

Course title: Design of Pressure Vessel	Neptun code: GEVGT404-a
Course coordinator: Zoltán Siménfalvi, full professor, PhD, habil	
type and number of lesson: 2 lectures / week	
method of accountability: colloquium	
curriculum location of the subject: spring	
pre-study conditions: -	
The task and purpose of the subject:	
The aim of the subject is to introduce selected chapters of pressure vessel design	
Course description:	
Basic elements of pressure vessels. Basics of pressure sizing, PED directives. Pressure, thermal and secondary loads. Structural materials and their selection. Selected chapters on sizing according to EN 13445 and ASME VIII. Finite element analysis method for pressure vessels design of pressure vessels. Simplified and complex fatigue analysis. High pressure vessel design principles. Sizing of heat exchangers, pipe bundle, tube-sheet and shell connections.	
Required literature:	
<ol style="list-style-type: none"> 1. Directive 2014/68/EU on the harmonisation of the laws of the Member States relating to the making available on the market of pressure equipment 2. EN 13445 Unfired Pressure Vessels 3. An International Code 2013 ASME Boiler & Pressure Vessel Code, VIII Rules for Construction of Pressure Vessels, Division 1. 	
Recommended literature:	
<ol style="list-style-type: none"> 1. Donatello Annaratone: Pressure Vessel Design (Springer-Verlag Berlin Heidelberg 2007) 2. Vincenzo Vullo: Circular Cylinders and Pressure Vessels. Stress Analysis and Design (Springer International Publishing Switzerland 2014) 3. Gaddam, Subhash Reddy (Retired Boiler Professional, Hyderabad, India) Design of Pressure Vessels. Taylor & Francis Ltd. 2023. 	