



## DEPARTMENT OF MARINE SCIENCES

### **MAR464 Seascape Governance in Times of Global Change, 15 credits**

Förvaltning av havslandskap i tider av global förändring, 15 högskolepoäng

*Second Cycle*

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#### **Confirmation**

This course syllabus was confirmed by Department of Marine Sciences on 2019-08-08 and was last revised on 2024-01-24 to be valid from 2024-03-21, spring semester of 2024.

*Field of education:* Science 100%

*Department:* Department of Marine Sciences

#### *Other participating departments*

Department of Biological and Environmental Sciences

School of Global Studies

Department of Political Science

Department of Economy and Society

#### **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), 6) Ecotoxicology, Master's Programme (N2TOX), 7) Environment and Health Protection Management (N2MIH), 8) Master's Programme in Chemistry (N2KEM) and 9) Biology, Master's Programme (N2BIO)

#### *Main field of studies*

Sea and Society

Marine Sciences

#### *Specialization*

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

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### 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*

- Explain how dispersal of marine organisms and the spatial distribution of habitats affects genetic diversity, population persistence, and management of marine resources and biodiversity.
- Explain how climate change and loss of biodiversity affects marine ecosystem and their services to human society, and how the impacts could be mitigated.
- Describe uses and conflicts of the coastal and off-shore environment, and compare different regulations, conventions, instrument and measures that could be used mitigate conflicts and unsustainable use.
- Describe existing instruments and regulation for marine spatial planning. Local-national-EU regulations, law and institutions, conventions and agreements
- Understand the use of different methods, techniques and tools (e.g. GIS) presently used and marine spatial planning and management of the marine environment.

#### *Competence and skills*

- Integrate knowledge of dispersal, spatial distribution of marine habitats, and demand of ecosystem services into sustainable and effective management decisions.
- Propose measures to mitigate negative impacts of climate change and loss of biodiversity on ecosystem services in the coastal zone.
- Illustrate how Integrated Coastal Zone Management and Marine Spatial Planning can be used to mitigate conflicts and deterioration of the marine environment.

#### *Judgement and approach*

- Critically evaluate how connectivity of marine organism and spatial variation in human activities are presently included in marine management and conservation.
- Analyze and discuss reasons and potential solutions to unsustainable use of the coastal zone.

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 present comprehensive analyses of the interactions between marine ecosystem and socioeconomic systems in a spatial context that provide an understanding of the complexity of the many problems that challenges a sustainable development of humans' use of the sea. Specifically, the course should be an introduction to how dispersal of marine organism and the spatial distribution of marine habitats and human activities affect the marine environment, and how marine spatial planning, networks of marine protected areas, and integrated coastal zone management can be used for a sustainable use and management of marine systems.

Specific contents are:

1. *Seascape ecology - ecological consequences of the spatial dimension.* How dispersal and spatial dimensions of the seas affect population persistence and management of the marine environment. Metapopulation dynamics, genetic diversity, adaptation and extinction, design of MPA-networks.
2. *Global ocean change.* Consequences of climate change and loss of biodiversity on marine ecosystems and their services to humans. How the global changes affect coastal communities and humans society, and how the impact can be mitigated.
3. *Human use of marine resources - conflicts and coexistence.* Ecological, social and political dimensions and solutions of interaction, problem and conflicts resulting from human uses of the seas. How the spatial dimension of marine resources affect uses and conflicts.
4. *Integrative governance of marine and coastal space: conditions, principles and toolbox.* Introduction to marine spatial planning, regulations and integrated management of the coastal zone, as well as practical approaches methods and tools for marine spatial planning.
5. *Group projects* on marine spatial planning in the coastal zone.

The course consist of lectures, exercises and discussions, and individual and group reports.

### 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 invited representatives for marine/maritime authorities and agencies. Group discussions and short written reports of well-defined tasks are complements. The last three weeks consist of group project work on a topic related to the course themes which 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 a final oral and written presentation of a group project.

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 group project will result in a written report and an oral presentation and both parts will be individually 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 has undergone major changes, the student shall normally be guaranteed at least three examination occasions (including the ordinary examination) during a period of at least one year, but maximum two years 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 group 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 group 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 one-week visit to Kristineberg Center is planned during the course. Travel costs and catered food during the field visit are paid by the student.