Final exam questions

Subject group name: **Structural Analysis**

Neptun code: ZVEGEGINWSA

Credit points: 3

Subject in this subject group:

- **Structural Analysis** (BMEGEGINWSA)

Program: Mechanical Engineering, MSc (2N-MW0)

Specialization: Design and Technology

Responsible person:

- Tibor János Goda PhD., goda.tibor@gt3.bme.hu
  Department of Machine and Product Design, Faculty of Mechanical Engineering

You can check the current subject forms at the Educational Portal of the Faculty of Mechanical Engineering.

https://oktatas.gpk.bme.hu/

Always check the for updates at edu.gpk.bme.hu before preparing for the exam, especially if the subject group contains at least one subject from your final semester!

Valid from 01 September 2021

Tibor János Goda, PhD.

Full professor, lecturer

Questions/Topics

1. Describe the basic principles of FEM.
2. Describe the main steps of FE modelling.
3. Describe the basic element types.
4. Describe the linear triangular element type.
5. Sketch a block-diagram on the FE computer program for linear static analysis.
6. Describe the FE modelling strategies and the H and P versions of the FEM
7. Why is FEM an approximate method and how can you increase the accuracy?
8. What are the benefits of using an integrated CAD/FEM system?
9. Explain the different meshing techniques. Compare the parametric and automatic mesh generation techniques. Describe the benefits of local mesh refinement.
10. What are the basic assumptions of problem solving as a linear static one?