



Vrije  
Universiteit  
Brussel



Universiteit  
Antwerpen



# Master of Ecological Marine Management

[www.ecomama.be](http://www.ecomama.be)

Duration: 2 years (120 ECTS\*)

\*European Credit Transfer and Accumulation System

## Why study Ecological Marine Management?



The 2-year master programme of ECological MARine Management (ECOMAMA) addresses students with a background in Sciences. It provides them with strong fundamental and applied knowledge and prepares them for an active role in the scientific research and management of marine ecosystems. The programme adopts a **multidisciplinary approach** integrating physical, chemical geological, ecological and societal aspects and including nature conservation and sustainable development.

ECOMAMA trains students in:

1. playing a key role in high quality scientific marine research
2. providing advice in marine management based on sound scientific knowledge
3. becoming critically minded, problem-solving and communicative scientists.

ECOMAMA is an inter-university programme organized by the Biology departments of Vrije Universiteit Brussel (VUB, Free University of Brussels) and Universiteit Antwerpen (UA, Antwerp University). The programme also closely cooperates with Universiteit Gent (UGent, University of Ghent). ECOMAMA is an International Course Programme (ICP) co-financed by Vlaams Interuniversitaire Raad - University Development Cooperation (VLIR-UOS). Since its inception in 1997-1998 the programme has been continually adapting to ongoing developments in marine research, and has remained attentive to the changing needs and requirements of the student population. To date, more than 100 students have graduated as Masters of Ecological Marine Management.

The diversity of professional, disciplinary and cultural backgrounds of both students and lecturers ensures that the ECOMAMA programme has a truly **unique international character**.

## Curriculum of the Master of Ecological Marine Management



The programme puts strong emphasis on acquiring skills, both in marine research and management. It requires full-time attendance and active participation in lectures and practical exercises, visits to marine research centers, field trips and excursions.

The **first year** of the master programme mainly aims at acquiring fundamental knowledge and skills in marine research through the following courses:

### Fundamental courses (27 ECTS):

- Physical and Chemical Oceanography (6 ECTS)
- Marine Ecology and Biodiversity (6 ECTS)
- Marine Geology and Coastal Erosion (6 ECTS)
- Marine Pollution and Ecotoxicology (6 ECTS)
- Marine Microbiology (3 ECTS)

### Specialization courses (6 ECTS):

- Marine Ecophysiology (3 ECTS)
- Molecular Ecology of the Marine Environment (3 ECTS)

### Supporting courses (18 ECTS):

- Applied Mathematics (3 ECTS)
- Statistics (3 ECTS)
- Climatology and Climate Change (3 ECTS)
- Tropical Coastal Biocomplexity (3 ECTS)
- Introduction to Geographic Information Systems (GIS) (3 ECTS)
- Information Retrieval, Management and Presentation (3 ECTS)

### Laboratory and Field training sessions (9 ECTS):

- Practical Exercises, Field Training and Seminars on Development Cooperation (9 ECTS) aimed at training students in (1) developing optimal sampling strategies and experimental designs to tackle a given question in marine ecology; (2) carrying out the research autonomously; (3) interpreting obtained data with appropriate statistical and mathematical tools; (4) critically discussing and reporting results; (5) understanding basic notions of development economics, identifying the main stakeholders and the appropriate instruments for development

The **second year** of the master programme focuses on research and the scientific approach to management issues.

### Advanced core courses are (21 ECTS):

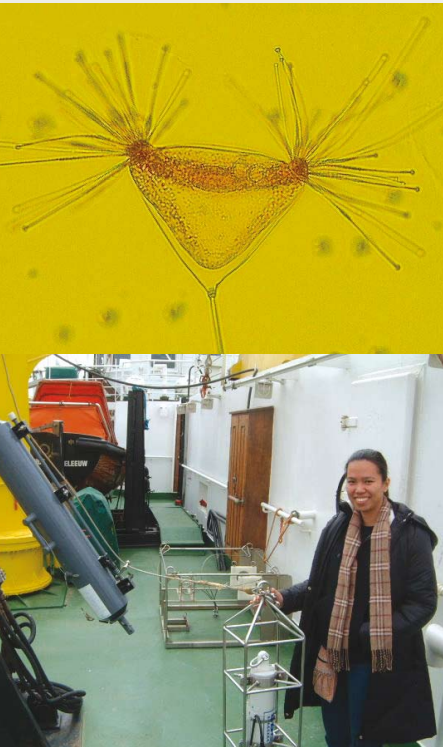
- Ecosystem Modelling (6 ECTS)
- Bio-Statistics (3 ECTS)
- Geographical Information Systems (3 ECTS)
- Scientific Reporting and Didactics (3 ECTS)
- Data-management of the Marine Environment (6 ECTS)

Students also choose 6+3 ECTS from a list of **specialized courses**:

- Exploitation and Management of Coastal Resources (6 ECTS)
- Recent Developments in Marine Biodiversity (6 ECTS)
- Chemical and Biological Monitoring (6 ECTS)
- Law of the Sea (3 ECTS)
- International Environmental Policy and Law (3 ECTS)

Finally, students can spend at least 3 ECTS on **electives\***, according to their own interest and future career prospects. The following electives are included as part of the curriculum of ECOMAMA:

- Integrated Coastal Zone Management (3 ECTS)
- Recent Internet Development for Information Management (3 ECTS)
- Marine Optics and Remote Sensing (3 ECTS)
- Field Work (3 ECTS)
- Environmental Economy (3 ECTS)
- Surface Water Modelling (5 ECTS)
- Environmental Risk Management (3 ECTS)
- Ecology and Industry (3 ECTS)
- Water and Waste Water Treatment (3 ECTS)
- Sustainable Development (3 ECTS)
- Ecosystem Management (6 ECTS)
- Environmental Economy (3 ECTS)
- Environmental Education (3 ECTS)
- Global Change (3 ECTS)



\* subject to minor changes

The Master programme also offers optional internships (6 ECTS) of 3-4 weeks in the participating laboratories or institutes under the supervision of a marine expert.

