

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: **ELR055105Q**  
 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 LEARNING OUTCOMES***relating to knowledge:**relating to skills:*

- PEU\_U01 He has an ability to use the gained knowledge to creatively analyze and solving various engineering problems.  
 PEU\_U02 Skills in estimation of the time needed to carry out the ordered task or project.

*relating to social competences:*

- PEU\_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 LEARNING OUTCOMES ACHIEVEMENT**

<b>Evaluation</b> <i>F – forming (during semester)</i> <i>P – concluding (at semester end)</i>	<b>Educational effect number</b>	<b>Way of evaluating educational effect achievement</b>
F1(P)	PEU_U01 PEU_U02 PEU_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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