

Doctoral programme details

Adopted by the faculty council/education committee: 25 Jan 2011 (faculty board)

Revised: 13 Jun 2018

The programme's Swedish name (and English translation)

State also whether the programme has specialisations.

Industriell produktion (Eng. Production Engineering)

The programme has no specialisations.

Short description of subject area and content

State the third-cycle subjects included in the programme. General syllabuses for included subjects are to be appended to the programme details.

The third-cycle subject area is production engineering. The doctoral programme deals with most central areas in modern production development and production processes with close links to manufacturing industries.

This third-cycle subject area is multidisciplinary and includes knowledge and expertise in production processes, robotics, data and information technology, control systems, metrology, system development and system analysis.

Programme organisation

Programme council (state the constituent functions, not the people), programme director, student representation, etc.

Formally, the programme is administratively under the head of the School of Industrial Engineering and Management (ITM) and the director of third-cycle education (FA). To a great extent, it also shares administrative processes with ITM's other doctoral programmes. The programme is led by a programme director (DA). A DA shall fulfil KTH's requirements to serve as a principal supervisor and should himself/herself be active as a researcher and principal supervisor. The DA is a member of the school's third-cycle education committee (FU) and leads the programme council.

All principal supervisors linked to the programme are included in the programme council. The doctoral students' chosen representative (the doctoral student programme representative – PAD) is also a member of the programme council. The programme council discusses and gives guidance on supervision issues, research quality, final and midway seminars, third-cycle courses, etc. The programme council meets 3 times a year. It can also be convened in the interim.

Courses

Course offerings

Describe the programme's course offerings, which subject areas are to be covered and how relevant course offerings are ensured.

The programme offers a wide range of courses covering the production engineering third-cycle subject area. Offerings include advanced courses in engineering processes, production system analysis, assembly systems, digital methods, information management and research methodology. Some of these courses are only given when there is a sufficient number of students.

Quality assurance and monitoring of the programme's courses

State how the programme's courses are monitored and how their quality is assured.

There is a course evaluation and course analysis after each third-cycle course. The course coordinator is responsible for these being carried out. The course evaluation procedure is the same as KTH's procedure for first and second-cycle study courses and programmes.

Support (other than courses) for goal attainment in the subjects

Organised activities other than courses, e.g. seminar series and workshops.

Quality assurance is conducted continuously at various levels in the programme.

The quality of the individual doctoral student's research is ensured via an established peer process. Each doctoral student shall present his/her research on at least:

1. Two occasions for the Degree of Licentiate (thesis plan after around a year and a preparatory seminar ahead of the licentiate seminar).
2. Three occasions for a Degree of Doctor (thesis plan after around 1 year, licentiate seminar – or “midway seminar” if the doctoral student is going directly to the Degree of Doctor – and final seminar 3 – 5 months before the public defence of the doctoral thesis).

All doctoral students and researchers linked to the programme are expected to participate in these seminars. All department employees are invited. At each seminar, the manuscript is reviewed by an expert, external reviewer/discussion leader who is not involved in the doctoral student's work. The seminar is chaired by someone from the programme council, but not the doctoral student's principal supervisor or the PAD. The invitees shall have received copies of written documentary input at least one week before the seminar.

Additionally, KTH's and the School of Industrial Engineering and Management's quality assurance procedures apply to the public defence of doctoral theses.

The department holds a weekly seminar every Friday (the Friday seminars). Here, doctoral students, researchers and invited guests speak about their latest research results and advances in their particular areas.

Description of continuous, systematic quality improvement

Describe the regular evaluation and development activities.

Administrative processes that the programme shares with other third-cycle courses at ITM are evaluated once a year by ITM's third-cycle education committee. If necessary, the committee can also initiate a more wide-ranging overhaul of programme content and programme structure.