MODULE INFORMATION SHEET

Name of Module Unit	**Hydrology**
Name in polish language	Hydrologia
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
4	30 (Exam)	15				5

Objectives (summary)

Skills in: Understanding processes, phenomena and laws governing water flow in different time and space scales ; understanding of links between water resources, water processes and human activities.

Prerequisites

Elements of mathematics and physics at the level of the I-st year of technical university education

Rules of integrated grade setting

0.6*Lectures grade + 0.4*Tutorials grade

Recommended readings

1. E. Bajkiewicz-Grabowska, Z. Mikulski, Hydrologia Ogólna, PWN, Warszawa 1999
2. M. Ozga-Zielińska, J.Brzeziński, Hydrologia Stosowana, PWN, Warszawa, 1994
3. A. Wartd, S.Trimble, Environmental Hydrology, Lewis Publishers, Boston 2003
4. U. Soczyńskiej (red.), Hydrologia Dynamiczna
5. Z. Pasławski, Metody Hydrometrii Rzecznej

Contents of lectures (syllabus)

	Topics	Time (hrs.)	Scope (S / Ex)
1	Hydrology - definitions. Physical and chemical properties of water. Global water cycle. Water i in natural environment. Precipitation as the source of water on land. Hydrology and its relation to other disciplines of science.	6	S/Ex
2	Objects and processes of land phase of water cycle - lakes and reservoirs: scale, measurements and processes dynamics.	4	S/Ex
3	Objects and processes of land phase of water cycle - rivers: scale, measurements and processes dynamics.	4	S/Ex
4	Objects and processes of land phase of water cycle - groundwater: scale, measurements and processes dynamics.	4	S/Ex
5	Surface and subsoil watershed. Space distribution and dynamics of hydrological processes in watershed scale. Interaction between surface- and groundwater.	4	S/Ex
6	Water resource in watershed. Anthropogenic factor. Quality of water resources. Water balance of in watershed.	4	S/Ex
7	Monitoring, use and protection of water resources. Basic notions of water management.	4	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 tutorials

	Topics	Time (hrs.)	Scope (S / Ex)
1	Water balance of watershed	2	S/Ex
2	Elements of hydrometry - measurements of water level	2	S/Ex
3	Elements of hydrometry - measurements of water discharge	2	S/Ex
4	Main discharges	2	S/Ex
5	Flow way routing models	4	S/Ex
6	Assessment of water reservoir volume	2	S/Ex
7	Final test	1	S
	Total	**15**	**Hours**

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

Persons responsible for tutorials

Prof. dr hab. inż. Marek Nawalany

Assessment method for tutorials

Acceptance of homework exercises + final test