Main objectives

- To qualify students to exercise the regulated profession of Industrial Engineer.
- To train students to plan, calculate and design products, processes, installations and plants.
- To equip students to manage technical and economic aspects of projects, installations, plants, companies and technology centres, as well as to undertake general management, technical management and management of R+D+I (research, development and innovation) projects.
- To train students to carry out strategic planning and apply it to construction systems, production systems, quality systems and environmental management systems.
- To equip students to lead, plan and supervise multidisciplinary teams in an international context and to communicate and convey knowledge, developments and outcomes.
- To equip students to solve complex problems in new or unfamiliar settings within broader, multidisciplinary contexts.

The course summary contains the full list of academic skills certified by the Master's Degree in Industrial Engineering at the Higher Polytechnic School of Jaén.

This master's programme qualifies students to exercise the regulated profession of Industrial Engineer, so the syllabus follows the stipulations contained in Order CIN/311/2009 of 9 February, which sets out the requirements for verifying the official university degrees qualifying graduates to exercise the profession and lists the following objectives:

- Acquire adequate knowledge of the scientific and technological aspects of: mathematical, analytical and numerical methods in engineering, electrical engineering, energy engineering, chemical engineering, mechanical engineering, continuum mechanics, industrial electronics, automation, production, materials, quantitative management methods, industrial computing, urban planning, infrastructure, etc.
- Plan, calculate and design products, processes, installations and plants.
- Lead, plan and supervise multidisciplinary teams.
- Conduct research, development and innovation of products, processes and methods.

- Undertake strategic planning and apply it to construction systems, production systems, quality systems and environmental management systems.

- Manage the technical and economic aspects of projects, installations, plants, companies and technology centres.

- Undertake general management, technical management and management of R&D&I projects at factories, companies and technology centres.

- Apply the knowledge obtained and solve problems in new or unfamiliar settings within broader, multidisciplinary contexts.

- Be able to integrate knowledge and tackle complex judgements on the basis of information which may be incomplete or limited and requires reflection on the social and ethical responsibilities linked to the application of these knowledge and judgements.

- Be able to communicate conclusions – and the knowledge and underlying reasons informing them – to expert and non-expert audiences clearly and unambiguously.

- Possess the learning skills needed for ongoing self-directed or independent study.

- Possess the knowledge, understanding and skills to apply the necessary legislation in the professional practice of Industrial Engineering.