

| <b>STUDY MODULE DESCRIPTION FORM</b>  |  |   |
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| Name of the module/subject<br><b>Diploma seminar</b>  |  | Code<br><b>1010312421010310081</b>  |
| Field of study<br><b>Power Engineering</b>  | Profile of study<br>(general academic, practical)<br><b>(brak)</b> | Year /Semester<br><b>1 / 2</b>  |
| Elective path/specialty<br><b>Sustainable Development of Power</b>  | Subject offered in:<br><b>Polish</b>                               | Course (compulsory, elective)<br><b>obligatory</b>  |
| Cycle of study:<br><b>Second-cycle studies</b>  | Form of study (full-time, part-time)<br><b>full-time</b>           |   |
| No. of hours<br>Lecture: - Classes: - Laboratory: - Project/seminars: <b>15</b>   |  | No. of credits<br><b>5</b>  |
| Status of the course in the study program (Basic, major, other)<br><b>(brak)</b>  |  | (university-wide, from another field)<br><b>(brak)</b>  |
| Education areas and fields of science and art   |  | ECTS distribution (number and %)  |
| <b>Responsible for subject / lecturer:</b><br><br>dr hab. inż. Zbigniew Nadolny, prof. nadzw.<br>email: zbigniew.nadolny@put.poznan.pl<br>tel. 61-665-2298<br>Faculty of Electrical Engineering<br>ul. Piotrowo 3A 60-965 Poznań  |  |   |
| <b>Prerequisites in terms of knowledge, skills and social competencies:</b>   |  |   |
| 1   | <b>Knowledge</b>   | Basic information of subjects taught for first degree of full-time studies, majoring in power engineering and specialty of ecological source of electrical energy.  |
| 2   | <b>Skills</b>  | Measurements and calculations of basic electrical and non-electrical quantities, writing simple computer programs, designing and construction of simple circuits or electrical installations and effective self-study in chosen specialty and academic field. |
| 3   | <b>Social competencies</b>   | Verbal communication and team work, awareness of the need to expand their knowledge and skills.   |
| <b>Assumptions and objectives of the course:</b><br>Knowledge about proposed issues in Masters Thesis. Preliminary selection of the thesis subject. Understanding rules of the thesis editing and carry out research. Preparatory recognition of literature and possibility of carrying out the research by simulations and experimentally.   |  |   |
| <b>Study outcomes and reference to the educational results for a field of study</b>   |  |   |
| <b>Knowledge:</b><br>1. He has well organized and theoretically supported knowledge in the area of information management, structure of operational control, telemechanics and data acquisition. - [K_W17+]<br>2. He has knowledge in the field of power generation in power system, including dissipated generation. - [K_W18+]  |  |   |
| <b>Skills:</b><br>1. He is able obtain information in range of Energetics from bibliography, bases of knowledge and the other well-chosen sources; also in English. He can integrate and interpret possessed information and critically evaluate them. Also he make conclusions, create and comprehensively justify opinion. - [K_U01+]<br>2. He is able to identify directions of further learning and pursue the process of self-education. - [K_U011+]<br>3. He is able to prepare detailed documentation of results of realized experiment, project or science exercise. He can prepare a study that discusses these results. - [K_U015+] |  |   |
| <b>Social competencies:</b><br>1. He is able to think and act in creative and enterprising way, he understands the need of formulating and transfer the knowledge and opinions, about achievements of today?s Energetics and industry branches related to it, to the Society. - [K_K01+]  |  |   |

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| <b>Assessment methods of study outcomes</b> |
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| <ul style="list-style-type: none"> <li>- assess the knowledge and skills needed to carry out the Master thesis topic,</li> <li>- an assessment based on the presentation of the results of realized works,</li> <li>- evaluate the effectiveness of the application of knowledge in problem solving,</li> <li>- continuous evaluation for each class: student activities, increase their knowledge and skills.</li> </ul>  |                             |             |
| <b>Course description</b>  |                             |             |
| <p>Presentation of proposed Master Thesis subjects. Rules of: the thesis realization, individual consultations, literature resources using. Guidelines and recommendations for editing Masters Thesis. Principles of preparation of the presentation of work and preliminary discussion of the way of carrying out tasks. Issue of copyright policy in the thesis.</p> <p>Update 2017:</p> <p>Participation in research - preparation of a review of scientific literature related to the topic of the master's thesis and research in the field of renewable energy sources (scientific journals: Emerald Engineering, IEEE / IEE Electronic Library, ScienceDirect / Elsevier / ICM, Springer / ScienceDirect / ICM - PP library resources).</p> <p>Applied methods of education:</p> <p>The project - multimedia presentation; analysis / discussion of various methods (including nonconventional) solving problem; analysis / discussion of various aspects (including: economic, environmental, legal and social) of solving problems.</p> |                             |             |
| <b>Basic bibliography:</b>   |                             |             |
| <ol style="list-style-type: none"> <li>1. Vademecum autora (in Polish) Wydawnictwo Politechniki Poznańskiej</li> <li>2. Books and papers</li> </ol>  |                             |             |
| <b>Additional bibliography:</b>  |                             |             |
| <ol style="list-style-type: none"> <li>1. Another Diploma Thesis</li> </ol>  |                             |             |
| <b>Result of average student's workload</b>  |                             |             |
| <b>Activity</b>  | <b>Time (working hours)</b> |             |
| 1. Participation in seminar classes  | 9                           |             |
| 2. Participation in the consultation   | 45                          |             |
| 3. Determine the tasks within the scope of Master thesis   | 10                          |             |
| 4. Prepare a presentation on the progress made in the implementation of Engineer?s thesis  | 15                          |             |
| 5. Preliminary review of the literature on engineering thesis  | 15                          |             |
| 6. Execution of preliminary research and analysis  | 30                          |             |
| <b>Student's workload</b>  |                             |             |
| <b>Source of workload</b>  | <b>hours</b>                | <b>ECTS</b> |
| Total workload   | 124                         | 5           |
| Contact hours  | 54                          | 3           |
| Practical activities   | 39                          | 2           |