The Theory of Anomalous Diffusion

Unit Title	The Theory of Anomalous Diffusion.		
Level of Study			
Credit Value		**ECTS Value**	
Home Department	Department of Theoretical Physics		
Home Faculty	Physics Faculty		
Unit Co-ordinator	Boris S. Maryshev		
Key Words	The theory of anomalous diffusion,		
Brief Summary	The course of Anomalous diffusion is devoted to the most general description of diffusive processes. The nature of cooperative effects of small particle ensembles is discussed. The main attention is given to the cases when diffusive process deviates from standard normal law: subdiffusion and superdiffusion.		
Indicative Content	The course of Anomalous diffusion is devoted to the most general description of diffusive processes. The nature of cooperative effects of small particle ensembles is discussed. The main attention is given to the cases when diffusive process deviates from standard normal law: subdiffusion and superdiffusion. The base equations are derived and standard boundary problems are formulated and methods of its solution are described. The problems of transport in media with immobilization or particle trapping (e.g. porous media, crystals, polymers) is discussed from point of subdiffusive process. Also the series of transport problems in fractured media is investigated from point of superdiffusive process..		