

MODULE INFORMATION SHEET

Name of Module Unit	Engineering hydrology and hydrogeology
Name in polish language	Hydrologia i hydrogeologia inżynierska
Module type	compulsory / elective
Form of studying	full-time day courses
Level of study	undergraduate course (B.Sc. level)
Type of study (for extra-mural courses)	-
Programme	Environmental Engineering
Speciality	Environmental Engineering
Responsible department	Department of Environmental Protection and Management
Responsible person	Prof. dr hab. inż. Marek Nawalany

Semester	Lectures(E)	Tutorials	Laboratory	Computer Exercises	Projects	ECTS
5	30 (Exam)				15	4

Objectives (summary)

Skills in: Understanding basic characteristics of water flow in river; calculating flow characteristics for hydrological documentation; basic skill in engineering hydrogeology – calculating drawdown caused by galleries of wells, calculating of protection zones for groundwater abstraction stations

Prerequisites

Hydrology, meteorology

Rules of integrated grade setting

$0.6 \times \text{Lectures grade} + 0.4 \times \text{Tutorials grade}$

Recommended readings

1. A.Verruijt – Groundwater Flow
2. A. Wieczysty – „Hydrogeologia inżynierska” PWN 1982,
3. Z. Pazdro, B. Kozerski – „Hydrogeologia ogólna” Wyd. Geol. 1990,

Contents of lectures (syllabus)

	Topics	Time (hrs.)	Scope (S / Ex)
1	Measurements and evaluation of consumption curve.	2	S/Ex
2	Characteristic river flows – calculations, meaning for engineering practices	4	S/Ex
3	Modelling of water flow in rivers	8	S/Ex
4	Elements of groundwater dynamics and measurements	6	S/Ex
5	Groundwater flow to galleries	4	S/Ex
6	Monitoring and protection of water resources	4	S/Ex
7	Protection zones	2	S/Ex
Total		30	hours

S – topics listed in the legal study programme standards from 12.07.2007

Ex – extended topics

Lecturers

Prof. dr hab. inż. Marek Nawalany

Assessment method

Exam

Contents of guided projects

	Topics	Time (hrs.)	Scope (S / Ex)
1	Simple models of river flow routing	2	S/Ex
2	Calculating major characteristics of river flow required by hydrological documentation	4	S/Ex
3	Modelling of groundwater flow for practical cases	4	S/Ex
4	Modelling of groundwater transport	5	S/Ex
		15	

S – topics listed in the legal study programme standards from 12.07.2007

Ex – extended topics

Persons responsible for guided projects

Prof. dr hab. inż. Marek Nawalany and Dr inż. Grzegorz Sinicyn

Assessment method for guided projects

Defence of the project