

## DESCRIPTION OF THE EDUCATIONAL ACTIVITY

Academic year: **2010-2011**

Course title: ***Special Manufacturing Technologies***

Course number: **-----**

Type of educational activity: ***mandatory subject***

Subject Group: ***ING-IND/16***

Year of study: ***2<sup>nd</sup> year "Laurea specialistica" (M.Sc. Mech Eng)***

Semester: ***1<sup>st</sup>***

Total number of credits: **6**

Global workload (n. of hours) : **150**

Number of hours allocated to: lectures, tutorials, laboratory, individual study: **30, 10, 20, 90**

Name of lecturer: ***Gaetano Salvatore Palazzo***

Objectives of the course: **To give to the students the fundamental knowledge of unconventional manufacturing processes.**

Prerequisites: ***Innovative Materials and Manufacturing Technologies (Innovative Production Systems)***

Course contents:

***Powder metallurgy (powder production techniques, powder compaction processes, sintering). Polymeric materials and manufacturing technologies (resins, physical and mechanical properties, manufacturing processes). Composite Materials: matrix and reinforcement. PMC manufacturing processes (hand layup, autoclave processes, filament winding, pultrusion, liquid composite molding). Laser processes, arc discharge machining, electro-chemical machining.***

Recommended reading: ***Note of the course  
Timothy G. Gutowski, Advanced Composites Manufacturing  
Irvin I. Rubin, Handbook of Plastic Materials and Technologies  
M.J. Rhodes, Principles of Powder Technology***

Teaching methods: ***lectures, laboratory***

Assessment methods: ***oral examination***

Language of instruction: ***Italian***

Additional information: ***further information can be requested via e-mail: [gspalazzo@unisa.it](mailto:gspalazzo@unisa.it)***