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| Discipline | **Mechanical engineering code 1127** |
| Specialty  | **Industrial Management**  |
| ECTS credits: **5** | Form of assessment: **Current evaluation** |
| Lecturer | **Assoc. Prof. Eng. Hristo Hristov, PhD** |
| Department | Mechanics and Machine Elements |
| Faculty | Faculty of Manufacturing Engineering and Technologies  |
| **Learning objectives:**  The course "Mechanical engineering" forms a complete knowledge of the future specialist in the field of general technical preparation. In the present lecture course, they acquaint themselves with basic concepts related to the loading, movement, friction and wear of machine parts and joints. The main types of materials, their characteristics and their use in machine manufacturing are discussed. They are studied the essence, purpose, operation and selection of the various machine elements, joints and gears, the various performance criteria, construction methods and accuracy problems, tolerances and assembly of the elements in the mechanisms to perform the functions for which they are intended. The functioning of different mechanisms and their effectiveness are studied during the laboratory exercises. The course work develops the knowledge of: to draw different types of machine elements and joints; to choose standard elements, to determine tolerances, to evaluate the functional appearance of the assembled unit and to calculate basic parameters of mechanical drives. |
| **CONTENTS:** |
| **Training Area** | **Hours****lectures** | **Hours****exercises** |
|  Types of machinery and some specific requirements in relation to their function. Basic machine building materials. Load andStrength of the machine elements.  | 6 | 8 |
| Joints – threaded, keyed, splinted and fit. | 6 | 4 |
|  Mechanical drives – gear drive (spur and bevel), worm drive, belt drive, chain drive. | 8 |  10 |
| Elements for rotation serving – shafts, axles, bearings, clutches and couplings  | 10 | 8 |
|  **TOTAL: 60** | **30** | **30** |