

FACULTY OF ELECTRICAL
ENGINEERING**SUBJECT CARD**

Name in Polish: **Praktyka dyplomowa (4-tygodniowa)**
 Name in English: **Diploma placement 4 weeks**
 Main field of study (if applicable): **Electrical Engineering**
 Specialization (if applicable): **Renewable Energy Systems**
 Level and form of studies: **2nd level, full-time**
 Kind of subject: **optional**
 Subject code: **ELR045105Q**
 Group of courses: **NO**

	Lecture	Classes	Laboratory	Project	Seminar
Number of hours of organized classes in University (ZZU):				160	
Number of hours of total student workload (CNPS):				120	
Form of crediting:				crediting with grade	
For group of courses mark (X) final course:					
Number of ECTS points:				4	
including number of ECTS points for practical (P) classes :				4	
including number of ECTS points for direct teacher-student contact (BK) classes:				2.80	

PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1. Allow for the implementation of placement by the Commissioner for practice.

SUBJECT OBJECTIVES

- C1. Acquisition of knowledge useful for the implementation of a Master's thesis.
- C2. Gaining industrial experience, learning of basic technical equipment and technology of companies, knowledge of the manager specific work and higher technical personnel.
- C3. Expanding the knowledge gained during education and developing the skills to use it.
- C4. Getting to know the specifics of the professional and development of specific skills directly related to the place of performance of the practice.
- C5. Getting to know the organizational structure of company, principles of work organization and distribution of competences, procedures, work planning and work control.
- C6. Improving the organization of individual and team work, effective time management, conscientiousness and responsibility for assigned tasks.
- C7. Improving skills in using foreign languages in professional situations.
- C8. Professionalization of professional behavior, compliance with the rules of professional conduct and respect for technical and cultural diversity
- C9. Establish professional contacts, particularly useful when looking for work.

SUBJECT EDUCATIONAL EFFECTS*relating to knowledge:**relating to skills:*

- PEK_U01 He has an ability to use the gained knowledge to creatively analyze and solving various engineering problems.
 PEK_U02 Skills in estimation of the time needed to carry out the ordered task or project.

relating to social competences:

- PEK_K01 He has a sense of responsibility for their own work, he is open to the exchange of ideas and new challenges.

PROGRAMME CONTENT

Form of classes - project		Number of hours:
Proj 1	Individual program practices, adapted to the specific implemented thesis.	160
Total hours:		160

TEACHING TOOLS USED

- N1. Keynote presentation at the company's operations.
 N2. Consultation.
 N3. Specialized equipment and measuring technology used in the company.
 N4. Specialized computer programs to support the company.

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(P)	PEK_U01 PEK_U02 PEK_K01	Individual rating (2.0....5.5) on the basis of a written report just completed practice and requirements contained in the "Rules of Practice".
P(P)	P=F1	

PRIMARY AND SECONDARY LITERATURE

PRIMARY LITERATURE:

- [1] Nawrocki Z., Dusza D., Analogue and digital measurement systems, Wrocław, 2011
 [2] Tumański S., Principles of electrical measurements, New York ; London : Taylor & Francis, 2006
 [3] Lyons R.G., Understanding Digital Signal Processing, Pearson Education; 1996.
 [4] Morris A.S., Measurement and Instrumentation Principles, Butterworth-Heinemann, 2001.
 [5] Van de Plassche R., CMOS integrated analog to digital and digital to analog converters, Kluwer Academic Publishers, 2003
 [6] Lyons R.G., Understanding Digital Signal Processing, Pearson Education; 1996.
 [7] J.Mc.Ghee, I.A. Henderson, M.J. Korczyński, W.Kulesza: Scientific metrology, Technical University of Lodz, Lodz, 1998.

SECONDARY LITERATURE:

- [1] Clayton G., Winder S.: Operational amplifiers, Newnes, Oxford, 2003.
 [2] Kester W., Jung W., Op AMP structures, Op AMP applications, Analog Devices, Norwood, 2002.
 [3] Kester W., Analog to Digital Conversion, Analog Devices, 2004.
 [4] Nawrocki Z., Dusza D., Kosobudzki G, Metrological analysis of integrated analog RMS converters described by explicit and implicit functions, Measurement (London). 2009, vol. 42, nr 2, s. 308-313
 [5] Mc.Ghee, I.A. Henderson, M.J. Korczyński, W.Kulesza: Measurement data handling, vol. 1 and vol.2 , Technical University of Lodz, Lodz, 2001

SUBJECT SUPERVISOR

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MATRIX OF CORRELATION BETWEEN EDUCATIONAL EFFECTS FOR SUBJECT ELR045105Q - Diploma placement 4 weeks AND EDUCATIONAL EFFECTS FOR MAIN FIELD OF STUDY **Electrical Engineering** AND SPECIALIZATION **Renewable Energy Systems**

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_U01	S2RES_U21	C.1 C.2 C.3 C.4 C.5 C.6 C.7 C.8 C.9	Proj1	N.1 N.2 N.3 N.4
PEK_U02	S2RES_U21	C.1 C.2 C.3 C.4 C.5 C.6 C.7 C.8 C.9	Proj1	N.1 N.2 N.3 N.4
PEK_K01	K2ETK_K06	C.1 C.2 C.3 C.4 C.5 C.6 C.7 C.8 C.9	Proj1	N.1 N.2 N.3 N.4