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| The title of the course | **Mathematical Statistics** |
| 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) – regular system |
| 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 mathematical statistics given in Polish during the 2nd semester. The students become acquainted with English statistical as well as scientific terminology. |
| The content of the course: main topics and key ideas | Descriptive statistics, confidence interval, tests of hypotheses, goodness-of-fit-test, correlation, linear regression. |
| Didactics methods | A classical lecture supplemented with display and useful materials. |
| Course requirements | Exam and attendance. |
| Literature (basic and supplementary) | **B1.** W.W.Hines, D.C. Montgomery, D.M. Goldsman, C.M. Borror, *Probability and Statistics in Engineering*, John Wiley & Sons, New York 2003.  **S1.** B. Illowsky, S. Dean, *Introductory Statistics*, OpenStax Rice University, Houston 2018  <https://openstax.org/detail/books/introductory-statistics>  **S2.** M.F. Triola, *Essentials of Statistics*, Addison-Wesley, Boston 2002. |
| The effects of the education   * knowledge * skills * social competences | **Knowledge:** a student knows the basic concepts related to mathematical statistics and methods of estimation and statistical deduction and terms of its application.  **Skills:** a student is able to find confidence interval for unknown parameters of general population and use procedures for statistical tests to verify parametrical and non-parametrical hypotheses.  **Social competences:** working in a group, speaking in a foreign language. |