ELEMENTS OF MECHANICAL ENGINEERING
(IInd Year of study, IIIrd SEMESTER)

Credit value (ECTS) 5

Course category
Compulsory course

Course holder:
Lecturer Dr. Constantin CHIRILĂ

Discipline objectives (course and practical works)

The course aims to make students acquire basic theoretical knowledge about mechanical engineering, applicable in the food industry.

Practical work aims to make students acquire theoretical and practical knowledge related to materials and blanks used in the construction of the machines in the food industry, methods for their processing, to the calculations of strength of materials and to machine parts and mechanisms which make up the food industry equipments.

Contents (syllabus)

Course (chapters/subchapters)
Materials used in the construction of the machines and installations in the food industry.
Heat treatings and thermochemical treatments.
Notions of Theoretical Mechanics.
Method of processing metallic materials.
Notions of strengh materials
Notions of parts machines
Notions of mechanisms

Practical works
Work safety rules; **Units of measurement used in the art;** **Multiples and submultiples of units;** **Conversion tables measuring units.** **Notions of the mathematics applied in technique (trigonometric functions, arias).**
Study regarding materials used in mechanical engineering.
Study regarding construction characteristics of semifinished products used in the food industry.
Applications mechanics on simple machines.
Applications regarding mechanical problems of static, dynamic and kinematic
Study regarding the means for measuring lengths.
Study regarding processing on splintering machine tools.
The extension stress problems and the shear stress problems
The bending stress problems and the torsion stress problems
Study regarding the non-removable joinings

Study regarding the demountable joinings
Study regarding the springs
Study regarding the axles and shafts
Study regarding the machine parts for transmission of rotary motion
Study regarding the piping for pipelines and armatures for pipelines
Study regarding the mechanisms
Knowledge assessment

Bibliografie

1. Buzdugan Gh., – Rezistenţa materialelor. Editura academiei Republicii Socialiste România, Bucureşti, 1986;
2. Chirilă C., – Elemente de inginerie mecanică – Note de curs.;
3. Gafiţanu M. I col.,– Organe de maşini vol I. Editura Tehnică, Bucureşti, 1981.
4. Gafiţanu M. I col.,– Organe de maşini vol. Editura Didactică şi Pedagogică, Bucureşti, 1983
5. Mehidenţeanu M. Şi colab. – Tehnologie mecanică şi maşini unelte - Editura Didactică şi Pedagogică, Bucureşti, 1982.
6. . Rădoi M.; Deciu E. – Mecanică- Editura Didactică şi Pedagogică, Bucureşti, 1981
7. Rădulescu Maria – Studiul metalelor - Editura Didactică şi Pedagogică, Bucureşti, 1982

Evaluation

Evaluation form	Evaluation Methods	Percentage of the final grade
Exam	written assessment	65%
Appreciation of the activity during the semester	Oral assessment during the semester, verification tests and final laboratory colloquium.	35%

Contact

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