

## CERAMIC MATERIALS

### 1.1. Identification

University:	Alma Mater Studiorum – Università di Bologna										
School:	School of Engineering										
Course:	Ceramic Materials										
ECTS:	3										
Semester:	<i>Winter</i>			X	<i>Summer</i>						
Category	<i>Fundamental course</i>					<i>Specialisation course</i>				X	
Module	<i>MFI</i>		<i>MFII</i>		<i>MFIII</i>		<i>MSI</i>		<i>MSII</i>	X	<i>MSIII</i>
Teachers:	Giorgio Timellini										
Language:	<i>English</i>	X	<i>Italian</i>	X	<i>Swedish</i>		<i>Spanish</i>				

### 1.2. Learning-outcomes

- Knowledge of the relations among technology, microstructure and properties of engineering ceramic materials.
- Knowledge of correct selection and use of ceramic materials.

### 1.3. Competencies

- **General**
  - to have critical understanding of technical and scientific tools
  - communication skills
  - to work in an international context
- **Specific**
  - to understand the importance of production technology over the final product
  - to understand the relationship between technology and properties product

### 1.4. Contents

Microstructure and porosity. Mechanical, thermal and electrical properties of ceramic materials. Processes and technologies for traditional ceramic materials production. Advanced ceramic materials: classification, microstructure, properties and technology.

### 1.5. Teaching Methodology

- Lecture sessions

## **1.6. Evaluation**

- oral evaluation

## **1.7. Bibliography**

William F. Smith, Principles of Materials Science and Engineering - McGraw-Hill,  
NY