Final exam questions

Subject group name: **Fluid Mechanics elective – Hemodynamics**

Neptun code: ZVEGEVGNX26

Credit points: 3

Subject in this subject group:

- **Hemodynamics** (BMEGEVGNX26)

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

Specialization: Fluid Mechanics

Responsible person:

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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

Dr. György Paál

professor

Hemodynamics (BMEGEVGNX26)

1. Physiology:
    a. Cardiac physiology, mechanical work of the heart
    b. Cardiac cycle
    c. Circulatory system and blood
    d. Blood vessels: functional and material properties
    e. Cardiovascular disease: Atherosclerosis, aneurysms
2. Medical image processing and computational hemodynamics:
    a. Medical imaging modalities: X-ray, CT, MR, Ultrasound, and angiography
    b. Segmentation and surface pre-processing
    c. Boundary conditions
    d. Rheological models of the blood and their importance
    e. Basic computational hemodynamic metrics