



JÖNKÖPING UNIVERSITY

School of Engineering

COLLABORATING WITH THE SCHOOL OF ENGINEERING

Industrial placement course and thesis project



Industrial placement course

Students learn from lectures and seminars, but not everything can be taught in a classroom setting. This is why the School of Engineering (JTH) at Jönköping University also offers an industrial placement course (IPC) system that, right from the start, establishes clear links between theory and practice. This linking better equips IPC students for their future careers. Something that also benefits the companies involved.

WHAT IS AN INDUSTRIAL PLACEMENT COURSE (IPC)?

An IPC entails having a student spend five, seven or ten weeks at a company working on a specific assignments at a company. The number of weeks depends on the student's programme and specialisation. Students may also do their placements during a summer break.

EXAMPLES OF POSSIBLE ASSIGNMENTS

The student and the company jointly come up with the scope of the assignments that are suitable for the placement that are linked to the student's studies. These assignments are communicated and jointly approved with the course coordinator at the School of Engineering.

Here are a few examples of what students can do within the IPC framework:

- Participate in and contribute knowledge to an ongoing project.



- Carry out a study of an ongoing production process.
- Try out one or more work assignments relevant to the student's field of study.
- Based on the student's earlier courses and experience, contribute to the continuing professional development to the company.

THE ROLE OF THE COMPANY

For the IPC to run optimally, the company needs to:

- Provide a physical workplace.
- Offer relevant work assignments.
- Provide an introduction to the workplace and necessary information about, for example, safety and terms of work regulations.

- Appoint a supervisor to provide support throughout the placement. The supervisor must be able to have regular contact with the student and with the School of Engineering.

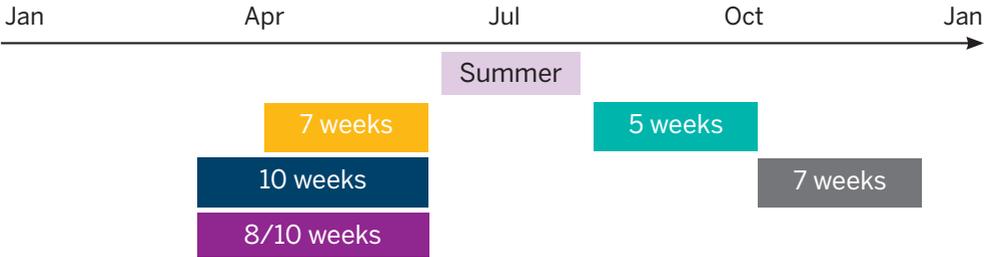
THE ROLE OF THE STUDENT

The role of the student primarily entails:

- Independently making contact with an employer.
- With high aspirations, carry out agreed placement assignments.
- Making analytical entries to a logbook throughout the placement.
- On placement completion, writing a report and participating in a seminar that is assessed and graded by an examining teacher.

Industrial placement course (IPC)

Overview of when the students have their IPC



IPC, semester 4

- Logistics and Management
- Sustainable Supply Chain Management
- Product Development and Design
- Architectural Engineering
- Building Engineering/Civil Engineering
- Lighting Design
- Software Development and Mobile Platforms
- Embedded Systems

IPC, semester 4

- Computer Networking Technology
- Graphical Design and Web Development

IPC, MSc Eng, semester 6

- Computer Science
- Industrial Product Realisation

IPC, master, semester 3

- AI Engineering
- Industrial Design
- Production Engineering and Management
- Product Development and Materials Engineering
- Materials and Manufacturing
- Sustainable Building Information Management

IPC, semester 5

- Industrial and Production Management



Clara got a permanent position through her IPC

Clara Nilsson studied Mechanical Engineering: Industrial and Production Management at JTH. She was offered a permanent position during her IPC.

“I would never have been offered the job without my industrial placement course (IPC),” she comments.

Clara was awarded her degree by JTH in spring 2021. She did her seven-week IPC in Autumn 2020 at Resinex Nordic’s head office in Jönköping. Resinex is the Nordic countries’ leading distributor of thermoplastic and rubber raw materials. On her placement, Clara’s main assignment was to carry out a logistics analysis of the company’s goods movements to its customers. To gauge the interest in increased collaboration in respect of recycled plastics, she additionally conducted a market analysis amongst the company’s end customers. During the IPC, Thomas Andersson, the

company’s MD, also gave tips and advice on sharpening her CV and cover letter.

On the first day of her placement, Clara was presented to everyone at Resinex’s Jönköping sales office and shown around the premises. She was also given information about Resinex Nordic and the various polymers they work with.

“From the very start, they were enormously helpful and keen for me to thrive. I quickly took to my tasks and received good guidance from Resinex throughout the placement,” states Clara.

