CM1 Digital Technologies for Product Development

LEARNING OBJECTIVES

The Digital Technologies for Product Development track aims to train professionals with a systemic approach to industrial product development. First-year courses will enable students to understand digital solutions to address the main aspects of industrial product design and life cycle. Second-year mandatory courses deal with the digital twin paradigm and innovative technologies of eXtended Reality and their engineering applications, leading students to acknowledge their potential. Through elective courses, students can deepen their knowledge in increasingly relevant multidisciplinary fields within mechanical engineering.

PRE-REQUISITES

Students of the Digital Technologies for Product Development track should not meet specific requirements. However, basic mathematics, physics, and computer science skills and a good knowledge of design methods and tools are recommended. The track includes activities concerning resolving complex, interdisciplinary, and multidisciplinary projects.

LEARNING OUTCOMES

From the system architecture's conceptual definition to the life cycle's integrated vision, the Digital Technologies for Product Development track aims to train future engineers to proficiently use the enabling digital technologies of information management, modelling, visualization, and simulation to address complex theoretical and applicative problems from the most traditional mechanics to the cutting-edge applications.

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JOB OPPORTUNITIES

After graduating, students will be able to pursue their careers in different fields, such as automotive, electronics and automation, healthcare and medical industry, manufacturing, mechanics, and installation, with various roles: R&D engineer, technical manager, project manager, head of product development, IT service manager, CAD/CAM expert, head of digital transformation, simulation analyst, PDM/PLM expert, consultant.

PARTNER UNIVERSITIES

Within the Digital Technologies for Product Development track, students will benefit from collaborations with the most prestigious international universities to carry out their thesis in the last year. To mention a few examples: Katholieke Universiteit Leuven (KU Leuven, Belgium), Shanghai Jiao Tong University (SJTU, China), Tsinghua University (China), Technische Universität München (TUM, Germany), Blekinge Tekniska Högskola (BTH, Sweden), Chalmers Tekniska Högskola (Chalmers, Sweden), Eidgenössische Technische Hochschule Zürich (ETH Zurich, Switzerland), Technische Universiteit Delft (TU Delft, The Netherlands), Technische Universiteit Eindhoven (TUe, The Netherlands), Imperial College London Imperial (UK), Georgia Institute of Technology (Georgia Tech, USA), and Virginia Tech (VT, USA).

For further info and courses, please refer to the Educational Rules available on the School website: **https://www.ingindinf.polimi.it/formazione/regolamenti-didattici**