<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>Selected problems in graph theory</td></tr>
<tr><td>Course name in Polish</td><td>Wybrane zagadnienia teorii grafów</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>Przemysław Gordinowicz</td></tr>
<tr><td>Course instructors</td><td>Przemysław Gordinowicz</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>0</td><td>0</td><td>15</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.Acquiring knowledge about advanced concepts of modern graph theory.

2. Acquiring the ability to use selected advanced tools for solving problems of graph theory

3. Acquiring the ability to apply selected methods from graph theory to other areas of mathematics or computer science .</td></tr>
<tr><td>Learning outcomes</td><td>Having completed the course student can:

1. Describe selected problems of modern graph theory W1, W4, K1

2. Analyse and present a contemporary scientific text devoted to selected fields of graph theory or its applications. W4, U3, K1, K2

3. Participate in a discussion on the problems of modern graph theory both as a presenter and as an audience. W4, U3, K1, K2</td></tr>
<tr><td>Assessment methods</td><td>W4, U3, K1, K2 – project seminar presentation and discussion

W1, W4, U3, K1, K2 – written project

W4, U3, K1, K2 – discussion on colleagues' projects

The final grade

Presentation and discussion – 40%

Project evaluation – 45%

Active discussion on colleagues' projects – 15%</td></tr>
</table>

Prerequisites	Basics of graph theory and discrete mathematics, either from the first/second cycle studies or as a self-education
Course content with delivery methods	PROJECT 1. Description of selected problems in modern graph theory (eg.. in extremal graphs theory, random graphs, graph colourings, graph searching games) 2. Analysis and presentation of selected scientific texts describing main tools used to solve the above problems 3. Discussion on the presented problems, tools, solutions and its applications
Basic reference materials	1. R. Diestel, Graph Theory, 5th edition, Springer 2017 (dostępna online) 2. D.B. West, Introduction to graph theory, 2nd edition, Prentice Hall 2001 3. A. Bondy, U.S.R Murty, Graph Theory, Springer 2008.
Other reference materials	Selected scientific papers related to the topic of the project
Average student workload outside classroom	35h
Comments	
Last update	