” Without the IPC, I wouldn’t have got the job.

Clara Nilsson,

“Mechanical Engineering: Industrial Economics and Production Management”.

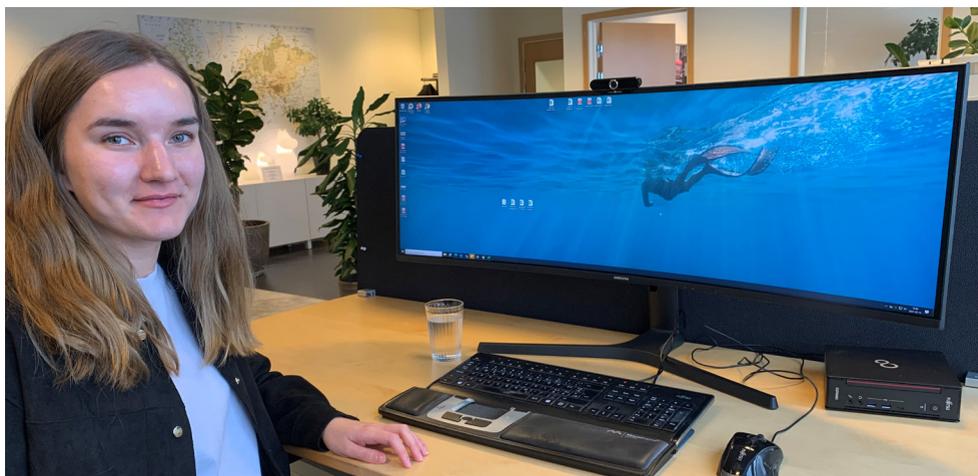


Photo: Resinex Nordic

During her IPC, she was offered a permanent position as a sales specialist at Resinex. Working approximately 40 per cent at the company on her placement completion, she went up to full time after her degree.

“It felt like a natural step for me and there was great security in getting a permanent position after the placement. At the same time, it was exciting to start working life.”

Clara’s prime duties as a sales specialist are to deal with orders from around 70 customers, order materials for Resinex’s warehouse and issue invoices and monitor credits. Her role also involves a lot of internal and external communication, mainly in English.

Clara is happy working at Resinex. In her opinion, the best things about the job are all the new knowledge she has acquired and how the company is helping

her to develop. She feels the IPC system offers great advantages.

“Above all, JTH students having the opportunity to get out and work for companies. The companies also form impressions of the students.”

Thomas Andersson, MD of Resinex Nordic, share his comments that Clara performed well on her IPC with them and that she came across as talented and serious.

“She was pleasant and sociable. She also worked well on the assignments we gave her,” adds Thomas.

He feels that Clara works quickly, is meticulous and is a great fit with the company’s other salespeople. Additionally, he points out, she communicates well with staff and customers alike.

Resinex takes as many university students as possible on placements. Thomas thinks the IPC system is a good way for students to gain insights into how workplaces function.

Her industrial placement course got Henny looking forward to a career

“The best things about the placement with ITAB Shop Concept were getting to see how everything works in reality and taking an active part in the day-to-day work. I was given a role where I received guidance from my supervisor, but was expected to take individual responsibility for various projects. It was very challenging,” relays Henny.

Henny found her placement to be instructive in many ways. After the placement, she also discovered more things she had learnt.

“A placement is a fantastic opportunity to learn from more experienced people. However, you have to dare to ask questions and try things out. Sure, things sometimes go wrong but, usually, they turn out all right in the end and you learn a lot along the way,” she explains.

The placement was just a foretaste, which has whetted Henny’s career appetite even more. Moreover, experience from the placement influenced her further studies.

“I now better understand what interests me and, from now on, I’ll be choosing relevant courses based on this.”

Besides all the new experience Henny took away from the placement, it also paid other dividends:

“After my placement, I got a summer job at the same workplace. This gave me lots of contacts that I’ll have throughout my future career,” she concludes.



