

MATERIALS FOR PACKAGING APPLICATIONS

1.1. Identification

University:	Alma Mater Studiorum – Università di Bologna										
School:	School of Engineering										
Course:	Materials for packaging applications										
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:	Maria Grazia De Angelis										
Language:	<i>English</i>	X	<i>Italian</i>	X	<i>Swedish</i>		<i>Spanish</i>				

1.2. Learning-outcomes

- knowledge about chemical and physical properties of materials of interest in packaging
- knowledge about characterization procedure of relevant material properties in production of packaging

1.3. Competencies

▪ General

- to have critical understanding of technical and scientific tools
- communication skills
- to work in an international context

▪ Specific

- to understand significance and representation of material properties relevant to packaging applications
- to know basic properties of all materials commonly used in packaging applications
- to be able of critical analysis of specific material properties in view of performances required for packaging products
- to design experiments for the correct evaluation of relevant properties of new materials for packaging
- to understand relations between physical properties and structure of materials

1.4. Contents

1. Classification of materials used in packaging applications
2. Chemical and physical properties of materials for packaging
3. Production technology and utilization of packaging
4. Technical, economical, legislative aspects of environmental impact of packaging goods and packaging materials
5. Experimental characterization and critical analysis of mechanical, optical, gas barrier and migration properties of material for packaging

1.5. Teaching Methodology

- Lecture sessions
- Lab works

1.6. Evaluation

- oral evaluation

1.7. Bibliography

- W. F. Smith, J. Ashemi, Foundations of Materials Science and Engineering, McGraw-Hill, 2006