Oceans & Lakes – study programme - guide for new students

1. Important notes:

Note 1:
- "1MA or 2MA": signifies this course can be taken up in the 1st or the 2nd year (you are free to choose in which year)
- '1MA": signifies this course must be taken up in the 1st year
- "2MA": signifies this course must be taken up in the 2nd year

Note 2:
- 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 3:
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

2. First master year - 1MA

Compulsory courses in 1st year:

1st semester:

Freshwater Ecology – 5 ECTS (1MA)

Oceanography – 4 ECTS (1MA)

Estuarine and Coastal Systems – 5 ECTS (1MA)

Seminars: case studies – 3 ECTS - taught biennially in uneven years (1st + 2nd semester, year course) (1MA or 2MA)

2nd semester:

Law and Ethics on Conservation of Aquatic Systems – 3 ECTS (1MA)

In-situ and remote sensing tools in aquatic sciences – 5 ECTS (1MA)

Environmental Modelling – 3 ECTS (1MA)

Limnology – 5 ECTS (1MA)

Integrated Marine Coastal Ecology Field Course – 3 ECTS (1MA)

Field course in 1st year:

2nd semester:

Choice between:

Integrated Field Course at Sea – 3 ECTS (1MA)

Integrated Limnological Field Course – 3 ECTS - selection through motivation letter might be possible (1MA)

Integrated Estuarine Field Course – 3 ECTS

Broadening courses in 1st year:

1st semester:

Governance and policy in development and cooperation Part I – 3 ECTS (1MA)

Supporting courses in 1st and/or 2nd year (please discuss first with Karolien Van Puyvelde, programme coordinator)

-Choose 9 ECTS in list of supporting courses
-All VLIR-UOS students must take "Introduction to Data Mining"
-All students must take either "Advanced Applied Statistics" or "Analysis of Biological Data"
-All students without a background in biology, marine biology, oceanography, fisheries background, must take up "Introduction to Marine and Lacustrine Biology"
-Check schedule of supporting courses for overlap

1st semester:

Introduction to Data Mining – 3 ECTS (1MA)

Introduction to Marine and Lacustrine Biology - 3 ECTS (1MA)

Analysis of Biological Data – 6 ECTS (1MA or 2MA)

Introduction to GIS – 3 ECTS (1MA or 2MA)

2nd semester:

Advanced Applied Statistics– 3 ECTS (1MA)

Conservation Genetics - 3 ECTS (1MA or 2MA)

Stable Isotope Geochemistry – 3 ECTS (1MA or 2MA)

Major 1 (Global Change Impacts on Ecology and Biodiversity) courses in 1st year:

1st semester:

Marine Food Web Ecology – 3 ECTS (1MA)

Marine Extreme Systems – 6 ECTS (1MA or 2MA)

2nd semester:

Ecology of Coastal Seas – 3 ECTS (1MA or 2MA)

Lacustrine Systems – 3 ECTS (1MA or 2MA)

Major 2 (Conservation Biology and Ecosystem Management) courses in 1st year:

1st semester:

Integrated Coastal Zone Management – 3 ECTS (1MA or 2MA)

Environmental Impact Assessment – 3 ECTS (1MA or 2MA)

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

3 ECTS course at Belgian university (with link to the major) (1MA or 2MA) (1st or 2nd semester)

2nd semester:

3 ECTS course at Belgian university (with link to the major) (1MA or 2MA) (1st or 2nd semester)

Conservation Genetics – 3 ECTS (1MA or 2MA)

Major 3 (Environmental Impact and Remediation) courses in 1st year:

1st semester:

Environmental Impact Assessment - 3 ECTS (1MA)

Ecosystem based adaptation to Global Change - 6 ECTS (1MA or 2MA)

Physiology of Aquatic Organisms - 6 ECTS (1MA or 2MA)

Major 4 (Marine and Lacustrine Geosciences) courses in 1st year:

1st semester:

Paleoclimatology and Climate Change – 6 ECTS (1MA or 2MA)

3. Second master year - 2MA

Compulsory courses in 2nd year:

1st + 2nd semester:

Master Thesis – 30 ECTS (1st + 2nd semester, year course) (2MA)

Seminars: case studies – 3 ECTS - taught biennially in uneven years (1st + 2nd semester, year course) (1MA or 2MA)

Field courses in 2nd year:

2nd semester:

Choice between:

Monsoon School – 6 ECTS (2MA)

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

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

Broadening courses in 2nd year:

2nd semester:

Internship – 6 ECTS - internship can already be completed in 1st year - enrollment for course only in 2nd year (2MA)

Governance and policy in development and cooperation Part II – 3 ECTS (2MA)

Supporting courses in 1st or 2nd year:

-Choose 9 ECTS in list of supporting courses
-All VLIR-UOS students must take “Introduction to Data Mining”
-All students must take either “Advanced Applied Statistics” or “Analysis of Biological Data”
-All students without a background in biology, marine biology, oceanography, fisheries background, must take up “Introduction to Marine and Lacustrine Biology”
-Check schedule of supporting courses for overlap

1st semester:

Analysis of Biological Data – 6 ECTS (1MA or 2MA)

Introduction to GIS - 3 ECTS (1MA or 2MA)

2nd semester:

Conservation Genetics - 3 ECTS (1MA or 2MA)

Stable Isotope Geochemistry – 3 ECTS (1MA or 2MA)

Biogeochemistry – 3 ECTS – taught biennially in even years (2MA)

Applied Geomorphology – 6 ECTS - taught biennially in uneven years (2MA)

Water Quality – 3 ECTS (2 MA)

Natural Risk Management – 3 ECTS (2 MA)

Methods of Scientific Diving – 3 ECTS (2 MA)

Major 1 (Global Change Impacts on Ecology and Biodiversity) courses in 2nd year:

1st semester:

Marine Genomics – 3 ECTS (2MA)

Aquatic Microbial Ecology – 6 ECTS (2MA)

Marine Extreme Systems – 6 ECTS (1MA or 2MA)

2nd semester:

Ecology of Coastal Seas – 3 ECTS (1MA or 2MA)

Lacustrine Systems – 3 ECTS (1MA or 2MA)

Major 2 (Conservation Biology and Ecosystem Management) courses in 2nd year:

1st semester:

Integrated Coastal Zone Management – 3 ECTS (1MA or 2MA)

Environmental Impact Assessment – 3 ECTS (1MA or 2MA)

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

Marine Biodiversity – 3 ECTS (2MA)

Law of the Sea and Protection of the Oceans – 3 ECTS (2MA)

3 ECTS course at Belgian university (with link to the major) (1MA or 2MA) (1st or 2nd semester)

2nd semester:

3 ECTS course at Belgian university (with link to the major) (1MA or 2MA) (1st or 2nd semester)

Conservation Genetics – 3 ECTS (1MA or 2MA)

Major 3 (Environmental Impact and Remediation) courses in 2nd year:

1st semester:

Physiology of Aquatic Organisms - 6 ECTS (1MA or 2MA)

Ecosystem based adaptation to Global Change – 6 ECTS (1MA or 2MA)

Integrated Practicals – 3 ECTS (2MA)

Major 4 (Marine and Lacustrine Geosciences) courses in 2nd year:

1st semester:

Advanced Sedimentology – 6 ECTS (2MA)

Paleobiology of Micro-organisms – 6 ECTS (2MA)

Paleoclimatology and Climate Change (1MA or 2MA)

2nd semester:

Integrated Offshore Exploration – 6 ECTS (2MA)