Mathematical analysis 2
List of core skills

1.   a) Calculate radius of convergence of a power series
   b) Differentiate / integrate a power series
   c) Calculate Taylor series of functions

2.   a) Calculate partial derivatives of a function of several variables
   b) Calculate derivative of scalar and vector fields
   c) Calculate Jacobian matrix

3.   a) Apply the Lagrange multiplier method
   b) Find stationary points of a scalar field
   c) Use Hessian to identify stationary points

4.   a) Identify basic paths and parametrization
   b) Evaluate basic line integrals
   c) Determine if a vector field is conservative

5.   a) Evaluate 2D/3D multiple integrals by "repeated integration"
   b) Change of variable for multiple integrals
   c) Calculate curl and divergence

6.   a) Identify basic parametric surfaces
   b) Calculate fundamental vector product
   c) Evaluate surface integrals

Attention. This is **not** the entire content of the course, this is a list of the core skills and is provided as a convenience. To obtain top grades a full **understanding** of all the material of the course is required. Nonetheless, a good ability with the majority of skills listed here is sufficient to pass.