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| **Course code** | CC1-4 |
| **Type and description** | Core Curriculum in Physics |
| **ECTS credit** | 1 |
| **Course name** | **Current trends in physical sciences** |
| **Course name in Polish** | **Współczesne trendy rozwoju głównych dziedzin fizyki** |
| **Language of instruction** | English |
| **Course level** | 8 PRK |
| **Course coordinator**  | **prof. dr hab. Katarzyna Pernal** |
| **Course instructors** | **dr hab. inż. Jolanta Prywer, dr hab. inż. Jaromir Tosiek, dr inż. Michał Dobrski, prof. dr hab. Katarzyna Pernal, dr inż. Ewa Pastorczak, prof. dr hab. Włodzimierz Kucharczyk, dr hab. inż. Mariola Buczkowska, dr hab. inż. Tomasz Czyszanowski, dr hab. inż. Michał Wasiak, dr hab. inż. Maciej Dems** |
| **Delivery methods and course duration** |

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|  | **Lecture** | **Tutorials** | **Laboratory** | **Project** | **Seminar** | **Other** | **Total of teaching hours during semester** |
| Contact hours | 15 |  |  |  |  |  | 15 |
| E-learning | No | No | No | No | No | No |  |
| Assessment criteria (weightage) | 100% |  |  |  |  |  |  |

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| **Course objective** | Exposing PhD students to current trends in physical sciences related to their research work.  |
| **Learning outcomes** | A PhD student acquires knowledge at advanced level and learns about recent achievements in the physical sciences related to their field of research.  |
| **Assessment methods** | Take-home exam.  |
| **Prerequisites** | Completed university-level physics and mathematics courses. |
| **Course content with delivery methods** | The semester-long course content includes selected topics (to be decided by the lecturer) in one of the following fields:* advanced quantum mechanics
* many-electron physics
* advanced crystal physics
* advanced photonics
* advanced liquid crystal physics
* nonlinear optics
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| **Basic reference materials** | Scientific papers and monographs recommended by a lecturer.  |
| **Other reference materials** | Scientific papers.  |
| **Average student workload outside classroom** | 20h  |
| **Comments** |  |
| **Last update** | 24.04.2019 |