University of Gdańsk

Subject card

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| Subject name and code | Introduction to Environmental Photochemistry - laboratory, PG_00206153 | | |
| Field of study | Oceanography | | |
| Date of commencement of studies | October 2026 | Academic year of realisation of subject | 2028/2029 |
| Education level | Bachelor's studies | Subject group | Obligatory subject group in the field of study<br>Optional subject group<br>Subject group related to scientific research in the field of study |
| Mode of study | full-time studies | Mode of delivery | at the university |
| Year of study | 3 | Language of instruction | Polish |
| Semester of study | 6 | ECTS credits | 2.0 |
| Learning profile | academic | Assessment form | credit |
| Conducting unit | Laboratory of Marine Environmental Protection -> Department of Chemical Oceanography and Marine Geology -> Faculty of Oceanography and Geography -> Rector | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr hab. Waldemar Grzybowski, prof. UG | |
| | Teachers | | |

**Lesson types**

| Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
|---|---|---|---|---|---|---|
| Number of study hours | 0.0 | 0.0 | 30.0 | 0.0 | 0.0 | 30 |

E-learning hours included: 0.0

**Learning activity and number of study hours**

| Learning activity | Participation in didactic classes included in study plan | Participation in consultation hours | Self-study | SUM |
|---|---|---|---|---|
| Number of study hours | 30 | 2.0 | 18.0 | 50 |

**Subject objectives**

Familiarization with basic methods of examining the impact of solar radiation on the environment

**Learning outcomes**

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [OCEANL3-K01] is willing to plan and implement, individually or as a team, the subsequent stages of the entrusted task, is willing to take responsibility for the results of these works, effectively cooperates in the team and performs various roles in it | can plan and implement, individually or in a team, assigned tasks, cooperates in the team, performing various roles in it (content program: B.1-4) | [SK2] presentation/project/paper/ report |
| [OCEANL3-U02] is able to independently and collaboratively conduct observations and perform measurements in the field or laboratory using appropriately selected techniques, tailored to the research problem | is able to design under the supervision of a research supervisor an experiment aimed at solving a given task (content program: B.1-4) | [SU2] presentation/project/paper/ report |
| [OCEANL3-U04] is able to independently search for information in Polish and foreign specialist literature, as well as on the Internet and in databases | can present the results contained in scientific publications English (program content: B.5) | [SU2] presentation/project/paper/ report |
| [OCEANL3-K06] is willing to use the acquired knowledge in planning and designing professional activities as well as thinking and acting in an entrepreneurial way, also in the field of social activities undertaken | follows the rules of occupational health and safety, takes care of specialist equipment entrusted to him, is aware of the risks resulting from performed task (program content: B.1-4 | [SK4] test/exam - oral or written |

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| Subject contents | B. Laboratory issues B.1 solar radiation measurements using broadband sensors; testing the impact of optical filters; measuring and modifying emissions different types of sunlight simulators B.2 construction of a UVVIS spectrophotometer, measurement of optical properties of natural waters B.3 factors affecting the precision and accuracy of absorbance measurement B.4 observations of changes in the optical properties of natural waters under the influence of solar radiation B.5 presentation of a selected problem in the field of optical properties of natural waters based on an English-language scientific publication |
| Prerequisites and co-requisites | |

**Assessment methods and criteria**

| Subject passing criteria | Passing threshold | Percentage of the final grade |
|---|---|---|
| Test | 51.0% | 70.0% |
| Presentation | 51.0% | 30.0% |

**Recommended reading**

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| Basic literature | Selected scientific articles on the optical properties of natural waters |
| Supplementary literature | Waldemar Grzybowski - Transformation of dissolved organic matter under the influence of solar radiation, 2006, UG Publishing House, Gdansk |
| eResources addresses | |

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| Example issues/ example questions/ tasks being completed | |
| Work placement | Not applicable |

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