

# Information sheet

## MATHEMATICS III

<b>University:</b>	Slovak University of Technology in Bratislava
<b>Faculty:</b>	Faculty of Mechanical Engineering
<b>Course unit code:</b>	282307_BDP
<b>Course unit title:</b>	Mathematics III
<b>Mode of completion and Number of ECTS credits:</b>	Pass credit (2 credits)

### Course contents:

1. **Line Integrals** (lectures: 3, seminars: 0)
  - a) Concept of a curve Line integrals of the first type
  - b) Line integrals of the second type
  - c) Path-independence of line integrals Green's theorem
2. **Surface Integrals** (lectures: 3, seminars: 0)
  - a) Concept of a surface Surface integrals of the first type
  - b) Surface integrals of the second type
  - c) Gauss' and Stokes' theorems
3. **Fourier Series** (lectures: 3, seminars: 0)
  - a) Trigonometric series
  - b) Fourier series
  - c) Fourier series with general period
4. **Systems of Differential Equations** (lectures: 4, seminars: 0)
  - a) Linear differential systems
  - b) Homogeneous systems with constant coefficients
  - c) Non-homogeneous systems with constant coefficients