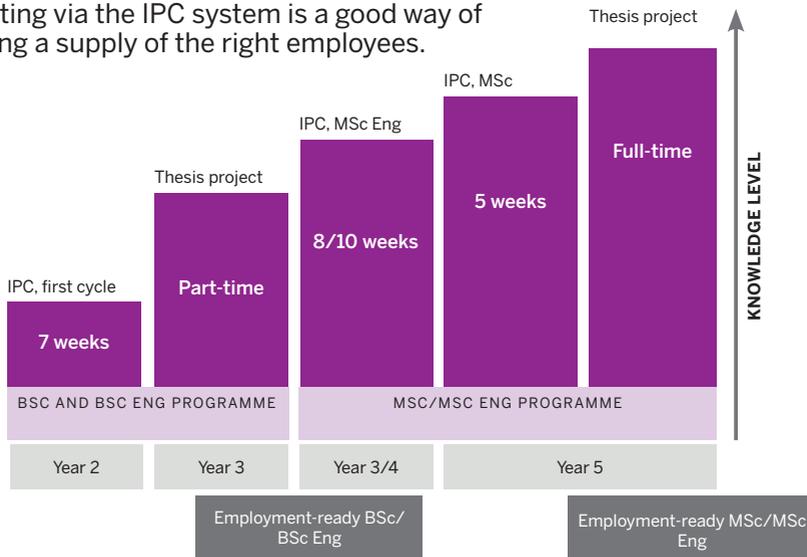
Photo: Denise Permerud

“A placement is a fantastic opportunity to learn from more experienced people.”

Henny Vinlöf,
Industrial Economics, specialising in logistics and management.

Industrial placement course (IPC)

Recruiting via the IPC system is a good way of ensuring a supply of the right employees.



INDUSTRIAL PLACEMENT COURSE, BSC

The placement runs for seven weeks at the end of the second year. On placement completion, the student is fully familiar with the company and the work assignments.

SUMMER JOB

On summer job completion, the student has been in the company for around 15 weeks and may have ideas for a thesis project.

THESIS PROJECT

A student helps with current challenges and contributes new approaches throughout an entire semester. The thesis project is carried out in the spring semester of the third year. On thesis project completion, the student has finished his/her studies and is employment-ready.

PROJECT/SUMMER JOB

If the student chooses to study a master's programme and the collaboration between company and student is working well, the student may be offered extra work, in the fourth year, e.g., a student project or a summer job.

INDUSTRIAL PLACEMENT COURSE, MSc

Master's level IPC is in the fifth year of the study programme and, as it is for a second-cycle student, can involve a more complex project.

THESIS PROJECT

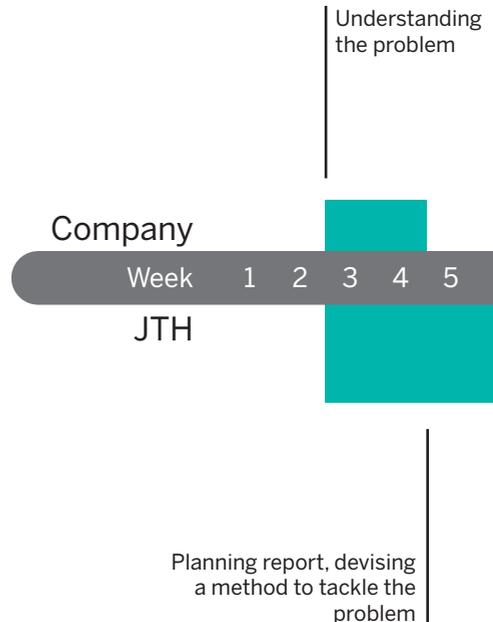
The thesis project runs throughout the spring semester and results in an employment-ready MSc.

Thesis project

WHAT IS A THESIS PROJECT?

A thesis project is a way of tying together the courses, theories, knowledge, laboratory sessions and applications to which the student has been exposed during his/her studies. All these are used in taking on a reality-based problem or project in a company.

The project is carried out independently or with a study partner. Thesis project scope depends on the programme being studied.



THE RESPONSIBILITIES OF THE COMPANY

For a thesis project to run optimally, the company needs to:

- Provide a suitable project.
- Provide an introduction and necessary information about the company and the project.
- Assign a supervisor who is present at the company and who can provide support throughout the thesis project. The supervisor must afford regular contact and should also be thoroughly familiar with the project that the student is expected to carry out.

