Polytechnic Institute of Viseu
School of Technology and Management of Viseu

Course title	Materials Management and Design		
Scientific area	Management		
Teaching method	During the course many different teaching methods will be used.		
Lecturers:		Language of instruction	English
ECTS	5	Semester	Spring
Hours per week	1,5	Hours per semester	PL: 19,5; OT: 13
Objectives of the course	This course aims to acquire and develop the ability to produce and develop a prototype of an object, from the design phase, drafting and modeling, and finally production of prototypes and final production of the product, through progressive exploration of ideas and possibilities, and matching methods and physical and virtual processes. It also allows the integration of marketing functions, development and manufacturing within a company to create a new product. The course aims to develop: • competencies with a set of tools and methods for creating and developing a product. • confidence in their ability to create a new product. • awareness of the role of multiple functions in creating a new product (eg, marketing, finance, industrial design, engineering, production). • an approach to the strategy of production and its connection to design and innovation		
Entry requirements	There aren't any.		
Course contents	I Strategy of Production II Manufacturing systems planning and operations: III Materials and processes involved IV Manufacturing Technology V Planning and production VI Design and project engineering VII Construction of prototypes		
Assessment methods	The participation of students in the classes of laboratory practice is further ensured through work, addressing programmatic themes previously defined, and which require a lot of literature. The assessment takes the form of practical individual and group. Dates, and delivery methods are described in the regulations of jobs available in Elearning platform.		
Recommended readings	Chris Lefteri, **Making It: Manufacturing Techniques for Product Design**, Laurence King Publishers, (June 28, 2007) Kahn, Kenneth B., George Castellion,and Abbie Griffin, **The PDMA handbook of new product development**, Wiley Kevin N. Otto, Kristin Wood, **Design: Techniques in Reverse Engineering and New Product**, Prentice Hall, Dec 8, 2000 Jim Lesko (Author)**, Industrial Design: Materials and Manufacturing Guide,** John Wiley & Sons Inc (28 Feb 1999). Michael F. Ashby (Author), Kara Johnson (Author) **Materials and Design: The Art and Science of Material Selection in Product Design,** Butterworth-Heinemann Ltd (31 Jan 2004).		
Additional information			