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| **Title:** | General Aquatic Ecology |
| **Lecture hours:** | 30 |
| **Study period: (summer/winter)** | winter |
| **Number of credits:** | 3 |
| **Assessment methods:** | exam |
| **Language of instruction:** | English |
| **Prerequisites:** | basic knowledge of ecology, biology and geography |
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| **Course content:** | Inland water ecology as a science – hydrobiology, limnology. Inland water resources on a global scale. Physical and chemical properties of water. Vertical gradients: light, temperature, density, thermocline. Oxygen vs carbon dioxide – solubility, acidity, pH, oxidation-reduction potential (redox). Ion dissociation – major ions. Hydrodynamics, hydrology, hydrochemistry. Aquatic organisms – adaptations to the environment. Physiological and ecological groups – plankton, nekton, pleuston, neuston, periphyton, benthos. Anthropogenic pressure and changes in aquatic ecosystems. Threats to aquatic ecosystems resulting from human activities. Research methods, ecosystem health diagnostics. |
| **Learning outcomes:** | After completing the course, the participant:<br>Understands the physical and chemical properties of different types of water bodies and can describe the processes and phenomena occurring in them;<br>Knows the ecological relationships and connections between groups of hyrobionts (plankton, benthos, periphyton, nekton) inhabiting various types of aquatic ecosystems;<br>Has knowledge about the importance, threats (trophic and non-trophic) and ways of protecting aquatic ecosystems;<br>Assesses human pressure on aquatic ecosystems and seeks solutions to global and local problems related to the protection of these ecosystems. |
| **Name of lecturer** | dr hab. Paweł Napiórkowski prof. |
| **Contact (email address):** | pnapiork@ukw.edu.pl |
| **Literature:** | Limnology and limnetic ecology [ed.Reynolds and O'Sullivan] The lakes ha, Handbook Volume 1, Blackwell Science Ltd 2004<br>Limnoecology. Lampert and Sommer. Oxford University Press 2007<br>Lake Ecology Overview. (Chapter 1, Horne, A.J. and C.R. Goldman. 1994. Limnology. 2nd edition. McGraw-Hill Co., New York, New York, USA.)<br>https://paulhumphriesriverecology.wordpress.com/2012/02/15/a-bried-history-of-how-scientists-think-rivers-work-part-1<br>Hydrobiologia-Limnologia. Górniak A., Kajak Z., PWN Warszawa 2020 |