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| The title of the course | **Discrete Mathematics** |
| Faculty | [Faculty of Mechanical Engineering and Computer Science](http://eng.ath.bielsko.pl/index.php/faculties/gerg) |
| The level of studies | Engineer (BSc) |
| Semester | Winter / Summer |
| The form of classes and number of hours | Lecture/Project (15h/15h) |
| Language of instruction | English |
| The number of ECTS | 2 |
| Teacher | dr Tomasz Zgraja |
| The aims of the course  (maximum 500 characters) | The course is based on the lectures on discrete mathematics given in Polish during the 2nd semester. The students become acquainted with English mathematical as well as scientific terminology. |
| The content of the course: main topics and key ideas | Statements, sets, functions, sequences. Methods of counting. Induction. Methods of proof. Introduction to graph theory. |
| Didactics methods | A classical lecture supplemented with display and useful materials. |
| Course requirements | Exam and attendance. |
| Literature (basic and supplementary) | **B1.** O. Levin, *Discrete Mathematics. An Open Introduction*, 3rd Edition, Open Textbook Library, 2016  <http://discrete.openmathbooks.org/>  **S1.** P. Grossman, *Discrete Mathematics for Computing*, Basingstoke: Palgrave Macmillan, 2009  **S2.** K.A.Ross, C.R.B. Wright, *Discrete Mathematics*, Upper Saddle River: Prentice Hall, 1999 |
| The effects of the education   * knowledge * skills * social competences | **Knowledge:** a student knows the basics concepts of discrete mathematics.  **Skills:** a student is able to solve problems related to logic, combinatorics and graph theory.  **Social competences:** working in a group, speaking in a foreign language. |