Elements of mechanical engineering (First Year of study, second semester)

Credit value (ECTS) 4

Course category
Domain (Imposed)

Course holder:
Lecturer Dr. Constantin CHIRILĂ

Discipline objectives (course and practical works)

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

Practical work aims to make students acquire theoretical and practical knowledge related to materials used in the construction of the machines in the food industry and internal combustion engine , methods of processing them, of machine parts and mechanisms of machines composition of the food industry and internal combustion engines, of the solving theoretical mechanical applications..

Contents (syllabus)

Course (chapters/subchapters)
Materials used in the construction of the machines and installations in the food industry.
Notions of Theoretical Mechanics.
Method of processing metallic materials.
Protection of metal surfaces against corrosion
Simple mechanical stress
Notions of parts machines
Notions of mechanisms
Elements of tribology
Construction of internal combustion engines
Pollutant emissions from internal combustion engines

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.
Applications of Theoretical Mechanics
Study regarding processing on splintering machine tools.
Study regarding the means for measuring lengths.
Making sketches for existing parts
Study on the permanent joinings obtained by welding and soldering

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 on construction and operation of internal combustion engines
Study on the mechanism of distribution, cooling system and lubricating system of internal combustion engines
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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