Special attention is given to the **Master thesis** (27 ECTS): students carry out an independent and original research project, under the supervision of a promoter, and prepare a master thesis manuscript, i.e. a written account of the research and results. If possible and relevant, students are encouraged to select a research subject pertaining to problems and needs in their home country. Also, a list of possible research topics is given on the website.

## Becoming a marine scientist in an international environment



Lectures, practical exercises and seminars are given by international expert scientists from the marine management community. A list of lecturers together with their professional backgrounds is presented on the ECOMAMA website.

Each year VLIR-UOS grants 10 scholarships to students from various developing countries to attend the ECOMAMA programme. We strive towards small groups of students (maximum twenty) to sustain the high quality of the programme, its 'openness', the one-to-one relationship between students and staff, the interactive lectures, ...

ECOMAMA teaching methods are a balanced mix of:

- 1/3 interactive lectures given by expert scientists;
- 1/4 practical sessions (laboratory work, experimental design, PC-supported exercises, etc.);
- 1/4 field work (sampling on board a research vessel in the Belgian coastal waters, on sandy beaches and rocky shores) and several 1-day excursions to e.g. aquaculture and fish landing sites and visits to centres of expertise in marine research (such as The Management Unit of the North Sea Mathematical Models and the Scheldt estuary, Flanders Marine Institute, ...);
- 1/6 seminars, e.g. on development cooperation, sustainable development, integrated coastal management, artisanal fisheries assessment and management, ...

Throughout the programme, students perform research activities in various laboratories and marine institutes and report their research results through slide presentations, scientific reports and articles, poster presentations with a view to training them in the use of appropriate tools that will enable them to successfully carry out their thesis research during the second year of the programme.

## Admission requirements



ECOMAMA is open to holders of a four-year bachelor's degree in Science, a three-year bachelor's degree in Science with relevant professional experience, Bachelor in Engineering, Bachelor in Veterinary studies, Bioengineering, Licentiate in Science or Industrial Engineering or equivalent. Equivalency will be evaluated case by case by the ECOMAMA Steering Committee. A certificate of fluency in English with the relevant score is required.

- TOEFL paper: 550
- TOEFL computer: 213
- TOEFL internet : 80
- IELTS: 6.5 (and 6.0 for written part)
- Cambridge EFL Advanced English: B
- Cambridge EFL Proficiency in English: C

To be admitted to ECOMAMA, students with a foreign diploma need to submit an application form (proof of meeting the academic, and language requirements, providing recommendation letters, etc.) to the Secretariat of the Faculty of Science of the Vrije Universiteit Brussel. Students should be careful to submit their application on time and not to exceed the deadline (see ECOMAMA website). Only complete application files will be considered.

## Registration



Providing that your application for ECOMAMA is approved by the Faculty of Science of the Vrije Universiteit Brussel and, providing that you meet the academic requirements, you will receive a letter of admission from the Vrije Universiteit Brussel. This letter is required for registration. The yearly enrolment/registration fee has been set at 533.10 euros (for the academic year 2007-2008) and is liable to slight annual increases. Up-to-date information may be found on <http://www.vub.ac.be/english/infofor/prospectivestudents/howenroll.html>.

## Scholarships



For nationals of developing countries, VLIR-UOS offers scholarships specifically for ECOMAMA (check <http://www.vliruos.be/> or [info@vliruos.be](mailto:info@vliruos.be)).

The Belgian Technical Cooperation also grants scholarships to students from developing countries. Candidates are selected jointly by the Belgian Embassy and the country of origin, not by the universities. For more information on these scholarships see <http://www.btctcb.org>.

The Joint Japan/World Bank Graduate Scholarship Programme awards scholarships to individuals from World Bank member countries ([www.worldbank.org](http://www.worldbank.org)).

Citizens of EU member states or other European countries are eligible for interuniversity exchange programmes in Europe, such as the Lifelong Learning Programme / ERASMUS Programme (interuniversity exchange within the EU) and the TEMPUS programme (interuniversity exchange within the EU and certain academic institutions in Eastern Europe).

For more information please contact the International Relations and Mobility Office of Vrije Universiteit Brussel ([international.relations@vub.ac.be](mailto:international.relations@vub.ac.be)).

More scholarship information on [www.ecomama.be](http://www.ecomama.be).



Further questions?

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Consult our website: [www.ecomama.be](http://www.ecomama.be)  
or contact the ECOMAMA secretariat and coordinator on [ecomama@vub.ac.be](mailto:ecomama@vub.ac.be)

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