

Name of subject: Colour theory and colorimetry I.	NEPTUN-code: RTXSZ1BBNE	Number of hours: <i>lec+gs+lab</i> 2+0+2	Credit: 4 Requirements: practice mark
Course coordinator: Ákos Borbély PhD	Title: associate professor	Prerequisite: -	
Subject content:			
<p>Basic notions of color theory. The physical, physiological and psychological bases connected to colors. The spectrum of electromagnetic radiation, optical radiations. The structure of the human eye, photoreceptors, the structure of the retina. The general context of visual performance, the basics of color vision, the properties of color perception. Color features. The factors influencing color sensing. The methods and tools of color communication: the questions of subjective and objective color characterization; color systems, color sample atlases. The basic principles of color systems. The bases of color measurement, the objective modelling of reduced color vision. The methods and instruments of color stimulus measuring, spectrophotometers. Color contrasts. Color harmony systems. The effects and functions of colors, colorful environment. The basics of color dynamic design, the relationships of people and colors. The special characteristics of color usage. The questions of color reproduction, reproducible color ranges. Colorful techniques.</p> <p>The most important practical methods of the professional field.</p>			
Competences to be mastered:			
<p>a) knowledge</p> <ul style="list-style-type: none"> - Knowledge of the fundamental methods, rules and standards of ergonomics and psychology as required for industrial product design. <p>b) capabilities</p> <ul style="list-style-type: none"> - Understand and use characteristic online and printed references characteristic of their special field, both in Hungarian and in at least one foreign language. - Know and apply the terminology and special expressions of their professional field in Hungarian and in at least one foreign language. - Able to give reasons for the decisions related to the product designed, as well as to test them and support them by technical and standard investigation methods. 			
Bibliography:			
1. Nemcsics Antal: Színdinamika. Színes környezet tervezése. Akadémiai Kiadó, Budapest, 1990			
2. Itten, Johannes: A színek művészete. Göncöl-Saxum Kiadó, Bp. 2002.			
3. https://elearning.uni-obuda.hu/ electronic notes and aids prepared by the instructor			