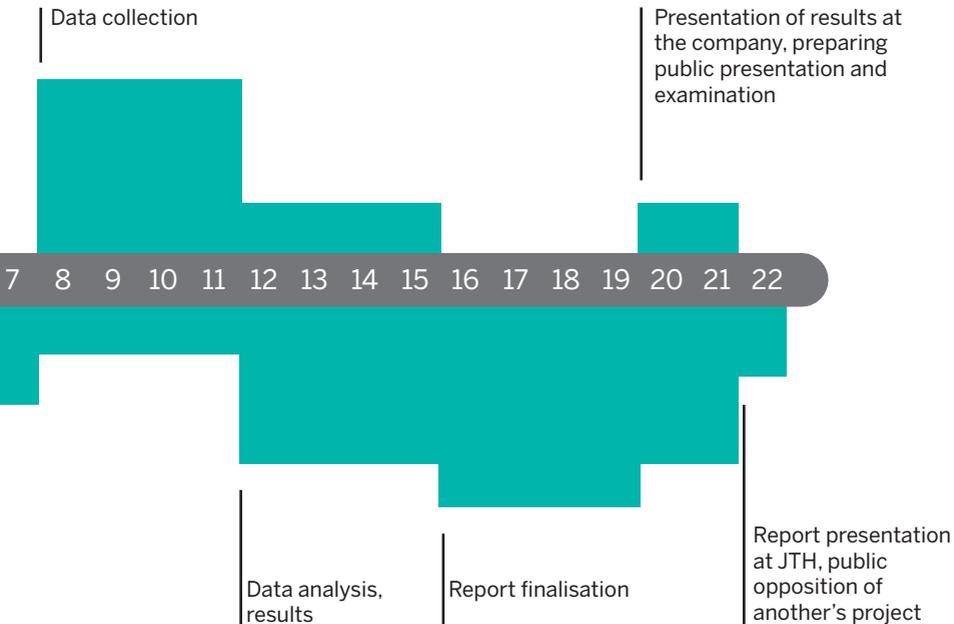
THE RESPONSIBILITIES OF THE STUDENT

The responsibilities of the student primarily entails:

- Independently making contact with a company.
- Proposing ideas for a thesis project.
- Writing an academic paper and participating in a seminar that is assessed and graded by an examining teacher.

THE RESPONSIBILITIES OF THE SCHOOL OF ENGINEERING

- Designating a supervisor and an examiner at the school.
- Grading the final report.
- Issuing invitations to Xjobbsmässan.



Example of a student's allocation of time between JTH and a company during a thesis project.

Examples of thesis projects

” The new technical solution will bring improvements from the economic, social and environmental perspectives of sustainability.

Frida Olofsson and Lisa Rylander,
Logistics and Management

Alternative solutions for warehouse management systems

Over the past decades, technical and industrial development have facilitated supply chain management and led to demonstrated improvements regarding efficiency levels in warehousing operations. Said improvements affect company efficiency from economic, social and environmental perspectives.

In their thesis project at Kongsberg Automotive, Frida Olofsson and Lisa Rylander investigated an alternative solution for the company's existing, manual warehouse management system. The compa-



Photo: Private

ny commissioned the students to carry out a present position analysis. After this, investigation began of an alternative solution for the company's existing, manual warehousing system. The goal was to find a solution that made more efficient use of time and money.

The students presented a proposal where the use of extended technology, would result in an increase in productivity from both a monetary and temporal perspective. Further positive consequences were reductions in unplanned transport and, consequently, the company's negative environmental impact. Ultimately, as there was less need for staff to work overtime, the students' solution was also seen to have a positive social impact.

” There has been great enthusiasm and major interest from the company.

Marcus Gullstrand and Simon Arvidsson,
AI Engineering



Photo: LisaBeth Sundström

Using AI to detect forest layers

Marcus Gullstrand and Simon Arvidsson did their thesis project with the Swedish Forest Agency. Here, they evaluated a new solution for automatically finding layers in small forest areas scattered throughout Sweden. In forestry, different layers can be used for a range of different purposes. Layers can be used as, for example, one of many variables for detecting natural forest.

Traditionally, this data is collected by fieldworkers in small forest areas, a process that can involve high costs, the right expertise and time. Thus, automation of the process could bring major savings.

The students took care of a great part

of the development themselves. Initially, they worked closely with the Swedish Forest Agency in order to: thoroughly understand the problem; familiarise themselves with previous initiatives; and, learn relevant forestry theory.

In broad terms, the AI method developed by Marcus and Simon uses neural networks and can correctly detect the number of layers more often than with previous methods. However, for the new method to be reliable enough to fully replace humans, the students believe that further development and input data refinement may be necessary.

**SEE MORE EXAMPLES OF THESIS PROJECTS
AT [JU.SE/XJOBBSMASSAN](https://ju.se/xjobbmassan).**

Meet students

There are several different ways for employers to make contact with students at the School of Engineering.

XJOBBSMÄSSAN

A fair where students showcase their thesis projects. The fair is held annually in the beginning of June.

KARRIÄRUM

A trade and industry-oriented careers fair held annually in November.

ADVERTISE FOR STUDENTS

On the university's website, you can advertise IPC/internships, summer jobs, degree projects, trainee or other vacancies directly to students.

For further details of how to advertise, see ju.se/collaboratejth or contact Linda Bergqvist, our External Relations Manager, at linda.bergqvist@ju.se.



Xjobbsmässan

The annual Xjobbsmässan is packed with showcases of the thesis projects presented by the students themselves. Some of them may have been commissioned by your company. The fair offers every opportunity to be inspired, to meet our students and to discuss the future and what they have already achieved.

Read more at ju.se/nfk and
ju.se/examensarbete.



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