



Syllabus

Term: 2026/27/1 **Subject name:** Geomathematics and Geostatistics **Subject code:** AFOLNA0101

Unit (Unit code) Institute of Geography and Earth Sciences (FOLDRAJZ)

Lecturer responsible for the course: Dr. SARKADI Noémi

Requirement: Term mark

Classes per week : 0/3/0

Classes per term:

Purpose of education:

On successful completion of this course students are able to apply basics mathematical and statistical tools.

Contents:

Sets, types of number sets Powers, roots, logarithm laws Solving linear and quadratic equations and inequalities (I). Solving linear and quadratic equations and inequalities (II.) and definition of functions Trigonometry, application of trigonometry in earth science Geometry in 2D and 3D, spherical geometry, Pythagoras law. 1st midterm exam Coordinate geometry Basics of logics, combinatorics probability theory Most frequently applied probability distributions – Bernoulli, uniform, binomial, Poisson, geometrical, normal Mean, weighted mean, standard deviation, median, mode Plotting of empirical cumulative density function and empirical distribution (histogram) 2nd midterm exam

System of examing and valuation:

Week 1: I. midterm exam week 2: II. midterm exam Evaluation is based on homework points, one midterm exam on week 7 and one final written exam at the end of the semester. Exams: both theory and calculations. Calculator and equation card (prepared individually by the students) are required. The approximate ranges are the followings: just less than less than 50% = 1 50 to 59.99 % = 2 60 to 74.99% = 3 75 to 84.99% = 4 85+%= 5 Attendance at all activities will be monitored. Students who fail to attend the activities, or to complete the summative or formative assessment specified above, will not gain the credit for the course. Correction of the midterm exams is possible at the end of the semester.

Bibliography:

Geresdi I: Mathematical methods in the Earth Sciences , e-textbook Palmer: Essential Maths for Geoscience, WILEY, p 204

Bibliography: