

Oceans & Lakes – study programme –

guide for students in the new programme (enrolments as of 2023-2024)

1. Structure of the new programme
2. Important notes
3. First master year - 1MA
4. Second master year - 2MA

1. Structure of the new programme:

Foundation (27 ECTS)

Fundamental Oceans and Lakes Biology	3 ECTS
Oceanography	4 ECTS
Limnology	4 ECTS
Estuarine and Coastal Systems	4 ECTS
Law and Ethics on Conservation of Aquatic Systems	3 ECTS
Environmental Modelling	3 ECTS
Analysis of Biological Data	6 ECTS

Professional Skills (23 ECTS)

Governance and Policy in Development and Cooperation Part I and Part II	3+3 ECTS
Seminars: Case Studies on Biodiversity Management	3 ECTS
Internship	5 ECTS
<i>Choice between:</i>	3 ECTS
Science communication / Environmental Impact Assessment	
<i>Choice between:</i>	
Monsoon School / Summer School	6 ECTS

Supporting Skills (6 ECTS)

<i>Choice of 6 ECTS:</i>	
<i>From list:</i>	
Introduction to GIS	3 ECTS
Tracer Isotope Biogeochemistry	6 ECTS
Methods of Scientific Diving	3 ECTS
<i>(or free choice of another related course of 6 ECTS)</i>	

Research Skills (10 ECTS)

<i>In-situ and Remote Sensing Tools in Aquatic Sciences</i>	
Aquatic Sciences	4 ECTS
Integrated Marine Coastal Ecology Field Course	3 ECTS
<i>Choice of 3 ECTS:</i>	
Integrated Field Course at Sea	3 ECTS
Integrated Limnological Field Course	3 ECTS
Integrated Estuarine Field Course	3 ECTS

Major (24 ECTS)

<i>Choice of one major:</i>	
Global Change Impacts on Ecology and Biodiversity	
Conservation Biology and Ecosystem Management	
Environmental Impact and Remediation	
Marine and Lacustrine Geosciences	

Master Thesis (30 ECTS)

Master Thesis	27 ECTS
Literature Review	3 ECTS

2. Important notes:

Note 1:

- enrollment for year courses must be done in the 1st semester
- enrollment for 1st semester courses must be done in the 1st semester
- enrollment for 2nd semester courses must be done in the 1st semester, but can still be changed in the 2nd semester

Note 2:

you must reach a total of 60 ECTS per year, or 30 ECTS per semester. Small variations (under or over 60 ECTS/per year or 30 ECTS/semester) are allowed

3. First master year - 1MA

Foundation courses (all compulsory):

1st semester:

Fundamental Oceans and Lakes Biology – 3 ECTS

Oceanography – 4 ECTS

Estuarine and Coastal Systems – 4 ECTS

Analysis of biological data – 6 ECTS

2nd semester:

Limnology – 4 ECTS

Law and Ethics on Conservation of Aquatic Systems – 3 ECTS

Environmental Modelling – 3 ECTS

Professional Skills courses (all compulsory, except 1 choice):

1st semester:

Governance and policy in development and cooperation Part I – 3 ECTS

Seminars: Case Studies on Biodiversity Management – 3 ECTS (1st + 2nd semester, year course)

Choice between:

- Environmental Impact Assessment (3 ECTS)
- Science communication (3 ECTS)

2nd semester:

Governance and policy in development and cooperation Part II – 3 ECTS

Supporting Skills courses (students choose 6 ECTS):

1st semester:

Introduction to GIS – 3 ECTS

Tracer Isotope Biogeochemistry – 6 ECTS

Scientific Presentation Skills and Career Planning – 3 ECTS (1st + 2nd semester, year course)

2x3 ECTS or 6 ECTS in courses at Belgian university (with link to Master Oceans & Lakes)

2nd semester:

Methods of Scientific Diving – 3 ECTS

Applied Geomorphology – 3 ECTS (biennial, taught in odd academic years, e.g. 2023-2024)

Natural Risk Management – 3 ECTS

2x3 ECTS or 6 ECTS in courses at Belgian university (with link to Master Oceans & Lakes)

Research skills courses (all compulsory, except 1 choice):

2nd semester:

Compulsory:

Integrated Marine Coastal Ecology Field Course – 3 ECTS

In-situ and remote sensing tools in aquatic sciences – 4 ECTS

Choice between (selection through motivation letter might be possible):

-Integrated Field Course at Sea – 3 ECTS

-Integrated Limnological Field Course – 3 ECTS

-Integrated Estuarine Field Course – 3 ECTS

Master Thesis courses (all compulsory):

2nd semester:

Literature Review – 3 ECTS

4. Second master year - 2MA

Professional Skills courses (all compulsory, except 1 choice):

1st + 2nd semester:

Choice between:*

- Monsoon School – 6 ECTS (1st + 2nd semester, year course)

- Summer School – 6 ECTS (1st + 2nd semester, year course) - summer school can already be completed in 1st year – enrollment for course only in 2nd year

**Monsoon School is compulsory for VLIR-UOS scholars, optional for other students*

Compulsory:

Internship - 5 ECTS or 11 ECTS (1st + 2nd semester, year course) - internship can already be completed in 1st year - enrollment for course only in 2nd year**

*** Internship 5 ECTS or 11 ECTS: a student can do a longer internship of 11 ECTS, if they do not follow Monsoon School or Summer School (not possible for VLIR-UOS scholars)*

Major 1 - Global Change Impacts on Ecology and Biodiversity (all compulsory):

1st semester:

Aquatic Food Web Ecology – 4 ECTS

Marine Extreme Systems – 4 ECTS

Aquatic Microbial Ecology – 6 ECTS

Aquatic Genomics – 6 ECTS

2nd semester:

Lacustrine Systems – 4 ECTS

Major 2 - Conservation Biology and Ecosystem Management (all compulsory):

1st semester:

Marine Fisheries Ecology and Management – 6 ECTS (1st + 2nd semester, year course)

Integrated Coastal Zone Management – 6 ECTS

Law of the Sea and Protection of the Oceans – 3 ECTS

Freshwater Ecology and Management – 6 ECTS

2nd semester:

Conservation Genetics – 3 ECTS

Major 3 - Environmental Impact and Remediation (all compulsory):

1st semester:

Aquatic Ecotoxicology and Environmental Monitoring – 6 ECTS

Ecosystem based adaptation to Global Change – 6 ECTS (1st + 2nd semester, year course)

Global Change Physiology - 6 ECTS

2nd semester:

Integrated Practicals – 3 ECTS

Freshwater Ecosystem Functioning – 3 ECTS

Major 4 (Marine and Lacustrine Geosciences) (all compulsory):

1st semester:

Advanced Sedimentology – 6 ECTS

Micropaleontology and Paleo-environmental reconstruction – 6 ECTS

Paleoclimatology and Climate Change – 6 ECTS

2nd semester:

Integrated Offshore Exploration – 6 ECTS

Master Thesis courses (all compulsory):

2nd semester:

Master Thesis – 27 ECTS (1st + 2nd semester, year course)