

FHTE Department of Automotive Engineering Information about the Second Internship (6. Semester)

General remarks

Practical internships are one of the basic elements of the system of German *Fachhochschulen*, which are oriented towards hands-on learning. Two internship semesters are included in the total study period of 8 semesters. Some basic data of *Fachhochschule Esslingen Hochschule für Technik (University of Applied Sciences)* are given in the **Appendix**.

Foreword

In order to get approval to study Automotive Engineering, the students have to complete a 3-month internship with the aim of learning the basics of materials, tools and components. The students also have to learn the fundamentals of manufacturing and the way an industrial company works.

The first internship in the 3rd semester has the aim of giving the student a better insight into industrial systems and production methods. They work in departments such as design, development, planning of manufacturing and others. They normally work alongside an engineer and help them with the daily work.

Also in the 3rd Semester the students have two weeks of lectures at the FHTE, learning to use a design tool like AutoCAD or ProE and learning about communication and working methods.

Second Internship

Introduction

The 6th semester is a practical internship, where the theoretical knowledge and skills acquired during the studies have to be transferred to engineering projects in industry. The internship is supplemented by a lecture period at FHTE which is focussed on the following subjects:

- Simultaneous Engineering
- Presentation of project work.

The duration of the second industrial term has to be at least 100 working days, the lecture period is limited to a maximum of 2 weeks before or after the industrial term.

Organization

The internships are organized by the students themselves with the help of the different internship offices (*Praktikantenamt*) which are installed in each faculty and are headed by an elected professor. Responsible for the administration is the *Studentensekretariat*. Firms with interesting projects inform the internship offices of their topics. The students select their own project or apply to a company of their own choice. The students are supervised by the experts who they have set the topic. If possible a professor of the FHTE visits the students during their second internship to discuss the working conditions and the working progress together with the student and the supervisor. Responsible for the result is the industrial supervisor.

Objectives

The students should experience working on a technical project at an engineering level, the aim being to handle this project independently. Furthermore, economic, ecological, safety relevant and ethical aspects should be included in the program. An internship outside Germany is welcomed by the faculty of automotive engineering. In our opinion it is the best way to learn about global engineering.

Contents

The selected topic depends on the concentration of the students in their main course. The students have to work in at least one and in a maximum of three fields from the following areas:

- Design
- Testing
- Calculation
- Simulation
- Projecting
- Manufacturing
- Assembly
- Quality Control
- Technical Sales
- Technical Service

Report

The project work in industry has to be documented in a technical report. This report must describe the project and the tools which have been used to solve the problems. The report must be written by the student and must document all parts of the studies. A minimum length of 30 pages DIN A4 and a maximum of 60 pages is prescribed. Welcome in this report is a small description of the company.

The report will be evaluated by the industrial supervisor as well as by the professor responsible for internships in the faculty. Important in this kind of report is the way the problem was solved and not the solution itself.

Besides the report a statement of the company has to be submitted to the internship office in which the following points have to be mentioned:

- type and contents of the work
- start and end of the internship
- days absent

Recognition

Depending on the report (volume, content) and on the certificate from the company the internship will be accepted by the head of the *Praktikantenamt* of each faculty. One condition for acceptance is the duration of 100 days at work. A successful internship is part of the regulation for the study at the FHTE. Especially the second internship is necessary for all students.

A second criterium for successful completion of the second internship is a short presentation. This presentation about the experience and the problems during the second internship is organized by the FHTE in the 7th semester. The duration of the report should be approx. 30 minutes. The audience are the professors of the FHTE and also the students of the 7th semester.

Financial Support

Students are generally given financial support which allows them to cover the travel and living costs in the respective country. The amount is part of the contract between the student and the company. Normally the students work as engineers and they have a keen interest in good results.

Summary

Duration: minimum of 100 working days

Training aims

The student learns how to conduct engineering projects, playing, as far as possible, an independent and responsible role in their execution. Individual company requirements and considerations must be taken into account. The student should be able to recognise and evaluate the importance of economic, ecological, safety and ethical aspects of the project.

Training contents

Addressing and solving concrete problems in one (maximum three) of the following areas:

Development	Design and standardization
Production planning and control	Quality assurance
Production and assembly	Testing
Project management	Technical distribution

or further equivalent areas.

Recognition

The written report is the base for the evaluation and the recognition of the internship. Also necessary for the acceptance of the internship is the statement of the industry about start and end, days and type of work.