



Technische Universität Braunschweig

Our fig die sweigende Restandert saldreicher

Der Tex aus

4. Euk

rade de calle la Anlansang ha las Silanno pri Citi Adean de

Auto data Ministeres von 23. Australiums, word nuedt himter and autor film and data film hed anne. Die australiuche Douheitunt nuedfakten date Dohennell ist data autori nuelte ministere.

Internship

Guidlines Bachelor/Master

Content

11.5 Recognition of the Internship.....9 11.5.1 Recognition procedure 11.5.2 Submission deadlines 11.5.2.1 At the Start of Academic Studies at the Technische Universtität Braunschweig 11.5.2.2 Internship Completed during the Period of Study 11.5.2.3 Deferral of the Pre-Internship 11.5.2.4 Internships Recognized at Universities 11.6.1 Businesses Permitted for the Internship 11.6.1.1 Examples of Activity for the Basic Internship 11.6.1.2 For the Engineering Internship 11.6.2 Impermissible Businesses 11.6.3 Legal and Social Position of the Intern 11.6.3.1 Applying for an Internship Position II.6.3.2 Intern Contract II.6.3.3 Social Insurance Contributions 11.6.3.4 Federal Education Aid (BAföG) 11.6.3.5 Mentoring of the Interns 11.6.3.4.6 Behavior of the Intern within the Company 11.6.4 Standard Working Hours 11.6.5 Vacation, Illness, Holidays and Other Days Absent

11.7 Special Requirements14

II.7.1 Occupational Activity and Training
II.7.2 Employment (Student Employment)
II.7.3 Hands-on Activities in Academic
Training
II.7.4 Internship by Conscripts in the
Army or Civil and Alternative Service
II.7.5 Internship Outside of the Industry
II.7.6 Internship for Foreign Students
II.7.7 Internships abroad

III. Requirements for the

111.2 Organization of the Internship

for the Mechanical Engineering Course of Study......17 III.2.1 Before Studies Begin III.2.2 For the Bachelor's Degree

III.3.1 Before Studies BeginIII.3.2 For the Bachelor's Degree

111.4 Organization of the

Content of the Internship 18

III.4.1 Examples of Activity for the Basic Internship

Entry into Force and Transitional Arrangement

Entry into Force

These internship guidelines enter into force on the day after they are disclosed to the university.



About these Guidelines

These internship guidelines apply to students in the following study programs:

Bachelor's and master's degrees in bio-engineering Bachelor's degree in mechanical engineering and Bachelor's degree in industrial engineering (mechanical engineering)

The first part of these guidelines covers the provisions that apply to all aforementioned courses of studies: allocation and sequence of hands-on activities, internship companies, legal and social position of the intern, reporting, recognition process, internship abroad, other requirements for professional training, military and alternative service, school education, etc.

The second part explains the specific requirements for each individual study program, such as duration and structure of the required internship.

PRAKTIKUMSBESCHEINIGUNG

Frau .	/ Herr	
--------	--------	--

______ , geb. am _____

wohnhaft (Straße / Ort)

wurde vom ______ bis _____ zu ihrer / seiner praktischen Unterweisung

als Hochschulpraktikant wie folgt beschäftigt:

	Art der Beschäftigung	Wochen
Fertigungsverfahren:	Spanende Fertigungsverfahren	
	Umformende Fertigungsverfahren	
	Urformende, chemische, biologische Fertigungsverfahren	
	Thermische Füge-/ Trennverfahren	
	Produktionstechnologien der stoffwandelden Industrien, Tätigkeiten im chem /biochem., mikrobiol. oder physisch-techn. Labor	
Praktische Tätigkeiten:	Montage, Installation, Wartung, Inbetriebnahme	
	Messen, Prüfen, Qualitätskontrolle	
	Versuch, praktische Erprobung neuer Produkte	
	Chem./biol.Produktionsverf., Fertigung, Fertigungsvorbereitung, Werkzeug- u.Vorrichtungsbau	
Entwicklung und Planung:	Entwicklung, Konstruktion, Produktplanung	
	Produktionsplanung, -steuerung, Arbeitsvorbereitung	
Software - Entwicklung und Betrieb:	Produkt-/Projektplanung, (System-/Programm-) Entwicklung	
	Programmierung, Codierung, Erprobung	
Kaufmännische und juristische Tätigkeiten:	Auftragsakquisition, Kundenberatung, Marketing, Vertrieb, Einkauf u. Beschaffung	
	Rechnungswesen, Finanzbereich, Controlling, Revision	
	Personalwesen, betriebl. Planung u. Organisation, Unternehmensstrategie	
	Materialwirtschaft und Logistik	
	Arbeits- und Anlagensicherheit, Umweltrecht, Patentwesen urecht	
	Gesamte Wochenzahl	

