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| **Course code** | CC3 |
| **Type and description** | TCS core curriculum |
| **ECTS credit** | 1 |
| **Course name** | **Advanced data processing algorithms and structures** |
| **Course name in Polish** | **Zaawansowane algorytmy i struktury przetwarzania danych** |
| **Language of instruction** | English |
| **Course level** | 8 PRK |
| **Course coordinator** | **dr hab. inż. Piotr Lipiński** |
| **Course instructors** | **dr hab. inż. Piotr Lipiński** |
| **Delivery methods and course duration** | |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | |  | **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% |  |  |  | |
| **Course objective** | Understanding and ability to use data processing algorithms and structures |
| **Learning outcomes** | After completing the course the student should be able to:   1. analyze a complex problem related to data processing and data structures 2. apply methods of data processing and use appropriate data structures 3. design and evaluate advanced data processing algorithms |
| **Assessment methods** | Evaluation of the final project presentation or/and final project report |
| **Prerequisites** | Fundamentals of algorithms and data structures course |
| **Course content with delivery methods** | Project which involves: design, implementation and evaluation of given problem. The student must use appropriate algorithms and data structures. |
| **Basic reference materials** | Donald E. Knuth, The Art of Computer Programming Vol 1 - Vol 3 |
| **Other reference materials** | Drozdek A.: Data Structures and Algorithms in C++, Second Edition, 2001 by Brooks/Cole  Horovitz E., Sahni S.: Fundamentals of Computer Algorithms, Computer Science Press, 1978  Sedgevick R.: Algorithms in C++, Addison-Wesley Publishing Company, 1992 |
| **Average student workload outside classroom** | 10 h |
| **Comments** |  |
| **Last update** | 20.04.2019 |