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| Discipline | **Machine Elements code: 96** |
| Specialty  | **Naval Architectute and Marine Technology** |
| ECTS credits: **6** | Form of assessment: **Exam** |
| Lecturer | **Assoc. Prof. Eng. Hristo Hristov, PhD** |
| Department | Mechanics and Machine Elements |
| Faculty | Faculty of Manufacturing Engineering and Technologies  |
| **Learning objectives:**  In the course "MACHINE ELEMENTS" the students study the basic types of machine elements, the conditions for selection and the features in the design of the elements and their assembling. Threaded joints, torque transmissions, shafts, axles, bearings, as well as design, kinematics, geometry and strength calculation of different gears are studied. In this course, spur gears and bevel gears, worm drives, and belt, chain and friction drives are also considered.During this semester, students conduct laboratory exercises to study the design and study of basic types of machine elements such as threaded joints, shaft-hub connections, welding and riveting joints. Couplings and clutches, sliding bearings, rolling contact bearings, gears and transmissions are also considered for investigation their work and efficiency. |
| **CONTENTS:** |
| **Training Area** | **Hours****lectures** | **Hours****exercises** |
|  Strength and Load of the machine elements. Joints – threaded, keyed, splinted and fit. | 10 | 6 |
|  Mechanical drives – gear drive (spur and bevel), worm drive, belt drive, chain drive. | 10 |  14 |
| Elements for rotation serving – shafts, axles, bearings, clutches and couplings  | 10 | 10 |
|  **TOTAL: 60** | **30** | **30** |