Regelarbeitszeit pro Woo	:he: Stunder
--------------------------	---------------------

Fehltage insgesamt: ______, davon ______ Urlaub, ______ Krankenheit, ______ sonstige Abwesenheit Wir bestätigen, dass dieses Praktikum nicht zeitgleich mit einer Studienarbeit abgeleistet wurde

Firma: _____

Anschrift:

_____, den _____

(Firmenstempel und Unterschrift)

Diese Praxis wird vom Praktikantenamt der TU Braunschweig mit ______ Wochen anerkannt.

Braunschweig, den _____

I. Purpose of the Internship

Hands-on activity in businesses and industrial organizations is an important requirement for successful academic studies. It is also required for understanding lectures and for working together on course exercises.

The internship should only secondarily teach technical skills, and thus differs from a professional education in the way that it is laid out.

The enormous breadth of industrial production processes that currently exist in mechanical engineering also makes it impossible to be able to comprehensively inform oneself about all engineering activities in the brief period of an internship. Thus, only an exemplary introduction to the most important tasks is possible and sensible.

Important goals of the internship are the acquisition of basic technical knowledge and skills and an introduction to engineering tasks and functions in different areas. Moreover, the internships provide insight into structures of business organization and social aspects of the business world.

The internship should supplement academic studies and enhance acquired theoretical knowledge in its practical relevance. The intern has both the option of becoming acquainted with specific upstream or downstream areas,



and of becoming familiar with the complete tool testing, construction and on-site installation of machines and apparatuses, as well as applying the knowledge acquired through studies, for example, by being included in project work.

1.1 Definition of Terms

The internship is divided into a basic and an engineering internship. In the interest of an uninterrupted program of study, we urgently recommend completing part of the internship before academic studies begin. The content of this so-called pre-internship should preferably be selected from the scope of the basic internship.

The basic internship serves as an introduction to industrial manufacturing, and thus teaches key fundamental knowledge. Under the guidance of technical supervisors, the intern should become familiar with the machinability and processability of materials and get an overview of the production systems and processes. The content and duration of the course is determined in the training plan of the respective course of study.

The engineering internship should provide both specialization-related knowledge in the respective technologies and an introduction to operational problems. In order to meet these goals, it is advisable to complete the engineering internship before completing the academic studies. It enhances and connects the experience gained in the basic internship with the theoretical knowledge gleaned from academic studies. The intern can customize the engineering internship from the training sections listed in the training plan. It should be noted that the individual activities are only recognized within the limits specified there.

The content and the time limit of the basic and engineering internship, and the individual areas, can be found in the chart (see page 20/21)

II. General Items Valid for All Three Courses of Study

11.1 Division ofInternship Times

The internship times can be divided in a flexible manner. However, the intern should be engaged for at least four straight weeks in a business, if possible.

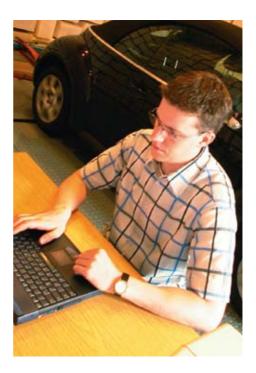
II.2 Sequence of the Hands-on Activities

The basic internship should be completed within a defined period of time. It makes sense to first learn the production processes and then complete the practical activities. However, this is not mandatory.

