❒ Graduate program

The graduate program of Department of Industrial engineering in KAIST was established in 1971 as one of 7 initial charter departments, in order to create and disseminate advanced knowledge and technology involving industrial engineering, especially for increasing productivity of manufacturing industries and service industries as well as public sectors. The department seeks to contribute to the advancement of fields in industrial engineering through advanced academic research and to provide industry and government with research and services of practical value.

With its 30+ years of graduate program history and the best faculty in the discipline in Korea, both in quantity and quality as evidenced by the JoongAng Daily News in a 2003 survey, the Department of IE in KAIST offers viable graduate programs leading to M.S. and Ph.D. degrees in various fields associated with industrial engineering, including industrial management, manufacturing systems engineering (e-manufacturing), ergonomics, operations research, applied statistics, and information systems. Each of the fields listed above involves many interesting specific topics such as logistics, supply chain management, advance planning & scheduling, work-flow / business process management, virtual manufacturing, human-computer interaction, mobile communication network design, random signal processing model, quality and reliability engineering, 6-sigma, data mining, cognitive engineering, information security & cryptography, artificial intelligence & expert system, system modeling & simulation, pattern oriented software architecture & design, geometric modeling & application, and so on. In overall, the department is placing special emphasis on industrial information technology to support the new paradigm of business in the digital era.

❒ Undergraduate Program

The undergraduate program was launched in 1991 when the graduate program in industrial engineering was relocated to Daejeon.

The aims of the program is to educate the students as capable practitioners of industrial engineering as well as preparing the students for more in depth studies in the graduate program. Courses in industrial management, manufacturing systems engineering, human-centered systems design, operations research, applied statistics, and information systems are offered.

After taking preliminary courses in mathematics and engineering during their freshman year, students are expected to take background courses in probability and statistics, operations research, and computer programming. With those backgrounds, more studies in application areas such as production systems, quality control, manufacturing, man-machine systems, telecommunications, and service industries are effectively pursued. Emphasis is given to the promotion of the capabilities to design and implement the computer systems that incorporate theories to enhance the productivity of systems in both the private and public sectors. Capabilities to diagnose industrial systems and to find out ways to improve the productivity are also highly emphasized. Students are also expected to take a seminar course which is designed to expose them to the recent developments in theories and practices of industrial engineering.