

Department	05 Technical Systems, Processes and Communication
Course title	Paper Chemistry
Course number	
Hours per week (SWS)	4
Number of ECTS credits	5
Course objective	<input type="checkbox"/> apply the basic principles of the general, inorganic and organic chemistry, and to explain selected reaction mechanisms of the organic chemistry; <input type="checkbox"/> determine the main characteristics of compounds, based on their functional chemical groups; <input type="checkbox"/> suggest projects, including complex projects, so as to solve chemical problems which are encountered; <input type="checkbox"/> recognize the interactions that occur in the course of the processes and, as part of a team, to follow the course of processes, also under changing circumstances; <input type="checkbox"/> explain the use of chemical additives and to test the same in a laboratory scale
Prerequisites	Knowledge of organic and general inorganic chemistry
Recommended reading	"Chemical Additives for the production of pulp and paper", Zellcheming Verein, Germany, ISBN 978-3-86641-120-3 (2008) + Skript Prof. Dr. St. Kleemann "Paper Chemistry" Paper Chemistry by J.C.Roberts, Blackie Academie & Professional, ISBN 0 7514 0236 2 (1996) Applications of Wet-end Paper Chemistry by C.O.Au and I.Thorn, Blackie Academie & Professional, ISBN 0 75140034 3 (1995)
Teaching methods	Lecture, laboratory experiments
Assessment methods	Modular work
Language of instruction	English
Name of lecturer	Prof. Dr. Emanuele Martorana
Email	emanuele.martorana@hm.edu
Link	
Course content	<input type="checkbox"/> Inorganic and organic chemistry, as well as reaction mechanisms <input type="checkbox"/> Chemical additives used in the paper and packaging material industries, as well as their use as functional and process chemicals, and mode of action <input type="checkbox"/> Interaction of chemical additives in the first application and in recycling <input type="checkbox"/> Consideration of ecological and economic aspects in relation to the products discussed <input type="checkbox"/> Use of chemical additives in the laboratory, for optimization of the properties of paper and the course of processes in the framework of scientific engineering tasks
Remarks	