

Course title: Mechanical separation techniques	Neptun code: GEVT403-a
Course coordinator: Gabor SZEPESI, full professor, PhD	
type and number of lesson: 9 lecture per semester	
method of accountability: colloquium	
curriculum location of the subject: autumn/spring	
pre-study conditions:	
The task and purpose of the subject:	
The aim and task of the subject is for students to learn the basics of calculating mechanical separation operations and to be able to size devices/equipment	
Course description:	
Getting to know and characterizing the properties of solid granular materials. Determination of median value. Separation of gas-solid system by gravitational, inertial or in a centrifugal force field. Operating principles of gas filtration. Gas filters. Differential equation of surface filtering, solution options. Settlement operation. Characterization of fluid state, definition of limit speed. Force balance acting on a particle in a centrifugal force field, indicator number and definition of equivalent clearing surface	
Required literature:	
<ol style="list-style-type: none"> 1. Perry- Chemical engineering handbook, 8th ed. Section 5. DOI: 10.1036/0071511288 2. Steve Tarleton - Progress in Filtration and Separation, ISBN 9780123847461, DOI: 10.1016/B978-0-12-384746-1.12001-4. 	
Recommended literature:	
<ol style="list-style-type: none"> 1. Stephen Tarleton, Richard Wakeman - Solid/Liquid Separation, ISBN 9781856174206 	