The PhD Program in Materials Engineering combines the theoretical knowledge in Materials Science with the technological requirements of Engineering Applications in order to train qualified researchers in the design, synthesis, manufacturing and exploitation of traditional and/or new materials. The Courses will be held in Campus Leonardo.

The Doctoral Course covers the following areas: polymers and composites; concretes and ceramics; metals; biomaterials and materials for biomedical applications; processing and characterization of advanced metallic alloys; corrosion and durability of materials; innovative materials for civil and industrial engineering; materials characterization (microscopies, scattering, spectroscopy); modelling and theoretical approaches to the study of materials structure and properties; micro- and nanostructured materials; functional materials for applications in photonic, electronic and sensors; surface engineering and advanced coatings; materials for industrial design; meta-materials; transformation of materials; material for Cultural Heritage.

The Doctoral program is characterized by high flexibility to enable the students to develop their research activity in different thematic areas. For this reason each student may submit a personalized study plan to the Faculty. The Lectures offered deal with theoretical, experimental and modelling aspects. Advanced methods for materials preparation and characterization, ranging from mechanical tests, physical properties determination, to chemical and structural analysis, will be presented and made available. Several Courses include workshops and seminars, with the participation of invited internationally celebrated speakers. During the PhD Course the attendance of the students to Conferences and International Schools is strongly encouraged. Students can use state of the art facilities
for materials synthesis, processing and characterization available at the Politecnico di Milano or in other research laboratories. The research activities related to the PhD theses develop with a full-time commitment along the three years of the PhD Program. Stages in industries or in laboratories in Italy or abroad are offered.

Several specialized curricula are offered to cope with the growing demand of the industrial world for: i) innovation in the production, processing, application and conservation of traditional materials; ii) development of innovative materials for the production of new goods, devices, technologies. The skills acquired through the courses, the research work and the teaching activity assure an adequate preparation to the academic career.

For the admission to the PhD Courses a Master degree in Scientific-technological areas is required. Skills in Mathematics, Physics, Chemistry, Material Science, and Engineering are prerequisite for the Course attendance.

5-10 Scholarships are assigned yearly to students admitted to the PhD Course, according to the ranking obtained in the selection. Some scholarships (usually supported by public or private agencies/companies) are linked to specific research themes and assigned on the basis of specific skills and attitudes shown by the candidate for the research work required.

For further information, please visit the following web site www.polimi.it/phd, or contact the School of Doctoral Programs - Politecnico di Milano at phdschool@polimi.it.

For specific information on the Courses and Curricula, visit the web site: www.dottorato.polimi.it/en/phd/IM or contact via e-mail the coordinator (chiara bertarelli@polimi.it), the vice-coordinator (francesco briatico@polimi.it) or the Secretariat (phd-im@polimi.it).