Module Name	Module Code
Fieldtrip Hydrobiology Poland	AEF-EM023
Module Coordinator	
Prof. Dr. Nicola Fohrer	
Organizer	
Institute for Natural Resource Conservation - Hydrology and Water Resources Management	
Faculty	
Faculty of Agricultural and Nutritional Sciences	
Examination Office	
Faculty of Agricultural and Nutritional Sciences - Examination Office	

ECTS Credits	6
Evaluation	Graded
Duration	1 Semester
Frequency	Only takes place during summer semesters
Workload per ECTS Credit	30 hours
Total Workload	180 hours
Contact Time	60 hours
Independent Study	120 hours
Teaching Language	English

Recommended Requirements			
Basics in Ecology and Hydrology			
Module Courses			
Course Type	**Course Name**	**Compul-sory/Optional**	**SWS**
Exercise	Hydrobiology	Compulsory	3,5
Field trip	Hydrology	Compulsory	0,5
Prerequisits for Admission to the Examination(s)			
Regular visits of excursion is necessary for the examination.			

Examination(s)				
Examination Name	**Type of Examination**	**Evaluation**	**Compulsory / Optional**	**Weighting**
Protocol: Fieldtrip Hydrobiology Poland	Protocol	Graded	Compulsory	100

Further Information on the Examination(s)

1.+2. period in summersemester
1. period in wintersemester

Examiner: Prof. Dr. Fohrer/PD Dr. Wu
QIS: 74500 with number of Examination 74510

Course Content

Any alterations in the way the catchment basin is used, for instance caused by urbanization, the development of industry or agricultural intensification, lead to the deterioration of the quality of surface waters. Monitoring of water quality is, then, the basic method of controlling the water environment. In the diagnosis of the condition of water ecosystem the indices based on physico-chemical and biological parameters (f. e. phytoplankton, periphyton, hydromacrophytes, benthic macroinvertebrates) will be used. In case of eutrophic lakes with permanent domination of cyanobacteria achieving and maintaining the satisfactory quality of waters is often associated with restoration. The evaluation of the water ecosystem affected by restoration will be made by students on the example of Lake Durowskie in the middle of the vegetation period. The following problem tasks for students were chosen:
The evaluation of the ecological condition of the lake in connection with macrophyte-based indices.Taxonomic composition, the number of and biomass of the phytoplankton.
Diatom index of periphyton.
The composition and biomass of benthic macroinvertebrates.
Spatial variability of physico-chemical indices according to the depth and horizontal changes (temperature, oxygen, the pH level, and electrolytic conductivity).

Learning Outcome

Students are to learn how to diagnose the inland waters independently (for example a lake or a river) taking into account their biological and physico-chemical parameters. What is more, students will also be able to use the acquired theoretical knowledge in practice (i.e. in nature resources management like restoration, water protection, biomanipulation) and they will learn how to present the results obtained during the field research orally and in writing.

Reading List

1. Ciecierska H. 2008. Macrophyte-based indices of the ecological state of lakes. Dissertations and Monographs 139, Wyd. UWM.
Schaumburg, J., Schmedtje, U., Schranz, Ch., Köpf, B., Schneider, S.,Stelzer, D., Hofmann, G., 2005. Instruction Protokol for the ecological Assessment of Lakes for Implementation of the EU Water Frame-work Directive: Macrophytes and Phytobenthos. Bavarian Water Management Agency. Mu#nchen. 1–44.
Schiefele, S., Schreiner, C., 1991. The use of diatoms for monitoring nutrient enrichment, acidification and impact of salt in rivers in Germany and Austria. W: Whitton, B.A., Rott, E., Friedrich, G. (red.): Use of Algae for Monitoring Rivers. Institut fu#r Botanik. Universität Innsbruck. s. 103–110.
Schoenfelder, I., Gelbrecht, J., Schoenfelder, J, Steinberg, C.E.W., 2002. Relationships between littoral diatoms and their chemical environment in northeastern German lakes and rivers. J. Phycol. 38: 66–82.
Wetzel R. G. 2001. Limnology. Lake and River Ecosystems. Third Edition. Oxford Academic Press, 767pp

Additional Information

Class size 12,
Enrollment by OLAT within workdays Monday through Friday in the 1nd week of the 2. audit period of the preceding semester. Following information are necessary:
matriculation number
last name
first name
striven degree
study program
stu-Email

The allocation of the places takes place in the 2nd week of the 2. audit period of the preceding semester.
Acceptance of the place by students only through participation at the first day of the course.
Students without a place can get a place at the first day of the course by move-up procedure.

Use	Compulsory / Optional	Semester
Master, 1-Subject, Agricultural Sciences, Specialisation Agricultural Economics, (Version 2017)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Agricultural Economics, (Version 2013)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Agribusiness, (Version 2017)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Agribusiness, (Version 2013)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Crop Sciences, (Version 2017)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Crop Sciences, (Version 2013)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Animal Sciences, (Version 2017)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Animal Sciences, (Version 2013)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Environmental Sciences, (Version 2017)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Environmental Sciences, (Version 2013)	Optional	-
Master, 1-Subject, Agricultural Sciences, Specialisation Environmental Sciences, (Version 2008)	Optional	-
Master, 1-Subject, Applied Ecology, (Version 2016)	Optional	-
Master, 1-Subject, Applied Ecology, (Version 2015)	Optional	-
Master, 1-Subject, Applied Ecology, (Version 2010)	Optional	-
Master, 1-Subject, Dairy Science, (Version 2017)	Optional	-
Master, 1-Subject, Environmental and Resource Economics, (Version 2014)	Optional	-
Master, 1-Subject, Environmental Management, (Version 2017)	Optional	-
Master, 1-Subject, Environmental Management, (Version 2013)	Optional	-
Master, 1-Subject, Environmental Management - Management of Natural Resources, (Version 2010)	Optional	-
Master, 1-Subject, Nutritional and Food Science, (Version 2013)	Optional	-
Master, 1-Subject, Nutritional and Consumer Economics, (Version 2017)	Optional	-
Master, 1-Subject, Nutritional and Consumer Economics, (Version 2013)	Optional	-
Master, 1-Subject, Sustainability, Society and the Environment, (Version 2013)	Optional	-