

Name of the course	Dyes and environment protection
Number of instruction hours	20
Outline of course/module content	Basic concepts of color. Empirical correlations between the chemical structures of organic dyes and their color. Chemical and application classes of organic synthetic dyes. Color Index. General synthesis and principal properties of some important chemical classes of dyes. Application of dyes; textile and nontextile dyes, functional dyes and optical brighteners. Organic pigments-optimization of their synthesis and physical conditioning operations. The influence of crystal structures and particle size on application properties of pigments. Toxicological properties of dyes and pigments-acute toxicity, sensitization, mutagenicity, carcinogenicity. Metabolism of azo dyes. Food dyes. Environmental assessment. Treatment of dye containing wastewater. Special regulations for dyes. Material safety data sheets. The aim of ETAD, Ecological and toxicological association of dyes and organic pigments manufacturers. ETAD s mission for sustainable growth of the dye industry.
Description of instruction methods	Lectures, presentation of the seminar
Description of course/module requirements	Written and oral exam