<table>
<tr><td>Course code</td><td></td></tr>
<tr><td>Type and description</td><td>Background Course</td></tr>
<tr><td>ECTS credit</td><td>2</td></tr>
<tr><td>Course name</td><td>Methodology of Scientific Research</td></tr>
<tr><td>Course name in Polish</td><td>Metodyka badań naukowych</td></tr>
<tr><td>Language of instruction</td><td>English</td></tr>
<tr><td>Course level</td><td>8 PRK</td></tr>
<tr><td>Course coordinator</td><td>Prof. dr hab. inż. Ireneusz Zbiciński</td></tr>
<tr><td>Course instructors</td><td>Prof. dr hab. inż. Ireneusz Zbiciński</td></tr>
<tr><td>Delivery methods and course duration</td><td>
<table>
<tr><th></th><th>Lecture</th><th>Tutorials</th><th>Laboratory</th><th>Project</th><th>Seminar</th><th>Other</th><th>Total of teaching hours during semester</th></tr>
<tr><td>Contact hours</td><td>0</td><td>15</td><td>0</td><td>0</td><td>0</td><td>0</td><td>15</td></tr>
<tr><td>E-learning</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td><td></td></tr>
<tr><td>Assessment criteria (weightage)</td><td>0,00</td><td></td><td></td><td></td><td></td><td>0,00</td><td></td></tr>
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<tr><td>Course objective</td><td>1. Development of research methodologies-historical background
2. Description of the research methodology in accordance with the adopted model
3. Presentation and analysis of research results</td></tr>
<tr><td>Learning outcomes</td><td>After the course a PhD student we be able to:
- indicate the criteria of a well-formulated empirical problem: effects W1, U3, K2;
- knows the phases of the research process: effects W4, U1, K1-K2
- knows the methods and techniques of scientific research applied in the discipline of chemical engineering: effects W1, U2, K2
- develop a research concept: effects U3, K1-K2
- present and interpret the results of own research: effects W1, U2, K2</td></tr>
<tr><td>Assessment methods</td><td>Presentation of research methodology in own scientific work</td></tr>
<tr><td>Prerequisites</td><td>None</td></tr>
<tr><td>Course content with delivery methods</td><td>Exercises
- discussing the stages of the research process
- discussing an empirical research problem - correctness conditions
- analysis of proposed research problems
- discussion of research issues and hypotheses
- discussion of measurement in research and selection of the research sample
- development and analysis of data and discussion of concept and research errors</td></tr>
<tr><td>Basic reference materials</td><td>1. Pytkowski W., Organizacja badań i ocena prac naukowych, Warszawa 1981
2. Pieter J.: Zarys metodologii pracy naukowej. WNT, Warszawa 1975
3. Apanowicz Jerzy, Metodologia nauk, Towarzystwo Naukowe Organizacji i Kierownictwa, Toruń 200</td></tr>
</table>

	4. Karplus Walter J., The Heavens Are Falling, The Scientific Prediction of Catastrophes in Our Time, Springer, Boston, MA, 1992. 5. Sachs O. et al., Ukryte teorie nauki, Kraków 1996
Other reference materials	
Average student workload outside classroom	20 h
Comments	
Last update	