Course: **MATHEMATICS 1**	**Course type:** **Lecture+Seminar**	**Credits:**	**Course ID:** KTAK101a
Course responsible: Dr. Kun István	**Programme type:** full time	**Hours/Semester** 30	**Assessment:** End-semester exam

Course objectives:

Acquiring basic knowledge of differential and integral calculus.

Competencies to be improved: minimum 3 kategóriához, összesen minimum 5 db kompetencia kell

Knowledge: T1, T8
Ability: K5, K6
Attitude: A2
Autonomy and responsibility: F1

Compulsory literature:

Raymond A. Barnett, Michael R. Ziegler, Karl E. Byleen:College Mathematics for Business, Economics, Life Sciences and Social Sciences. Pearson Education, Harlow, Essex, 2015. https://nguyenvantien0405.files.wordpress.com/2017/09/college-mathematics-for-busines-raymond-a-barnett.pdf

Recommended literature:

John C. Sparks: The Handbook of Essential Mathematics. Editors: Donald D. Gregory and Vincent R. Miller. Air Force Publication, 2006. https://florida.theorangegrove.org/og/file/3a8c652c-11d0-e967-95fb-b5bbae2586d6/1/math_handbook.pdf

Course content:

Real polynomials and functions.
Domain and range of a function.
Limits for functions. Continuity
Differential quotient. Derivative function. Basic rules of differentiation.
L'Hospital's rule.
Application of derivatives for the analysis of functions. Monotone increase and decrease. Convexity properties. Local extrema. Inflexion points.
Antiderivative. Indefinite integral.
Definite integral. Application for area computation.
Multivariate functions. Partial derivatives.

Course requirements:

Attendance of classses, keeping up with lectures

Grading scale:

>80 %: excellent, 79-70 %: good, 69-60 %: satisfactory , 59-50 % pass

Course Programme: WJLF ENVIRONMENTAL SCIENCE	**Semester:** 2019_2020_1	**Lecturer:** Dr. István Kun lecturer