

Operation of machinery in the food industry (IVth Year of study, VIIIth Semester)

Credit value (ECTS) 5

Course category
Domain (Imposed)

Discipline code
A.EMIAIA.S.407

Course holder
Vlad Nicolae ARSENOAIA

Discipline objectives (course and practical works)

Within the course and practical works, the aim is for students to acquire the theoretical and practical foundation regarding the operation of machinery in the food industry.

Contents (syllabus)

Course (chapters/subchapters)
General considerations regarding the subject of the discipline
General notions related to the operation, maintenance, and repair of machinery
Materials used in machinery construction
Organization of maintenance and repair activities
Maintenance technology for installations
Methods and means for corrosion prevention
Organization of machinery repair
Lubrication of machinery and installations
Wear and friction
Lubrication systems

Practical works

NTS and PSI training. Identification of materials used in machinery construction.

Operation and maintenance of systems for fluid handling: centrifugal pumps, axial pumps, positive displacement pumps, rotary pumps.

Operation and maintenance of systems for transporting and lifting solid products: gravity conveyors, belt conveyors, bucket conveyors, scraper conveyors, screw conveyors, pneumatic conveyors.

Operation and maintenance of equipment for crushing solid products: coarse crushing installations, fine crushing installations.

Operation and maintenance of equipment for mixing solid and liquid products.

Operation of equipment for separating heterogeneous mixtures.

Operation and maintenance of equipment for drying agro-food products: factors influencing drying, drying methods, drying agents.

Operation and maintenance of equipment for pressing products: mechanical presses, hydraulic presses, pneumatic presses.

Operation and maintenance of installations for thermal treatments: pasteurization equipment, sterilization equipment.

Colloquium.

References

1. Arsenoia V.N. – Utilaje si instalatii pentru industria alimentara. Indrumar pentru lucrari de laborator, Ed. Ion Ionescu de la Brad Iași, 2021;
2. Țenu I. – Operații și aparate în industria alimentară, vol. II, operații cu transfer de căldură și masă, Ed. Ion Ionescu de la Brad Iași, 2014.

Evaluation

Evaluation form	Evaluation Methods	Percentage of the final grade
Exam	Written examination	80%
Appreciation of the activity during the semester	Oral assessment during the semester, verification tests and final laboratory colloquium.	20%

Contact

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