The individual parts of the engineering internship can be completed in any order.

11.3 Internship Registration

Before they begin, internships must as a rule be registered on the website of the Depart-



ment of Mechanical Engineering, www.tubraunschweig.de/fmb.

Pre-internship is an exception in that it is registered later, after enrollment.

The procedure for registering the pre-internship is explained in a handout with the application forms. You can find more information on the above website, or you can send an e-mail to praktikum-fmb@tu-braunschweig.de.

11.4 Reporting

11.4.1 General

The intern must write a report about his/her internship, the content of which must be confirmed by a company seal and signature from the internship company.

The introduction to the report should include a description of the company (branch of industry, size, range of products, etc.). Informational materials available in the company can be used for this purpose.

The reports are also an exercise in conveying technical information and must thus be written by the interns themselves. The intern should describe the work steps, systems, tools, etc, in a cohesive text.

The reports must give an account of the intern's activities, observations and conclusions (examples of processing steps, problems with the manufacture of mechanically engineered products, conclusions, interrelations, effects of the machines on humans and the environment, problems with the business organization, etc.). General accounts without direct reference to the intern's activity as well as copies of technical books or other internship reports will not be accepted.

Sketches, drawings, photos, etc. are recommended. These cannot substitute for the report, however.

It is recommended that the intern takes notes about his/her daily activities during the internship to make it easier to write the report.

11.4.2 Reporting for the Basic Internship In the basic internship, a weekly overview in the form of a table must be compiled along with a brief presentation of the company. This contains in abbreviated form the activities performed daily and the amount of time spent on them. A sample can be found on the website of the Department of Mechanical Engineering. The statements must be stapled, and the training supervisor must sign and stamp them at least once in the end. The documents must also be submitted in digital form. A handout with instructions on how to do so can be found in the internship section on the website of the Department of Mechanical Engineering. Detailed reporting is not necessary in the basic internship.

11.4.3 Reporting for the Engineering Internship

The report on the engineering internship can be divided up into weekly reports or according

to job segments or projects, depending on the way work is done.

Regardless of the manner of reporting, the weekly overview and the presentation of the internship company are indispensable.

The presentation of the engineering internship should be brief and to the point, in the style of a technical report. The length of the activity report should be at least one A4 page per week (font: Arial, size: 12, single space, 25 mm margins). The report must be bound or stapled, and the training supervisor must sign and stamp it at least once when the internship ends.

In addition, the report must be submitted in digital form. An information sheet with instructions on the procedure can be found in the internship section on the website of the Department of Mechanical Engineering.

If permitted, reports the intern has already written for the business can be also be used. However, weekly overviews must be added if applicable. This report must also be bound and signed and stamped by the supervisor.

At the end of the internship report, the intern should include a signed statement that he/she wrote the report.

The internship should be clearly separated from the seminar paper in terms of time and content.

II.4.4 Nondisclosure Regulations The intern's office has no interest in reusing the processes and results described in the reports and is committed to treating as confidential each internship report submitted to it.

If the concerned internship company insists, it is the duty of the intern to comply with the nondisclosure regulations. Therefore, the intern can omit or change the actual results, or replace the proceedings with similar examples.

The job assigned to the intern must be clearly identifiable and understandable, despite compliance with the nondisclosure regulations (starting point, procedure, goals, etc.), and the report may not be abbreviated.

II.4.5 Proof of Activity (Internship Certificate) After the student has registered the planned internship online, the intern's office will send out a prepared internship certificate to the business. This must be completed, signed and stamped by the business.

Otherwise, the company's own certificates must be submitted. They must also contain the following information:

Internship company Last name, first name, date and place of birth of the intern Begin and end of the internship activity Breakdown of the activities by area or type and duration Explicit specification of days absent or a note stating "no days absent" Regular working hours per week Signature and stamp of the person in charge at the business (with the addition of the person's name and position) The letter of reference from the internship, including an assessment of job performance and leadership, can serve as a substitute for the certificate if it includes the aforementioned specifications regarding the activities.

