

Mechanics and machine parts (IInd Year of study, IIIrd SEMESTER)

Credit value (ECTS) 5

Course category

Domain (Imposed)

Course holder:

Lecturer Dr. Constantin CHIRILĂ

Discipline objectives (course and practical works)

The course aims to enable students to acquire basic knowledge about Mechanics and machine parts, applicable in the environmental engineering.

At the practical works, the students acquire the theoretical and practical knowledge related to the materials used in the construction of farm equipment, the knowledge about the mechanical demands to which the organs of machines and the mechanisms of the horticultural machinery and combustion engines are subjected. internal, solving some theoretical mechanics applications.

Contents (syllabus)

Course (chapters/subchapters)
Static elements
Elements of kinematics
Elements of dynamics
Notions of industrial technical drawing
Simple mechanical stress
Non-removable joinings
Demountable joinings
Elastic joinings - springs
Axles; shafts
Bearing
Coupling
Machine parts for transmission of rotary motion - belt drives; chain drives; gear transmissions
The piping for pipelines and armatures for pipelines
Notions of mechanisms
Aspects regarding the use of machine parts and mechanisms in the construction of internal combustion piston 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 on the materials used in the construction of horticultural machines and installations.
Applications for problems of static
Applications for problems of kinematics and dynamics
Study regarding the means for measuring lengths.
Study on the representation in orthogonal projection of the organs of machines; The representation of quotas in the technical drawing
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 bearings
Study regarding the couplings
Study regarding the machine parts for transmission of rotary motion
Study regarding the piping for pipelines and armatures for pipelines
Study regarding the mechanisms
Study on processes in internal combustion engines
Study regarding the use of machine parts and mechanisms in the construction of internal combustion piston engines
Theoretical study regarding the pollutant emissions of internal combustion engines
Knowledge assessment

Bibliografie

Bibliografie

1. Chirilă C., – Elemente de inginerie mecanică – Note de curs.;
2. Constantin Viorica; Palade V.. 2004,– Organe de mașini volumul I. Editura Fundației Universitare ”Dunărea de Jos”, Galați, Iași,.
3. Constantin Viorica; Palade V.. 2005,– Organe de mașini volumul II. Editura Fundației Universitare ”Dunărea de Jos”, Galați, Iași,.
4. Crețu Simona-Mariana, 2010 - Mecanisme - Analiză structurală - Teorie și aplicații - Editura Sitech, Craiova;
5. Radeș. M, 2010 – Rezistența materialelor I Editura Printech, București,
6. Strnad Gabriela 2014 - Tehnologia materialelor I - Curs pentru uzul studenților - Universitatea „Petru Maior” din Tîrgu-Mureș, Facultatea de Inginerie.
7. Vlase S – 2005 – Mecanică – Dinamica – Editura Infomarket, Brașov
8. Vlase S – 2008 – Mecanică - Statica – Editura Infomarket, Brașov

Evaluation

Evaluation form	Evaluation Methods	Percentage of the final grade
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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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