

Department	05 Technical Systems, Processes and Communication
Course title	Minerals
Course number	
Hours per week (SWS)	4
Number of ECTS credits	5 (2.5 ECTS Lecture / 2.5 ECTS Practical Training)
Course objective	<input type="checkbox"/> recognize the connection between cause and effect in mineral components; <input type="checkbox"/> suggest projects, including complex projects, for the synthesis of mineral materials as well as for the solution of problems encountered with fillers and pigments; <input type="checkbox"/> explain the interactions that occur in the course of the processes and, as part of a team
Prerequisites	Knowledge of general inorganic chemistry
Recommended reading	Script Prof. Dr. T. Gliese "Minerals" F. W. Tegethoff (Editor) – "Calciumcarbonat – From the Cretaceous Period into the 21.-st Century" Birkhäuser Verlag – Basel, Boston, Berlin 2001 B.A. Wills – "Minerals Processing Technology", Intl. Series on Material Science & Technology, Pergamon Press – Oxford / England 1988 R.W. Hagemeyer – "Pigments for Paper", Tappi Press – Atlanta / GA 1997
Teaching methods	Lecture, seminar instruction, project work, laboratory experiments
Assessment methods	Laboratory reports, Written examination
Language of instruction	English
Name of lecturer	Prof. Dr. Thoralf Gliese
Email	thoralf.gliese@hm.edu
Link	
Course content	<input type="checkbox"/> Structure, occurrence and preparation of mineral substances, the concepts of mineralogy - with emphasis on carbonates, silicates (clay, talcum), titanium dioxide, sulphates, aluminium compounds, as well as pigments; the use of these as fillers and coating pigments in the paper and packaging materials industries <input type="checkbox"/> Behaviour of mineral substances in the first application and in recycling <input type="checkbox"/> Consideration of ecological and economic aspects in relation to the products discussed
Remarks	