11.5 Recognition of the Internship

11.5.1 Recognition procedure

The intern's office of the Department of Mechanical Engineering at the Technische Universität Braunschweig recognizes an internship when the original copy of the internship certificate is submitted along with the original copy of the internship report written according to the guidelines in printed and digital form.

The type and duration of the individual activity sections must be clearly apparent from the documents. Statutory declarations cannot substitute for internship certificates. If the pre-internship was completed before military or alternative service, a military or alternative service certificate (in the original) must be must included with the aforementioned documents.

The intern's office decides if the activity meets the internship guidelines and can thus be recognized as an internship. Internships with reports which are insufficient because they are incomplete or incomprehensible are only recognized for part of their duration. The intern will be informed of this in a suitable manner and be given an opportunity to improve the report in line the guidelines.

For a smooth recognition process, it is recommended that the student contacts the intern's office as early as possible before the internship begins.

Further information in this regard can be found on the website of the Department of Mechanical Engineering at *www.tu-braunschweig.de/fmb/*, or inquiries can be sent to praktikum-fmb@tu-braunschweig.de.

11.5.2 Submission deadlines

11.5.2.1 At the Start of Academic Studies at the Technische Universtität Braunschweig Each student should submit the pre-internship report for approval by the intern's office after enrollment, or at the latest by the deadline specified by the dean together with the other deadlines relevant to the semester. This also applies to the submission of other documents accepted as substitutes for the internship (apprenticeship certificates, military or alternative service certificate, internships already recognized by other institutions of higher education, etc.) and to the application for a deferral of the pre-internship.

In the interest of a smooth recognition procedure, students are encouraged to adhere to the procedure described in the information sheet enclosed with the enrollment documents, or to contact the intern's office as early as possible before the internship begins.

Exchange students who are enrolled in courses at the Technische Universität Braunschweig and want to do an internship and/or have an internship recognized, are urgently advised to present themselves within this period to the intern's office of the Technische Universität Braunschweig.

11.5.2.2 Internship Completed during the Period of Study

Before the engineering internship begins, it must as a rule be registered online at the website of the Technische Universtität Braunschweig at www.tu-braunschweig.de/fmb.

You can request further information on this topic by sending an e-mail to *praktikum-fmb@ tu-braunschweig.de*.

The documents on internship activities performed during academic studies should be submitted in due time - but at the latest within six months of the completion of the internship. An extension can be requested in well-founded exceptional cases.

11.5.2.3 Deferral of the Pre-Internship

The pre-internship can be deferred by submitting an application stating the reasons for requesting the deferral, including original copies of the appropriate certificates, such as:

Military or alternative service certificates, showing service lasting to the end of August of the respective year Proof of illness in the relevant time period (medical certificate) Several (at least three) written rejections from companies to applications for an internship position

The documents should be submitted after enrollment, at the latest by the submission deadline specified by the dean together with the other deadlines relevant to the semester.

II.5.2.4 Internships Recognized at Universities Internships in the mechanical engineering course of study that have already been confirmed by an intern's office of the faculties and departments combined in the mechanical and process engineering faculty council are accepted by all intern's offices.

However, because there are differences between institutions of higher education with regard to the classification of the various activities performed during internships, it is necessary for students changing to the Technische Universtität Braunschweig from other institutions of higher education to submit the appropriate documents after enrollment, at the latest, however, within a period specified by the dean together with the other deadlines relevant to the semester, for the purpose of receiving the appropriate credit for their academic achievement.

Other internships recognized by German universities or colleges, technical schools and international colleges are recognized after submission of the reports and certificates – if they meet the requirements of these guidelines.

11.6 The Intern at Work

II.6.1 Businesses Permitted for the Internship The knowledge of project process to be learned during the internship, as well as observations of economic operations and a sense of the social side of the work process, can only be provided by medium or large industrial organizations, or companies that operate substantial technical systems. II.6.1.1 Examples of Activity for the Basic Internship

As long as all training prerequisites are fulfilled according to the guidelines, the basic internship can be performed at companies in the mechanical engineering industry or in the automotive and chemical industry, or in mining, railroad and occasionally larger handicraft businesses etc.

