

§1 Purpose of the internship

§ 1.1 The requirements for the “Master of Science in Engineering-Sustainable Product Creation” include a 10-week internship as part of the candidate’s studies.

§ 1.2 The internship is an important component of the program of study. The intern is supposed to familiarise himself with essential work processes, techniques and materials, as well as with the characteristics and social relations of the world of work in his area of expertise. He is therefore supposed to delve not only into the techniques and economic interests of the work process, but also into the sociological conditions and issues such as work arrangements and occupational safety. Experience has shown that completed internships are considered very helpful for subsequent job applications and seen in a positive light by employers.

The factual and temporal aspects of the course recommended for the specific specialisation are defined in the training plan (§3).

§2 Chronological structure of the internship

The internship is mandatory for every student.

The required duration of the internship for students in the Master degree program is ten weeks. The training period in a company will insofar as possible amount to at least 4 weeks per company. Segments of 2 to 3 weeks should be formed.

It is strongly recommended to fulfil the entire internship already before commencing the studies, or latest after the second semester. Experience has shown that there is little other time free between lectures for the internship, owing to tests, laboratory work, excursions etc.

Every block must last at least 2 weeks, and should not exceed four weeks, so as to attain uniform breadth in practical training.

§3 Execution of the internship

The 10 weeks of the overall internship are to be considered as a minimum. It is strongly recommended to carry out further practical activities in relevant companies on a volunteer basis. An internship outside of Luxembourg is also supported.

An internship, which was already part of a prerequisite (!) degree, eg. a Bachelor, can’t be re-validated for the Master of Science in Engineering – Sustainable Product Creation.

An apprenticeship, which is not a pre-requisite for admission to this Master program, but an additional asset may be validated and then substitute the required internship. Relevant scope of the apprenticeship for the Master presumed.

§ 3.1 Master of Science in Engineering - SPC

§ 3.1.1 Training plan

The internship comprises activities from the following fields:

1. Cutting manufacturing processes
2. Forming manufacturing processes
3. Shaping manufacturing processes
4. Thermal joining and separation processes
5. Assembling
6. Heat treatment

7. Tool making and equipment manufacturing
8. Maintenance, upkeep and repair
9. Measuring, testing, quality control
10. Logistics, Supply Chain Management

Activities from at least four different fields shall be accounted for.

§3.1.2 Notes on the training plan

The brevity of the internship requires a particularly intensive effort on the part of the interns, so that they can acquire a sufficient overview of the most important manufacturing areas in mechanical engineering during the time they spend in the internship. The training plan takes due account of this, in that it names the manufacturing sectors and thus makes it possible to adapt to the respective structure of the training company. The individual sections can be implemented in random order. The following description provides examples of activities by way of content of the individual parts of the training. (The intern is expected to familiarise himself with several of these).

1: Cutting processes

Filing, chiselling, sawing, thread-cutting by hand, spinning, planing, milling, drilling, trimming, turning, clearing, grinding, honing, lapping.

2: Forming processes

Forging, cold and hot forming, extrusion, deep drawing, pressing, punching, precision cutting, bending, straightening, riveting, clinching.

3: Primary shaping processes

Casting (like: sand casting, chill casting, pressure die-casting, centrifugal casting, shell moulding and precision casting), Structuring and creating a model, working in the tool and die shop, mould making, hand moulding with models and templates, sintering, powder metallurgy and plastic injection, extrusion.

4: Thermal joining and separation processes

Welding, autogenous-, arc- and resistance welding, Resistance welding, flame cutting, laser welding and -cutting processes, soldering, arc cutting.

5: Assembly

Preliminary and final assembly of individual products or serial products related to products, machines, tools, or devices.

6: Heat treatment

Annealing, Normalising, hardening, tempering case hardening and nitriding related to work pieces or tools.

7: Tool making and equipment manufacturing

Producing jigs, tools, dies, equipment, measuring devices, gauges or templates.

8: Maintenance, upkeep and repair

Maintenance, overhaul and repair of equipment, tools or machinery.

9: Measuring, testing, quality control

Measuring with mechanical, electrical, pneumatic and optical measuring processes, gauging, surface metrology, special processes in mass production, familiarisation with production-related tolerances as well as the connection between accuracy and costs.

10: Logistics, SCM

Inbound, internal or outbound logistics. Scheduling of materials, route and traffic planning, transportation, Managing Logistics, Supply Chain Management.

§ 3.2. other filières: N/A**§4 N/A****§5 Reporting**

The recognition of the internship requires weekly reporting and the certification of internship.

The intern is required to process mentally the material learnt during the internship, and must therefore keep a report booklet. Every weekly report booklet in DIN A 4 format with the breakdown presented in the plant is suitable for use as intern's report booklet. Entries in said booklet must be made outside working hours. Relevant notes in addition to the work may also be entered. Under no circumstances may drawings or company documents be copied without the prior consent of the training company. Said booklet must be submitted to the training officer at short, regular intervals and upon the completion of the internship, so that it can be countersigned.

