



## Year I

Conventions in Faculty of Earth Sciences, Silesian University (UŚ) / Polish Academy of Sciences Institute of Geophysics (IGF PAN)  
and Institute of Oceanology (IO PAN)

**Physics of the Earth I:** the earth's crust, magnetism and paleomagnetism  
(IGF PAN)  
1 ECTS

**Oceanographic research in the region of the Arctic:** Characteristics of the physical environment of the Arctic seas, Research Methods in the arctic oceanography, The ocean and the climate - the importance of the circulation, The ocean and the atmosphere - the importance of ocean circulation for climate, Examples of oceanographic research programmes in the Arctic  
(IO PAN)  
1 ECTS

**Natural environment of the Arctic and Antarctic I:** tidewater glaciers and the sea level rise  
(UŚ)  
1 ECTS

Higher education teaching - e-learning in EduScience  
5 ECTS

**Natural environment of the Arctic and Antarctic II:** Hydrology and hydrochemistry of the polar regions  
(UŚ)  
1 ECTS

Workshop on methodology, writing publications, preparing project proposals, career planning, transferring knowledge to pupils and students. (UŚ)  
1 ECTS

**WORKSHOP II:** Geophysical methods in the research of cryosphere  
(UŚ)  
2 ECTS

**Geochemical research in the Arctic I:** Chemistry of sea water and sea bottom sediments; general characteristics, regional variations, Biogeochemical (bgch) streams of matter; feedback between bgch streams and the properties of the marine environment  
(IO PAN)  
1 ECTS

**WORKSHOP I:** Geosphere of the polar regions  
(IGF PAN)  
2 ECTS

**WORKSHOP II:** Geophysical methods in the research of cryosphere  
(UŚ)  
2 ECTS

English language  
2 ECTS

Professional training - in accordance with internal regulations of the doctoral student's parent school  
1 ECTS



## Year II

Conventions in Faculty of Earth Sciences, Silesian University (UŚ) / Polish Academy of Sciences Institute of Geophysics (IGF PAN)  
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**Physics of the Earth II:** Seismic phenomena in the polar regions, Physics of the polar regions atmosphere  
(IGF PAN)  
1 ECTS

**Natural Environment of the Arctic and Antarctic III:** Snow and nival processes, Meteorology and climate of the polar regions  
(UŚ)  
1 ECTS

**Geochemical research in the Arctic region II:** Pollution of the natural environment in the polar regions, exploration and exploitation of resources and the chemical and physical pollution of the environment  
(IO PAN)  
1 ECTS

Modelling in hydrology  
(IGF PAN)  
1 ECTS

Applications of remote sensing and GIS in the studies of the polar environment  
(UŚ)  
1 ECTS

**Workshop III:** Modern methods in the study of marine systems  
(IO PAN)  
2 ECTS

**Workshop IV:** Glaciology  
(UŚ)  
2 ECTS

Statistical Methods in Geophysics  
(IGF PAN)  
1 ECTS

English language  
2 ECTS

Professional training - in accordance with internal regulations of the doctoral student's parent school  
1 ECTS



## Year III

Conventions in Faculty of Earth Sciences, Silesian University (UŚ) / Polish Academy of Sciences Institute of Geophysics (IGF PAN)  
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**Ecology of polar regions:** Ecosystem of sea ice, Ecosystem of shelf coast and polar fiords, Ecology of polar regions, Ecosystem of the deep Arctic Ocean  
(IO PAN)  
1 ECTS

**Natural environment of the Arctic and Antarctic IV:** Glacial and periglacial geomorphology and the issues of dendrochronology Phenomena and processes within permafrost  
(UŚ)  
1 ECTS

**Natural environment of the Arctic and Antarctic V:** Parameters describing the system of the ocean-atmosphere, Grand-scale oceanic circulations, oceanic, Global atmospheric circulation  
(IO PAN)  
1 ECTS

**Physics of the Earth III:** Inflow and accumulation of pollution in the Arctic  
(IGF PAN)  
1 ECTS

Unity and diversity of polar sciences  
(UŚ)  
1 ECTS

Development of coasts and young glacial basins – processes, research methods, modelling  
(IGF PAN)  
1 ECTS

**Workshops V:** Abiotic systems of monitoring in the Arctic  
(IGF PAN)  
2 ECTS

**Workshops VI:** Ocean vs. climate and the consequences of global changes  
(IO PAN)  
2 ECTS

Professional training - in accordance with internal regulations of the doctoral student's parent school  
1 ECTS



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for Polar  
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**KNO**  
Krajowy Naukowy  
Ośrodek Wiodący

## Year IV

Conventions in Faculty of Earth Sciences, Silesian University (UŚ) / Polish Academy of Sciences Institute of Geophysics (IGF PAN)  
and Institute of Oceanology (IO PAN)

Doctoral seminar  
(UŚ)  
1 ECTS

Doctoral seminar  
(IO PAN, IGF PAN)  
1 ECTS

Professional training - in accordance with  
internal regulations of the doctoral  
student's parent school  
1 ECTS