As a general rule, larger companies have an internship workshop specifically for this purpose. For the selection and recognition of the internship places or companies, it is important that the company engage in manufacturing and not in providing maintenance or other services. If in doubt, the student should check with the intern's office. Beyond its general suitability, the company must be recognized as an internship company by the German Chamber of Commerce.

Basic internships completed at college workshops can only be recognized if the institute is recognized as an internship training site for metal-processing trades.

If an institute trains chemical or biotechnology assistants, basic internships for the bioengineering course of study can also be completed there. This training authorization in the corresponding areas must be evident from the internship certificate. II.6.1.2 For the Engineering Internship Along with the industrial businesses accepted for the basic internship, the engineering internship can also be completed at handicraft enterprises in the service and maintenance sector. The condition is that these businesses are authorized to provide in-company vocational training. Moreover, engineering internships can be completed at engineering offices and research facilities independent of institutions of higher education (for example, DLR, PTB, Fraunhofer Institute, etc.). These periods can count as a total of up to eight weeks of credit for the three programs.

11.6.2 Impermissible Businesses

Handicraft enterprises in the maintenance and service sector, which do not manufacture anything in an industrial sense, are not suitable and thus not eligible for an internship – regardless of their size. University institutes are not eligible for the engineering internship.

II.6.3 Legal and Social Position of the Intern II.6.3.1 Applying for an Internship Position Before starting his/her internship, the future intern should use these guidelines or ask at the intern's office of the Technsiche Universität Braunschweig, in order to become familiar with the regulations governing the completion of the internship, reporting on internship activities etc. Since internships are not arranged, interns must apply to companies on their own. One of the most important aspects of applying for an internship is that it represents an important exercise to prepare for later entry into the workforce.

II.6.3.2 Intern Contract

The internship contract concluded between the company and the intern makes the internship relationship legally binding. The type and duration of the internship and all rights and duties of the intern and the internship company are covered by the contract.

Sample contracts can be obtained from the intern's office at the Technische Universtität Braunschweig.

11.6.3.3 Social Insurance Contributions

Students are exempt from the requirement to contribute to long-term care insurance, pension insurance and unemployment insurance. This regulation applies for the period of the internship if this is stipulated in the study and examination guidelines and is completed during the period of academic studies, i.e. enrollment is not interrupted. Mandatory internships that are completed before academic studies begin are subject to social insurance contribution.

11.6.3.4 Federal Education Aid (BAföG)

The internship and the pre-internship are considered education in the tertiary area of education and are thus eligible for support according to the BAföG system. Applications can be sent to the local school administration office or to the student center at the Technische Universtität Braunschweig.

11.6.3.5 Mentoring of the Interns

Mentoring of interns is generally taken over by the training supervisor in the industrial organization, who ensures that the intern is trained according to the training options in the company and that the internship guidelines are adhered to. This person also instructs the intern on technical issues in meetings and discussions. In the basic internship, the intern's activity must be mentored by a person appointed by the training committee. In the engineering internship, a person with engineering qualifications should at least monitor the general direction of the intern's activity.

College interns are not required to have received vocational training. Voluntary participation in arts school courses must not adversely impact the brief time available to the intern for working in the specialist departments.

11.6.3.4.6 Behavior of the Intern within the Company

Interns do not have a special position while at work. Besides the organizational connections, the mechanical engineering and the relationship between machine and manual work, they should also gain an understanding of the human side of the operations and how this impacts the flow of production. They should get an idea of the relationship between the managers and the employees in the workplace and be able to empathize with their social problems.

11.6.4 Standard Working Hours An internship week is between 35 and 40 working hours. If coordinated with the intern's office, the internship can be completed as a part-time internship involving at least 40 % of the weekly working time.

