|  |  |
| --- | --- |
| Bachelor Degree in speciality: **Computer Aided Mechanical Engineering**  Semester: 4 (summer)  Course code: 26 „INTERCHANGEABILITY AND TECHNICAL MEASUREMENTS” | |
| ECTS credits: 6  Grade form: Exam | Weekly classes: 2h lections + 2h exercises  Evaluation by: Exam based on test |
| The course is held in:  Department of MANUFACTURING TECHNOLOGIES AND MACHINE TOOLS  FACULTY OF MANUFACTURING ENGINEERING AND TECHNOLOGIES | |

|  |
| --- |
| Lecturer: assoc. prof. Pavlina Toteva, PHD  Department of MANUFACTURING TECHNOLOGIES AND MACHINE TOOLS |

|  |
| --- |
| **Course Description**: The course "Interchangeability and Technical Measurements" introduces to the students basic principles of interchangeability and rules for tolerancing requirements for geometrical product specifications of machine tools. This is a basic discipline that provides data on the accuracy requirements according to the regulatory documents, taking into account processing technology, reliability, efficiency, and type of manufacturing in production and operation of the machinery and equipment.  The subject acquaints students with the basics of metrology: basic elements of the theoretical, legal, and applied metrology, as well as the unity of the measurements and the methods, and the means for solving the most metrological tasks in mechanical engineering.  Laboratory exercises include methods and tools for measuring linear and angular dimensions, deviations of form, orientation, position, and run-out of surfaces and axes, measurement of threads, angles, and cones, evaluation of measurement uncertainty, calculation, and presentation of results.  Students solve specific metrological tasks and acquire knowledge and skills to work with modern measurement instruments.. |
| **Basic topics of the course:**   * Basics of interchangeability. * Tolerancing linear sizes. * Deviations of form, orientation, position, and run-out of surfaces and axes * Roughness of surface * Tolerancing and measurement of angles, cones and threads. |