



DEPARTMENT OF MARINE SCIENCES

MAR462 Blue economy and sustainable use of marine resources, 15 credits

Blå ekonomi och hållbart nyttjande av marina resurser, 15 högskolepoäng
Second Cycle

Confirmation

This course syllabus was confirmed by Department of Marine Sciences on 2018-01-24 and was last revised on 2024-01-24 to be valid from 2024-09-02, autumn semester of 2024.

Field of education: Science 100%

Department: Department of Marine Sciences

Other participating departments

Department of Business Administration

Department of Biological and Environmental Sciences

Department of Chemistry and Molecular Biology

Department of Economics

Department of Law

School of Global Studies

Position in the educational system

The course can be taken as a freestanding course or as an elective course in a Master's Programme.

The course can be part of the following programmes: 1) Atmosphere, Climate and Ecosystems, Master's Programme (N2ACE), 2) Master's Programme in Geography (N2GEO), 3) Marine Science, Master's Programme (N2MAV), 4) Environmental Sciences (N2MVN), 5) Master's Programme in Earth Sciences (N2GVS) and 6) Biology, Master's Programme (N2BIO)

Main field of studies

Marine Sciences

Specialization

A1N, Second cycle, has only first-cycle course/s as entry requirements

Main field of studies

Sea and Society

Specialization

A1N, Second cycle, has only first-cycle course/s as entry requirements

Entry requirements

A Bachelor's degree (180 credits) and English B/English 6 at upper secondary level or equivalent IELTS 6.5 where no section may be less than 5.5, or TOEFL 575 points, TWE 4.5 points.

Learning outcomes

After completion of the course the student is expected to be able to:

Knowledge and understanding

- Describe the social, economic and ecological pillars of sustainability
- Describe various types of property regimes and international, regional and national laws and regulations of marine and maritime resources, and the main governance systems that regulate the use of the oceans
- Describe the basic elements of marine commercial activities such as fisheries, aquaculture, shipping, off-shore industry and tourism, how these activities can affect the marine environment and are managed and regulated in various regions of the world
- Describe and exemplify the role and occurrence of non-industrial recreational and artisanal marine and maritime activities and how these relate to the status of the marine ecosystem and complex human-nature relationships
- Describe terms and concepts such as *green economy*, *ecosystem services*, *ecological compensation*, *no-net-loss*, *polluter-pays-principle*, *mitigation hierarchy* and *habitat banking*

Competence and skills

- Compare and evaluate the basic components of different management strategies for marine resources
- Identify and value marine ecosystem services and their human benefits, and discuss limitations with different valuation methods
- Identify and scale compensation measures that will avoid net losses of biodiversity and natural resources

Judgement and approach

- Critically evaluate terms such as “sustainable use”, "green economy", "ecosystem service" and "ecological compensation" and discuss their limitations and alternative

models

- Assess sustainable outcomes and short-term and long-term effects of various marine and maritime industrial activities in relation to the UN sustainability goals
- Analyse and discuss the reasons and potential solutions of various conflicts over marine resources

The course is sustainability-focused, which means that at least one of the learning outcomes clearly shows that the course content meets at least one of the University of Gothenburg's confirmed sustainability criteria. The content also constitutes the course's main focus.

Course content

The aim of the course is to give a broad understanding for the critical balance between economy and use, on the one hand, and ecosystem sustainability on the other hand, of marine and maritime activities of major importance for the society. The course should also be an introduction to how marine and maritime resources are owned and governed at national, regional and global level, and how different commercial activities can affect the marine environment and how they could be sustainably managed.

Specific contents are:

1. Economic growth and social, economic and ecological sustainability. Marine governance systems. Laws and regulations of marine and maritime activities.
2. Environmental impact, management and regulations of international fisheries. Industrial fisheries vs artisanal fisheries. Ecosystem based fishery management.
3. Opportunities and future challenges of shipping, off-shore industry, and expansion into new environments. Impacts of deep-sea mining and development of the arctic.
4. Trends and challenges in marine tourism and recreation. Small-scale coastal exploitation and leisure boating. Sustainable uses and new perspectives.
5. Potential and challenges with marine aquaculture. New products and research. Legal and sustainability issues.
6. Legal, economic and ecological tools for a sustainable development. Monitoring and status assessment of the marine environment. Valuation of ecosystem services, polluter pays principles and ecological compensation.

Sub-courses

1. **Weekly exams** (*Veckoprov*), 7.5 credits
Grading scale: Pass (G) and Fail (U)
2. **Project** (*Projekt*), 7.5 credits
Grading scale: Pass with Distinction (VG), Pass (G) and Fail (U)

Form of teaching

The first six weeks of the course consists of lectures given by university teachers from different disciplines and by professional from industry and environmental authorities. Short assignments, written reports and group discussions of well-defined tasks are complements. The last four weeks of the course consist of project work on a topic related to the course themes which should result in an oral presentation and a written report.

Language of instruction: English

Assessment

The course is examined through weekly individual tests, assignments or presentations, and an oral and written presentation of the final project work.

During the first 6 weeks, the student must pass weekly exams to pass the first sub-course. The tests focus on the content presented during each week. The grade given is pass/fail (G/U). If a student fails a test, he/she will be given the chance to repeat the test. In addition, it's compulsory to actively attend at least 60% of the assignments during each week.

The final 4-week project will result in a written report and an oral presentation and both parts will be graded pass with distinction/pass/fail (VG/G/U).

If a student, who has failed the same examined component twice, wishes to change examiner before the next examination, a written application shall be sent to the department responsible for the course and shall be granted unless there are special reasons to the contrary (Chapter 6, Section 22 of Higher Education Ordinance).

If a student has a recommendation from the University of Gothenburg regarding special educational support, the examiner (in case it is compatible with the course's objectives and if not unreasonable resources are required) can decide to give the student an alternative examination form.

In cases where a course has been discontinued or major changes have been made a student should be guaranteed at least three examination occasions (including the ordinary examination occasion) during a period of at least one year from the last time the course was given.

Grades

The grading scale comprises: Pass with Distinction (VG), Pass (G) and Fail (U). A student will be given the grade G if he/she has pass on all weekly tests and G on the final individual project work.

The grade VG for the whole course requires G on all weekly tests and VG on the final individual project work. A description of the criteria for getting G or VG on the individual project work will be made available on Canvas at the start of the course.

Regarding the application of ECTS scales, please see Vice-Chancellor's decision 2007-05-28, dnr G 8 1976/07 as well as 2011-02-28, dnr O 2009/5545.

Course evaluation

A written and oral evaluation of the course is done at the end of the course. In the written evaluation, the student is anonymous.

The results of the evaluation will be communicated to the students and will function as a guide for the development of the course.

Additional information

A two-day visit to the marine research station at Tjärnö is planned during the course. Travel costs and food during the field visit are paid by the student.