The report booklet is to be structured as follows:

- a) The first part contains an overview in table form of the overall internship, showing the internship carried out until then, the training operations, departments, in which the training took place, and the training times.

- b) The second part contains the weekly reports with an overview each time, with an outline of the activities carried out for each day of the week (length: ca. 1/2 DIN A 4 page per week), and a technical report on a particularly interesting work in the form of sketches, detailed drawings and a concise description of the work processes as well as the machines, tools and equipment used (length: at least 1 1/2 D1N A 4 page).

The study director issues a certificate of confirmation which is submitted together with the internship certificate of the company to the program secretary for acceptance of the practical training in ACME. Internships with fewer than 4 weeks overall will not be considered. Ten weeks of internship are mandated.

Important: The 10 ECTS of this pre-requisite are not included in the 120 ECTS required to obtain the Master degree.

§ 6 N/A

§7 Supervision of the interns

Training good engineers is not the exclusive task of the university. It is also in the interest of industry and the economy in fact, to support students while they are studying and to provide them with opportunities for versatile and instructive internship activities. The supervision of interns is therefore assumed in larger companies by a training officer, who sees to expedient training in accordance with the training possibilities of the company and in consideration of the internship guidelines. He must moreover often find time to instruct interns on technical issues in talks and discussions. The staff of the Faculty of Science, Technology and Communication are moreover available to provide general information.

University interns are not required to attend vocational training. Voluntary participation in the school provided by the factory may not reduce the scope of the practical activity. Participation in external courses or instruction in technical drawing / CAD after working time is strongly recommended before and during the internship. This enables the student to save time and effort in the first semester.

Interns are not paid during their internship training. They shall observe all corporate rules and regulations, adhere to common working times and operational discipline. Students are encouraged to distinguish themselves through their eagerness to learn, diligence, good performance and readiness to help. In addition to the organisational interconnections between machine and manual work, they will also acquire understanding of the ever so important human side of the world of work. They are supposed to familiarise themselves with the relationship between lower and mid-level managerial staff and the employees at the work place and empathise with their social problems.

§8 Application for an internship

Future interns must familiarise themselves thoroughly with the regulations concerning the implementation of the internship, reporting on the intern's activity, etc. before starting their training by following these guidelines, or in exceptional cases by applying directly to the university.

The search for a suitable training company must be done by the interns autonomously.

§9 Internship contract, legal relations

The internship relationship is legally binding by the internship contract concluded by and between the company and the intern. All the rights and obligations of the intern and of the training company as well as the nature and length of the internship are stipulated in a contract.

Owing to the special nature of the internship relationship, there is no entitlement to payment. Usually, interns do receive a training allowance, however, the amount of which is at the discretion of the training company.

The intern should make sure that he has sufficient insurance coverage, accident and liability insurance through arrangements with the company. The university shall in particular not be held liable for loss or damage caused by the intern during his or her internship activity. The training company is required by law to provide accident insurance coverage for interns.

Owing to the brevity of the training time, leave, absence or vacation time during the internship is not counted as internship time. Working time of more than two days lost because of illness or other impediment must be compensated. In case of downtime, the intern should request an extension of the contract from the training company, in order to be able to see through the training segment undertaken as required.

Information concerning insurance requirements is provided by the health insurance fund, the CNS, among others. Insurance coverage for internships abroad is provided by a training insurance, which must be taken out by the intern or by the training company.

The training company issues a certificate to the intern indicating the length and nature of the training in the individual departments as well as the number of days of absence.

§10 Recognition of the internship

The internship is recognised by the respective study director of the University of Luxembourg. For such recognition, the properly drawn up internship reports (confirmed by the company) and the internship certificate must be submitted immediately after interns have completed their internship. The nature and length of the activity in the individual training segments must be clearly indicated therein. The director of studies will inform the admin of the program of the accepted internship.

The director of studies decides the extent to which the activity corresponds to the guidelines and the internship can thus be recognised. A training for which only insufficient, i.e. incomplete or incomprehensible internship reports are drawn up, will be recognised only for part of its term. The faculty may refuse to recognise parts of the training, if the internship certificates and report do not attest to sufficient performance of the individual sections of the internship. Students must therefore make sure that the number of weeks provided is recognised in good time.

Internships that are older than one year (calculated from the time that the internship is completed) will be processed only upon special application.

An attestation of the time recognised as internship will be issued by the registrar and listed in the certificate.

Practical activities in foreign companies can be recognised only if they comply with these guidelines and if a report or certificate is submitted in German, French, or English.

Students can essentially do part of their internship in suitable companies abroad, provided that the knowledge obtained there corresponds to the prescribed training plan. The report and activity records must be drawn up in German, French or English.