

Name of the subject: Mathematics II.	NEPTUN code: KEXMA2ABNE	Weekly hours: 6 3 lec+3 pr+ 0 lab	Credit: 6 Req: Examination
Subject leader: Dr. Judit Kovács	senior lecturer	Prerequisites: NMXAN1EBNE	
Description of the subject:			
<p>Integrals of basic functions. Techniques of integration. Integration by parts. Integration by substitution. Applications of definite integrals. Improper integrals. Double integrals. Concept and properties of series. Concept and properties of series of functions. Power series. Fourier series.</p> <p>Integral transforms. Concept and properties of Laplace transform.</p> <p>Concept of differential equations. Basic first and second order differential equations. Solving differential equations by the method of Laplace transform.</p> <p>Concept of vectors. Basic operations of vectors. Coordinates and applications of vectors. Basic concepts of vector analysis. Vector-valued functions of a scalar variable. Scalar -valued functions of a vector variable. Vector-valued functions of vector variables. Concepts of line integrals.</p> <p>Event algebra. Concept and properties of probability. Classical definition of probability. Random variables and types. Types and characteristics of discrete and continuous probability distribution. Laws of large numbers and central limit theorem.</p> <p>Basic concepts of mathematical statistics.</p>			
Literature			
<ol style="list-style-type: none"> 1. Kovács, J., Schmidt, E., Szabó, L.A.: Mathematics, ÓE KVK 2103, Budapest, 2013 2. Kovács, J., Schmidt, E.: Mathematics. Problem Solving, E-learning 			