

Course Unit Descriptor Study Programme: Chemistry			
Course Unit Title: Thermal Analysis of Inorganic Compounds and Materials			
Course Unit Code: IHN-306			
Name of Lecturer(s): Associate professor Berta Barta Holló			
Type and Level of Studies: Bachelor Academic Studies			
Course Status (compulsory/elective): Elective			
Semester (winter/summer): Winter			
Language of instruction: English			
Mode of course unit delivery (face-to-face/distance learning): Face-to-face			
Number of ECTS Allocated: 5			
Prerequisites: None			
Learning objectives Basic knowledge about thermoanalytical techniques used for analysis of inorganic compounds and materials. Students gain practical knowledge necessary for carrying out simple, typical thermoanalytical measurements. They get basic knowledge for interpreting the obtained results.			
Learning outcomes After completing this course, student is able to: <ul style="list-style-type: none"> • Apply thermoanalytical techniques for analysis of inorganic compounds • To order optimal experimental conditions taking into account the aim of the measurements • Analyse and present the obtained results 			
Syllabus <i>Theoretical instruction</i> Basic thermoanalytical principles. The effect of heat on inorganic materials' properties. Basic thermoanalytical techniques: thermogravimetry (TG), derivative thermogravimetry (DTG), differential thermal analysis (DTA), differential scanning calorimetry (DSC), simultaneous methods of thermal and evolved gas analysis (EGA) and their applications. The effect of experimental conditions on the results of measurements. <i>Practical instruction</i> Working principles of thermoanalytical instruments. Practical study of the effect of experimental conditions of thermal measurements on the results through measuring simple inorganic compounds and materials. Preparing an experimental plan. Determination of thermal stability, purity, melting point, etc.			
Required Reading: 1. Weekly teaching load			
Weekly Contact Hours: 60	Lectures: 30	Practical work: 30	
Teaching Methods: Lectures and laboratory work			
Knowledge Assessment (maximum of 100 points): 100			
Pre-exam obligations	points	Final exam	points
Lab exercises	30	Written exam	40
		Oral exam	30