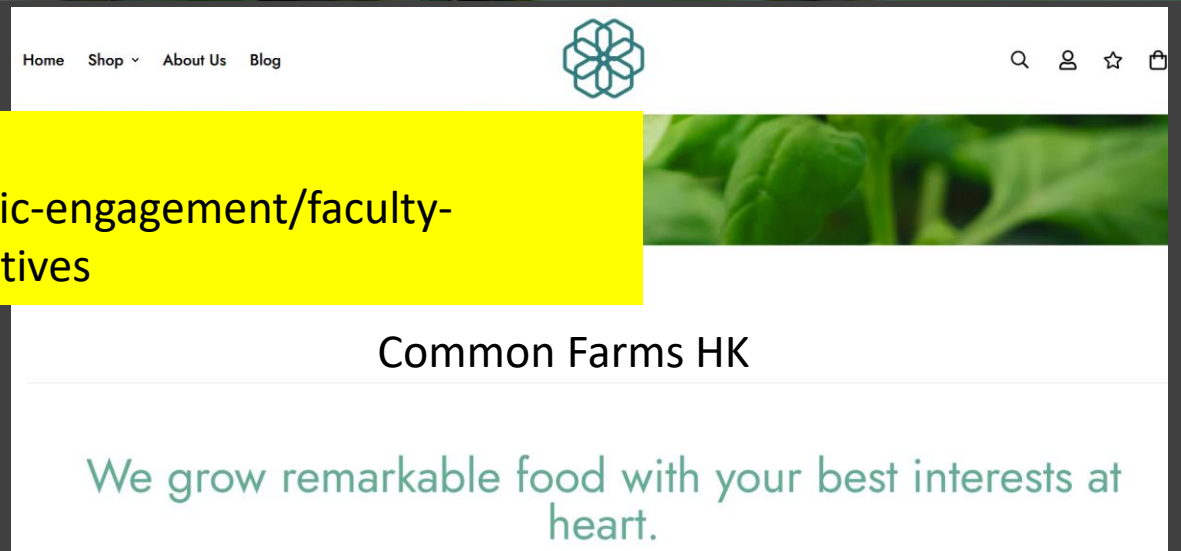
Make an impact!

Engage with industry, start-ups, commercial opportunities.





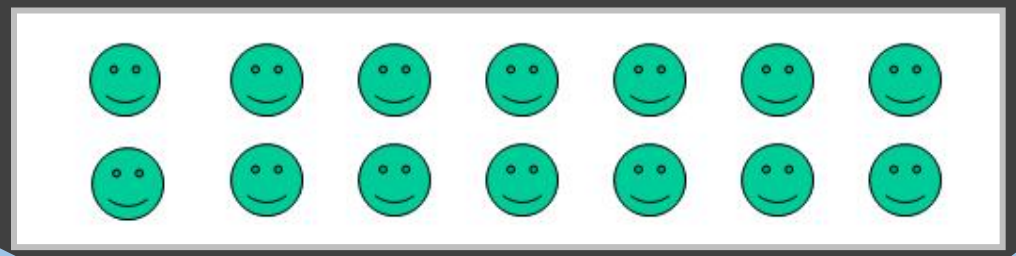
Update to include https://www.scifac.hku.hk/public-engagement/faculty-publication/2025/fresh-perspectives



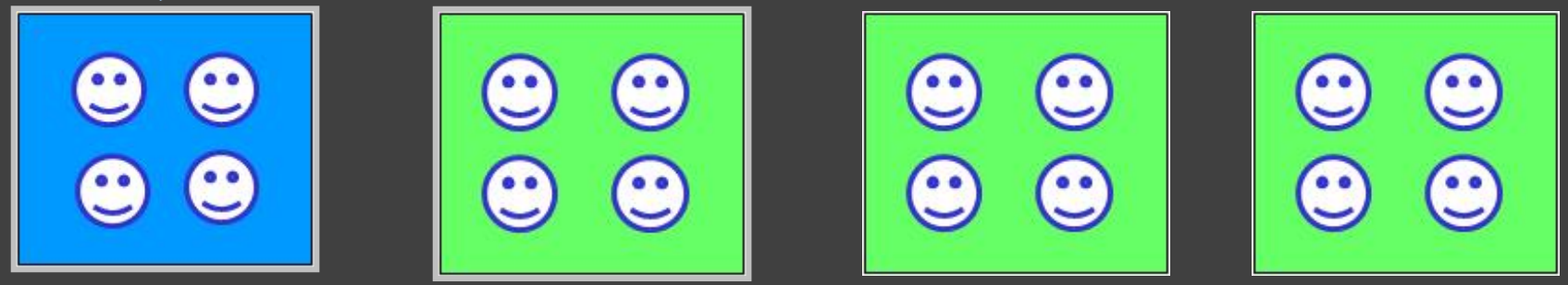
Building your future career

100% employment after 6 months!

E&B students



Graduates



Further studies: MPhil, PhD, MSc, MLA…etc.

NGOs, Govt., private sector

Education

Start-ups & environmental business

Join us, make a difference!