Data:	CerEng. MA. Nr. / Examination number: -	Version: 20.06.2024	Start Year: WiSe 2024
Module Name:	**Ceramic Engineering**		
(English):			
Responsible:	Aneziris, Christos G. / Prof. Dr.-Ing. habil.		
Lecturer(s):	Aneziris, Christos G. / Prof. Dr.-Ing. habil.		
Institute(s):	Institute of Ceramics, Refractories and Composite Materials		
Duration:	1 Semester(s)		
Competencies:	Students will understand, apply, improve and generate ceramic materials: • in micro structural design, • ceramic processing, • testing and • application		
Contents:	Most important ingredients are: • definition, bonding, • micro structure, density, porosity • mechanical properties, • thermal and thermo mechanical properties • chemical properties • sintering • basics in ceramic technology, theoretical • ceramic technology pressing/extruding/casting, experimental • engineering ceramics, alumina/zirconia • engineering ceramics, silicon carbide • functional ceramics, non linear dielectric/piezoelectric properties - barium titanate • refractories, carbon bonded materials • silicate ceramics • Exercise: theoretical density / Enthalpy • Visiting of ceramic plant or research institute		
Literature:	Introduction to Ceramics, David Kingery Introduction to the Principles of Ceramic Processing, James Reed Physical Ceramics, Yet-Ming Chiang, Dunbar Birnie III, W. David Kingery		
Types of Teaching:	S1 (WS): incl. exercises and and practical course / Lectures (2 SWS)		
Pre-requisites:	**Recommendations:** Basic fundamentals of materials science		
Frequency:	yearly in the winter semester		
Requirements for Credit Points:	For the award of credit points it is necessary to pass the module exam. The module exam contains: MP/KA (KA if 6 students or more) [MP minimum 30 min / KA 90 min]		
	Voraussetzung für die Vergabe von Leistungspunkten ist das Bestehen der Modulprüfung. Die Modulprüfung umfasst: MP/KA (KA bei 6 und mehr Teilnehmern) [MP mindestens 30 min / KA 90 min]		
Credit Points:	4		
Grade:	The Grade is generated from the examination result(s) with the following weights (w): MP/KA [w: 1]		
Workload:	The workload is 120h. It is the result of 30h attendance and 90h self-studies.		