UNIWERSYTET GDAŃSKI

Course title
Antropogeniczne przekształcanie środowiska morskiego / Anthropogenic conversion of marine environment

ECTS code
7.2.0509

Name of unit administrating study

Faculty of Chemistry

Studies

Field of study	Type	Form	
Environmental Protection	Bachelor	Full-time studies	

Teaching staff
Dr hab. Agata Weydmann-Zwolicka

Forms of classes, the realization and number of hours

A. Forms of classes, in accordance with the UG Rector's regulations
lecture, laboratory classes

B. The realization of activities
In-class learning

C. Number of hours
lecture 30 h, laboratory classes 30 h

ECTS credits

classes - 30 h
tutorial classes - 2 h
student's own work - 18 h
TOTAL: 50 h - 2 ECTS

The academic cycle
2021/2022 winter semester

Type of course
obligatory

Language of instruction
Polish

Teaching methods
lectures including multimodal presentations

Form and method of assessment and basic criteria for evaluation or examination requirements

A. Final evaluation, in accordance with the UG study regulations
exam

B. Assessment methods
written exam with open questions
written test exam

The basic criteria for evaluation
Lectures – knowledge of the presented material, supplemented with the literature on the subject

Required courses and introductory requirements

A. Formal requirements none

B. Prerequisites English, level B2

Aims of education
Acquiring knowledge and skills to assess the state of the anthropopressed marine environment, in particular about extreme properties, as well as the scenario of causes and consequences of changes in biocoenoses at micro- and macro-scale

Course contents

1. Changes in marine ecosystems in the micro- and macro-scale as a result of human activity - a historical outline.

2. The impact of anthropopression on changes in marine environment at a local scale (e.g. economic, scientific, military).

3. The impact of climate change and related phenomena on the coastal zone and functioning of marine ecosystems, with a particular emphasis to polar regions.

4. The impact of increasing eutrophication: a case study of the dynamics of short- and long-term changes in the Baltic Sea.

5. Changes in marine ecosystems caused by natural factors, changes in species ranges, cases of mass mortality in the sea and jellyfish blooms.

6. Human impact on marine ecosystems in a local scale: invasive species; introduction of new species, pathogens and strains.

7. The use of living marine resources (fishing, whaling, aquaculture); the problem of overfishing .

8. Pollutants: organic, inorganic, heavy metals.

9. Problems related to plastic and microplastic in the sea.

10. Buildings on the sea bottom, coasline conversion, wind farms

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11. The largest marine ecological disasters.

12. Forecasts and scenarios of changes in particularly sensitive ecosystems, based on polar regions and the Baltic Sea

Bibliography of literature

A. Literature required to pass the course

B. Extracurricular readings

ACIA (2005) “Arctic Climate Impact Assessment - Scientific Report” 1046 pp. Cambridge University Press 2005

Andrulewicz E. i in. „Morze Bałtyckie – o tym warto wiedzieć”, Polskie Klub Ekologiczny, Gdynia 2008

Bolałek J. „Ochrona środowiska morskiego – od teorii do praktyki” Wyd. UG 2016

Brodecki Z., Żmudziński L. "Morskie obszary chronione w Polsce" Centrum Biologii Morza PAN, Uniwersytet Gdański, Gdynia 1997

Czerwiński A. „Współczesne źródła energii” Wyd. UW, 2001

Demel K. „Życie morza” Wyd. Morskie Gdańsk, 1979

Duxbury A.C., Duxbury A.B., Sverdrup K.A. „Oceany świata" PWN Warszawa, 2002

HELCOM (2017) "The integrated assessment of eutrophication - supplementary report to the first version of the 'State of the Baltic Sea' report 2017"

IPCC Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (eds, R.K. Pachauri RK, Meyer LA, Core Writing Team) IPCC, Geneva, Switzerland, 151 pp., 2014

Korzeniewski K. „Ochrona środowiska morskiego" Wyd. UG, 1998

Łabuz T. „Sposoby ochrony brzegów morskich i ich wpływ na środowisko przyrodnicze polskiego wybrzeża Bałtyku" Raport WWF, 2013

Łysiak-Pastuszak E. i in. (red.) „Ocena stanu środowiska polskich obszarów morskich Bałtyku na podstawie danych monitoringowych z roku 2015 na tle dziesięciolecia 2005-2014", Warszawa 2016

Pawlaczyk-Szpilowa M. „Mikrobiologia wody i ścieków" PWN Warszawa, 1980

Różańska Z. „Zasoby, zanieczyszczenia i ochrona wód morskich ze szczególnym uwzględnieniem Bałtyku" PWN Warszawa, 1987

Thurman H.V. „Zarys oceanologii" Wyd. Morskie Gdańsk, 1988

UNEP (2009) "Marine Litter: A Global Challenge" Nairobi: UNEP. 232 pp, 2009