

FACULTY OF ELECTRICAL
ENGINEERING**SUBJECT CARD**

Name in Polish: **Filozofia nauki i techniki**
 Name in English: **Philosophy of science and technology**
 Main field of study (if applicable): **Electrical Engineering**
 Specialization (if applicable):
 Level and form of studies: **1st level, full-time**
 Kind of subject: **optional / university-wide**
 Subject code: **FLH051511**
 Group of courses: **NO**

	Lecture	Classes	Laboratory	Project	Seminar
Number of hours of organized classes in University (ZZU):	15				
Number of hours of total student workload (CNPS):	30				
Form of crediting:	crediting with grade				
For group of courses mark (X) final course:					
Number of ECTS points:	1				
including number of ECTS points for practical (P) classes :					
including number of ECTS points for direct teacher-student contact (BK) classes:	0.70				

PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1. Humanistic knowledge at the level of secondary education.

SUBJECT OBJECTIVES

- C1. To acquaint students with the basic concepts of the theory of knowledge with particular emphasis on methods of reasoning
 C2. Introduce students to the problem of creativity in the development of scientific knowledge.
 C3. Performance considerations of engineer's activity and to present the issue of social responsibility in science and technology.

SUBJECT EDUCATIONAL EFFECTS*relating to knowledge:*

- PEK_W01 The student gains knowledge of the basic methods of inference (deduction, induction and abduction).
 PEK_W02 The student has knowledge that is essential to understanding and interpreting social and philosophical considerations of engineer's activity.

*relating to skills:**relating to social competences:*

- PEK_K01 The student is aware of the importance of understanding non-technical aspects and of engineer's activity, its consequences and responsibility for undertaken decisions.

PROGRAMME CONTENT

Form of classes - lecture		Number of hours:
Lec 1	What is the science and technology? The basic concepts and principles of the philosophy of science and philosophy of technology.	2
Lec 2	The main criteria of scientific knowledge.	1
Lec 3	The tradition of doing science from the point of view of the theory	1
Lec 4	The tradition of doing science from the point of view of the experiment.	1
Lec 5	The basic methods of inference - induction.	1
Lec 6	The basic methods of inference - deduction.	1
Lec 7	The basic methods of inference - abduction.	1
Lec 8	The main objectives and functions of science and technology from the point of view of classical philosophy of science.	2
Lec 9	The main aims and functions of science and technology from the point of view of the sociology of scientific knowledge.	1
Lec 10	The concept of science laboratory.	2
Lec 11	The problem of social responsibility of science and technology.	2
Total hours:		15

TEACHING TOOLS USED

- N1. Multimedia presentation
N2. Lecture
N3. Interactive lecture

EVALUATION OF SUBJECT EDUCATIONAL EFFECTS ACHIEVEMENT

Evaluation <i>F – forming (during semester) P – concluding (at semester end)</i>	Educational effect number	Way of evaluating educational effect achievement
F1(w)	PEK_W01 PEK_W02 PEK_K01	Passing test, active participation in lectures
P(w)	P=F1	

PRIMARY AND SECONDARY LITERATURE

PRIMARY LITERATURE:

- [1] E. Agazzi, Dobro, zło i nauka. Etyczny wymiar działalności naukowo-technicznej, Warszawa 1997;
- [2] S. Blackburn, Oksfordzki słownik filozoficzny, Warszawa 2004;
- [3] A. Chalmers, Czym jest to, co zwiemy nauką, Wrocław 1997;
- [4] R. M. Chisholm, Teoria poznania, 1994;
- [5] Ch. Frankfort- Nachmiast, D. Nachmiast, Metody badawcze w naukach społecznych, Poznań 2001;
- [6] A. Grobler, Metodologia nauk, Kraków 2004;
- [7] M. Heidegger, Budować, mieszkać, myśleć, Warszawa 1977;
- [8] T. Kuhn, Dwa bieguny, Warszawa 1985;
- [9] B. Latour, Polityka natury, Warszawa 2009;
- [10] K.R. Popper, Wiedza obiektywna, Warszawa 1992;
- [11] J. Woleński, Epistemologia, Warszawa 2005.

SECONDARY LITERATURE:

- [1] D. Sobczyńska, P. Zeidler, Nowy eksperymentalizm. Teoretycyzm. Reprezentacja, Poznań 1994,
- [2] P. Zeidler, Spór o status poznawczy teorii, Poznań 1992.

SUBJECT SUPERVISOR

Marek Sikora, m.sikora@pwr.edu.pl

MATRIX OF CORRELATION BETWEEN EDUCATIONAL EFFECTS FOR SUBJECT **FLH051511 - Philosophy of science and technology** AND EDUCATIONAL EFFECTS FOR MAIN FIELD OF STUDY **Electrical Engineering**

Subject educational effect	Correlation between subject educational effect and educational effects defined for main field of study and specialization (if applicable)	Subject objectives	Programme content	Teaching tool number
PEK_W01	K1ETK_W34	C.1 C.2	Lec1 Lec2 Lec3 Lec4 Lec5 Lec6 Lec7 Lec8 Lec9 Lec10 Lec11	N.1 N.2
PEK_W02	K1ETK_W34	C.1 C.2	Lec1 Lec2 Lec3 Lec4 Lec5 Lec6 Lec7 Lec8 Lec9 Lec10 Lec11	N.1 N.2
PEK_K01	K1ETK_K01	C.3	Lec2 Lec11	N.3