Why SIGN UP

The PhD course in Industrial Engineering offers the students the opportunity to acquire high-level skills in domains as Aerospace, Naval, Management, Energy and Mechanical Engineering. It offers the opportunity of combining a more specialized training with an interdisciplinary preparation, for the analysis of complex systems, characterized by strong interactions between technological, economic and managerial aspects.

The course aims at training highly qualified professionals capable of tackling the technological challenges brought by digitalization, innovation, green revolution, ecological transition, sustainable mobility and competitiveness, in perfect compliance with the objectives of NextGenerationEU.

Students will be involved in important international projects, in collaboration with prestigious universities and research centers, where they will have the opportunity to spend part of their PhD.

The PhD course also offers the possibility of being involved in projects in close cooperation with important national and international companies, giving students the opportunity to continue your professional career in a company with important positions.

Students will be encouraged to conduct independent research, publish papers in prestigious journals, and present their work at conference.

PhD Coordinator

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Useful link

Scuola Politecnica e delle Scienze di Base

www.scuolapsb.it

Dipartimento di Ingegneria Industriale

www.dii.unina.it

PhD in Industrial Engineering

http://www.dii.unina.it/index.php/it/dottorato-ingegneria-industriale

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UNIVERSITÀ DEGLI STUDI DI NAPOLI FEDERICO II
SCUOLA POLITECNICA E DELLE SCIENZE DI BASE

Collegio degli Studi di INGEGNERIA

PhD COURSE
INDUSTRIAL ENGINEERING

2022-2023

TRAINING OBJECTIVES

Through a basic, interdisciplinary and specialized training, the Industrial Engineering PhD candidate must acquire adequate knowledge of innovative design methodologies, technical-economic and energy-environmental analysis, management of industrial and manufacturing plants and related technologies, also using advanced techniques for the analysis of complex and heterogeneous data.
They must keep up with technological developments in the relevant sector to incorporate new technologies into innovative design solutions. These skills are also acquired thanks to the strong link that the PhD course has with the industrial world: the training paths and research objectives are in strong synergy with national and international industrial realities, which also finance additional scholarships. This is confirmed by the interdisciplinary vocation of the PhD, which has been accredited as an innovative interdisciplinary PhD. The course also aims to prepare students to carry out scientific research activities, both theoretical-numerical and experimental, in universities and research centers. To this end, staying at Italian but especially foreign research institutions and writing scientific articles, as well as participating in international research projects on frontier topics, is always highly encouraged.

ENTRY REQUIREMENTS

To access the PhD program in Industrial Engineering, a master's degree is required. Applicants must pass a selection process based on their academic qualifications and an oral interview.

TRAINING COURSE

The PhD program is organized into three curricula:

- AEROSPACE AND NAVAL ENGINEERING
- ENERGETIC AND MECHANICAL ENGINEERING
- ENGINEERING MANAGEMENT, QUALITY AND DATA SCIENCE FOR TECHNOLOGY

The educational offer includes:

• courses taken from master's degree programs offered by the Department of Industrial Engineering and/or courses taught in other master's degree programs by the University of Naples Federico II, other Italian universities, or even foreign institutions during the period spent abroad, with the aim of completing the PhD student's basic training.

• a wide range of specialized courses, provided by the faculty members, closely related to the type of PhD program and functional to the research activities envisaged within the various curricula. Short seminars and courses are also organized by personnel from companies or professors and researchers from other national and international universities.

• an educational offer shared with other PhD programs from the Polytechnic School and Basic Sciences, functional to interdisciplinary, multidisciplinary, and transdisciplinary training, with particular reference to Language and Information Technology, Research Management, Knowledge Discovery, Research Systems and Funding Systems, for the valorization of research results and intellectual property, open access to research data and products, gender equality principles, ethics, and integrity.

Within the educational offer described, PhD students can identify the most suitable courses and seminars to complete the required credits and carry out their research activities. The PhD project involves the attainment of at least 180 university training credits (CFU), 60 each year, of which between 30 and 48 CFU for attending courses and seminars, up to 15 CFU for integrative educational activities, and between 115 and 150 CFU for autonomous research activities.
The training activities also involve staying at a high-profile foreign institution for a period of at least 3-6 months.

CFU = University Training Credits

The doctoral program in industrial engineering aims to train highly qualified professionals who can enter the mechanical, naval, aerospace, and managerial industries, both nationally and internationally, and capable of meeting the challenges posed by the transition to Industry 4.0 and the objectives of the National Recovery and Resilience Plan (PNRR), which concern digitalization, innovation, the green revolution and ecological transition, sustainable mobility, and competitiveness. The main expected job opportunities are in production innovation and development, advanced design, planning and programming, and the management of complex systems.
Doctors can find employment in aerospace companies, agencies and research centers, energy production and conversion entities, plant engineering companies, automation and robotics industries, manufacturing companies for the production, installation, testing, maintenance, and management of machines, production lines, and departments. Furthermore, thanks to the interdisciplinary training provided, a PhD in Industrial Engineering will have specific skills for designing and implementing systems and plants that require maximum operational reliability to ensure performance, productivity, product quality, and safety levels in compliance with current regulations. Other opportunities are also expected in universities and public research institutions.