Mathematics G3 for Mechanical Engineers (BMETE93BG03**)**

Requirements

Lecturer: *Dr. Peter Moson* (www.math.bme.hu, +3614632690, +36300138718). Office: H. building 41.

Office hour: In person. Wednesday 10:30-11:30 a.m. in H. building 41.

Prerequisites: Mathematics G1, G2.

Method of education. Face to face teaching.

Detailed program:

Classification of differential equations. Separable ordinary differential equations, linear equations with constant and variable coefficients, systems of linear differential equations with constant coefficients. Some applications of ODEs. Scalar and vector fields. Line and surface integrals. Divergence and curl, theorems of Gauss and Stokes, Green formulae. Conservative vector fields, potentials. Some applications of vector analysis. (4 hours/4 credits)

Literature:

Thomas' Calculus by THOMAS, G.B. et al. Addison-Wesley, Several editions. (ISBN0321185587)

Up-to-date information (this requirements, sample tests, exams, summary of the lectures, etc.): TEAMS and / or homepage (see e.g., Google: Moson Peter, or direct address: http://tutor.nok.bme.hu/sandwich/general/moremoson/mo.htm).

Grading system:

There will be 2 mid-term tests. The mark will be calculated: 2*50% from the tests. A minimal result of 15% is required from each test. Final marks (sum of midterm tests): 0-39 fail (1), 40-54 pass (2), 55-69 satisfactory (3), 70-79 good (4), 80 - (excellent (5).

Test 1. Week 6, October 8, 2024 (Tuesday) 8:15 a.m. Test 2. Week 12, November 20 (Wednesday) 8:15. a.m.

Retakes: Test 1, October 30, 2024 (Wednesday). 8:15. a.m. Test 2. December 3, 2024 (Tuesday), 8:15. a.m. One test can be repeated in the week right after the semester (for extra fee, registration in NEPTUN is necessary): December 10, 2024 (Tuesday).

Budapest. August 31, 2024.

Good Luck, Have a Nice Semester!