

Tárgytematika / Course Description Basic machines in food industry

MENB_BÉTA028

Tárgyfelelős neve /

Teacher's name: Dr. Kovács Attila József

Félév / Semester: 2024/25/1

Beszámolási forma /

Assesment: Vizsga

Tárgy heti óraszám /

Teaching hours(week): 2/1/0

Tárgy féléves óraszám /

Teaching hours(sem.): 0/0/0

OKTATÁS CÉLJA / AIM OF THE COURSE

Students taking this course will learn about general machine installation, operations and parameters. The basic material handling machines are listed with detailed applications and constructions. The necessary material properties related to handling are also taught. Emphasis are taken on pneumatic conveying and bulk storage systems.

TANTÁRGY TARTALMA / DESCRIPTION

Introduction, SI units

Requirement of machine installation, basic mechanical concepts

Basics of storage, physical parameters of stored materials

Sorting machines, separators, digital image processing

Storage of packed goods, tractability (bar code, RFID, FIFO, FEFO)

Storage of bulky materials, silos

Material handling: belt, screw, roller conveyors

Bucket elevator, multihead weighers

Vibrating conveyors, hanging conveyors

Pneumatic conveying

Transport of liquids pumps, compressors, fans

SZÁMONKÉRÉSI ÉS ÉRTÉKELÉSI RENDSZERE / ASSESSMENT'S METHOD

During the semester there will be one mid-term test weighing 30% of the final score. The exam is oral. Acceptance rate 50% of any type of tests or exams.

KÖTELEZŐ IRODALOM / OBLIGATORY MATERIAL

Singh – Heldman (2001) Introduction to food Engineering, Third Edition, Academic Press

R.L. Earle, M.D. Earle: Unit operations in food processing: <http://www.nzifst.org.nz/unitoperations/index.htm>

Da-Wen Sun (Ed.) (2005) Emerging Technologies for Food Processing, Elsevier Academic Press

Zeki Berk (2009) Food ProcessEngineering and Technology. Elsevier Academic Press

McGlinchey Don (Ed.) (2008) Bulk Solids Handling Bulk Solids Handling Equipment Selection and Operation. Blackwell Publishing Ltd

AJÁNLOTT IRODALOM / RECOMMENDED MATERIAL