

# SYLLABUS

REGARDING THE QUALIFICATION CYCLE FROM 2021/2022 TO 2021/2022

## 1. BASIC COURSE/MODULE INFORMATION

Course/Module title	<i>Stream ecology</i>
Course/Module code *	
Faculty (name of the unit offering the field of study)	<i>Institute of Agricultural Sciences, Land Management and Environmental Protection</i>
Name of the unit running the course	<i>Department of Ecology and Environmental Protection</i>
Field of study	Environment Protection
Qualification level	1 <sup>st</sup>
Profile	<i>academic</i>
Study mode	<i>full-time studies</i>
Year and semester of studies	<i>Year 1, 2, or 3 / winter semester</i>
Course type	<i>to choose</i>
Language of instruction	English
Coordinator	Aneta Bylak, PhD, DSc, Associate Professor
Course instructor	Professor Krzysztof Kukuła; Aneta Bylak, PhD, DSc, Associate Professor

\* - as agreed at the faculty

### 1.1. Learning format – number of hours and ECTS credits

Semester (no.)	Lectures	Classes	Colloquia	Lab classes	Seminars	Practical classes	Internships	others	ECTS credits
winter	2			3					2

### 1.2. Course delivery methods

- conducted in a traditional way
- involving distance education methods and techniques

### 1.3. Course/Module assessment (exam, pass with a grade, pass without a grade)

pass with a grade

## 2. PREREQUISITES

Knowledge of chemistry, physics and biology at the basic high school level.

### 3. OBJECTIVES, LEARNING OUTCOMES, COURSE CONTENT, AND INSTRUCTIONAL METHODS

#### 3.1. Course/Module objectives

O1	Acquaintance with structure and function of flowing water, and methods used by stream ecologists.
O2	Comprehension of human impact on biological communities of flowing waters.
O3	Knowledge of important concepts that shaped the development and current state of stream ecology.

#### 3.2. COURSE/MODULE LEARNING OUTCOMES (TO BE COMPLETED BY THE COORDINATOR)

Learning Outcome	The description of the learning outcome defined for the course/module	Relation to the degree programme outcomes
LO_01	students will know ecological processes in flowing waters, physical, chemical, and biological structure of streams and rivers, important concepts that shaped the development and current state of stream ecology.	K_Wo1, K_Wo3, K_Wo4
LO_02	students will be familiar with field and laboratory methods commonly used by stream ecologists, and be able to analyse data relevant to stream ecology and environmental assessment.	K_Wo4, K_Uo1, K_Uo2, K_Uo9,
LO_03	students will be able to understand the responsibility for maintaining and protecting remaining freshwater ecosystems.	K_Wo1, K_Ko1

#### 3.3. Course content (to be completed by the coordinator)

##### A. Lectures

Content outline
Introduction. Overarching concepts and common terms. Substrate, stream temperature and chemistry. River networks and a landscape perspective of streams. Primary production and organic matter. Trophic relationships and food webs. Disturbance and succession. Human impact on river networks.

##### B. Classes, tutorials/seminars, colloquia, laboratories, practical classes

Content outline
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Invertebrate ecology. Invertebrate communities. Stream fish ecology and communities.
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### 3.4. Methods of Instruction

e.g.

*Lecture: a problem-solving lecture/a lecture supported by a multimedia presentation/ distance learning*

*Classes: text analysis and discussion/project work (research project, implementation project, practical project)/ group work (problem solving, case study, discussion)/didactic games/ distance learning*

*Laboratory classes: designing and conducting experiments*

Lecture, Laboratory classes

## 4. Assessment techniques and criteria

### 4.1 Methods of evaluating learning outcomes

Learning outcome	Methods of assessment of learning outcomes (e.g. test, oral exam, written exam, project, report, observation during classes)	Learning format (lectures, classes,...)
LO-01	WRITTEN OPEN TEST, WRITTEN PRESENTATION	Lecture, Laboratory classes
LO-02	WRITTEN PRESENTATION	Lecture, Laboratory classes, Consultation hours
LO-03	WRITTEN PRESENTATION	Laboratory classes, Consultation hours

### 4.2 Course assessment criteria

Written open test (max.25 questions, max. 100 points)

Written presentation (max. 100 points)

Grade 5.0, > 92%; Grade 4.5, 84-91%; Grade 4.0, 76-83%; Grade 3.5, 68-75%; Grade 3.0, 60-67% points.

Percent of final grade: written presentation - 50%, written open test - 50%

## 5. Total student workload needed to achieve the intended learning outcomes – number of hours and ECTS credits

Activity	Number of hours
Scheduled course contact hours	5
Other contact hours involving the teacher (consultation hours, examinations)	5
Non-contact hours - student's own work (preparation for classes or examinations, projects, etc.)	15

Total number of hours	25
Total number of ECTS credits	1

\* One ECTS point corresponds to 25-30 hours of total student workload

## 6. Internships related to the course/module

Number of hours	<i>n/a</i>
Internship regulations and procedures	<i>n/a</i>

## 7. Instructional materials

Compulsory literature: <ul style="list-style-type: none"> <li>Allan J.D., Castillo M. M. 2007. Stream ecology: the structure and function of flowing waters. 2nd ed. Springer.</li> </ul>
Complementary literature: <ul style="list-style-type: none"> <li>Krebs C.J. 2009. Ecology: the experimental analysis of distribution and abundance, 6th ed. Pearson.</li> </ul>

Approved by the Head of the Department or an authorised person