

FACULTY OF ELECTRICAL
ENGINEERING**SUBJECT CARD**

Name in Polish: **Praca dyplomowa magisterska**
 Name in English: **Master's thesis**
 Main field of study (if applicable): **Electrical Engineering**
 Specialization (if applicable): **Renewable Energy Sources**
 Level and form of studies: **2nd level, full-time**
 Kind of subject: **optional**
 Subject code: **ELR052159D**
 Group of courses: **NO**

| | Lecture | Classes | Laboratory | Project | Seminar |
|--|---------|---------|------------|----------------------|---------|
| Number of hours of organized classes in University (ZZU): | | | | 180 | |
| Number of hours of total student workload (CNPS): | | | | 540 | |
| Form of crediting: | | | | crediting with grade | |
| For group of courses mark (X) final course: | | | | | |
| Number of ECTS points: | | | | 18 | |
| including number of ECTS points for practical (P) classes : | | | | 18 | |
| including number of ECTS points for direct teacher-student contact (BK) classes: | | | | 12.60 | |

PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES**SUBJECT OBJECTIVES****SUBJECT LEARNING OUTCOMES***relating to knowledge:**relating to skills:*

PEU_U01 xx

PEU_U02 xx

relating to social competences:

PEU_K01 xx

PROGRAMME CONTENT

| Form of classes - project | | Number of hours: |
|---------------------------|----|------------------|
| Proj 1 | xx | 180 |
| Total hours: | | 180 |

TEACHING TOOLS USED**EVALUATION OF SUBJECT LEARNING OUTCOMES ACHIEVEMENT**

| Evaluation <i>F - forming (during semester) P - concluding (at semester end)</i> | Educational effect number | Way of evaluating educational effect achievement |
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| PRIMARY AND SECONDARY LITERATURE |
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| PRIMARY LITERATURE: |
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| <p>[1] ROSOŁOWSKI E., Komputerowe metody analizy elektromagnetycznych stanów przejściowych. Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław 2009.</p> <p>[2] http://zas.ie.pwr.wroc.pl/ER/przyklady_D1/index.html - przykłady niektórych modeli wraz z plikami źródłowymi do programu ATP-EMTP.</p> |
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| SECONDARY LITERATURE: |
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| <p>[1] WATSON N., ARRILAGA J., Power systems electromagnetic transients simulation. The Institution of Electrical Engineers, 2003.</p> <p>[2] Michalik M., Rosołowski E., Simulation and analysis of power system transients. PRINTPAP, 2011.</p> <p>[3] AMETANI A., NAGAOKA N., BABA Y., OHNO T., Power System Transients. Theory and Applications. CRC Press. Taylor & Francis Group, 2014.</p> |
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| SUBJECT SUPERVISOR |
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