

Course title: Analysis of engineering structures II	Neptun code: GEVGT466-a
Course coordinator: Dr. Jármai, Károly, professor, DSc.	
type and number of lesson: 2 lectures/consultations/week	
method of accountability: practical mark	
curriculum location of the subject: autumn and spring	
pre-study conditions: GEVGT465-a	
The task and purpose of the subject:	
To familiarise students with the main methods of dimensioning engineering structures	
Course description:	
Stability analysis of engineering structures. Deflection of compression bars. Deflection of split section bars. Deflection of bent supports. Plate buckling. Application to I-beam and box-beam brackets. Working plate widths, boundary plate tapers. Structure characteristics. Stability of frames, truss supports. Tubular structures. Shells. Stability of thin-walled bars. Fibre reinforced plastic structural elements, composites. Aluminium structures. Fire design of steel structures.	
Required literature:	
<ol style="list-style-type: none"> 1. Farkas, J., Jármai, K.: Optimum design of steel structures, Springer Verlag, Heidelberg, 2013. 2. Farkas, J., Jármai, K.: Design and optimization of Metal Structures, Horwood Kiadó, 2008. 3. Farkas, J., Jármai, K.: Economic Design of Metal Structures, Millpress Kiadó, 2003. 4. Farkas, J., Jármai, K.: Analysis and Optimum Design of Metal Structures, Balkema Kiadó, 1997 	
Recommended literature:	
<ol style="list-style-type: none"> 1. Tyler G. Hicks: Standard Handbook of Engineering Calculations, McGraw-Hill, 1125 p. https://www.mongroupsdney1.com/1.pdf 2. Introduction to Structural Steel Design, 46 p. https://www.lamar.edu/engineering/files/documents/civil/faculty/tohme/Steel%20Design.pdf 3. Prof. Dr. A. Varma: Design of Steel Structures, 38 p. https://www.egr.msu.edu/~harichan/classes/ce405/chap3.pdf 	