11.6.5 Vacation, Illness, Holidays and Other Days Absent

The total number of weeks of internship that the student must complete is considered the net internship duration. Therefore the intern must make up for vacations, holidays, sick days and other days absent. Overtime hours worked according to the certification from the company can make up for missed time. The intern can also ask the company to extend the internship or ask for a longer internship period, especially if it is known that a holiday period or the like will fall within the internship period.

11.7 Special Requirements

11.7.1 Occupational Activity and Training Professional training and practical vocational activities already completed can be credited in full or in part to the required internship if they meet the requirements of these guidelines. Original copies of the appropriate certificates and, if applicable, the training plan are required. Students should submit their documents to the intern's office after enrollment, but at the latest when classes begin.

The number of completed weeks of courses taken at the German Association for Welding and Applied Processes (DVS) are credited upon submission of the original certificate.

11.7.2 Employment (Student Employment) Student jobs relevant to the internship guidelines are credited with a maximum of six weeks for all three programs. A maximum of three weeks of each of these can be credited to the bachelor's and master's bio-engineering program. Corresponding certificates and activity reports prepared and signed according to these guidelines are required. Keeping internship reports and issuing the relevant certificates has been permitted by decree of the Minister of Defense.

Within the framework of the army's occupational promotion service, technical courses designated as "working groups" can be attended during free time (evening and weekend sessions). "Welding," "Fundamentals of Metal Processing" and "Aluminum Processing" courses, and possibly others once their compliance with these guidelines is confirmed, can also count toward the internship. In order to be recognized, activity reports must also prepared in such cases and submitted to the intern's office with the internship certificate.

Except for people serving basic military service, this calculation is also used for soldiers serving longer terms (regular soldier).

11.7.3 Hands-on Activities in Academic Training

Hands-on training time within an academic framework at technical schools and corresponding training sites are credited to the basic internship up to a maximum of six weeks for all three programs, if they cover the areas of activity required here. In order to be recognized, a certificate from the school (or in some cases reports) listing the areas of activity by type and total number of hours must be submitted. Fifty school hours count as one week of internship.

11.7.4 Internship by Conscripts in the Army or Civil and Alternative Service Conscripts working toward a degree in mechanical engineering or industrial engineering (mechanical engineering) can apply to have the technical training they received in the military credited. A maximum of six weeks of training and service time spent in military repair units or in units that at least correspond to "material maintenance level II" can be credited toward an internship if the activities performed comply with these guidelines.

Both military and civil or alternative service conscripts require signed and stamped activity reports (weekly overview not necessarily required) and original certificates (ATN, military service certificate) or informally worded certificates from the administrative office.

II.7.5 Internship Outside of the Industry In all study programs, the total of all activities in the non-industrial sector must not exceed eight weeks. This includes internships at independent research facilities, engineering agencies, activities performed in the military and during alternative service, as well as at technical schools. The upper limits pursuant to sections II.7.3 and II.7.4 should be noted.

11.7.6 Internship for Foreign Students These guidelines also apply without exception to foreign students. If internships completed in the home country are to be recognized (basic or engineering internship), certified translations of the internship certificates are required. The report must meet the specifications in the guidelines. The certificate and report can also be written in English (other languages require prior approval from the intern's office). A onehalf to two-page summary of the internship in German must be added to the report. However, it is urgently recommended that at least half of the internship should be completed in companies in German-speaking countries.

Mechanical engineering, industrial engineering (mechanical engineering) and bio-engineering students participating in an exchange program with the Technische Universität Braunschweig should inform the intern's office about their status at the time of enrollment.

11.7.7 Internships abroad

Internship activities (in part or in full) completed abroad are expressly recommended. However, internships completed in companies abroad must comply with all points of the guidelines.

In the case of an internship abroad, the report can also be written in English or in another language with the prior consent of the intern's office. Otherwise, the internship certificate must be accompanied by a certified translation and a one- to two-page summary of the internship report in German.

The intern's office recommends that interested students contact the International Office for information on exchange or support programs.

III. Requirements for the Individual Courses of Study

III.1 Organization of the Internship for the Bio-Engineering Course of Study

Students of bio-engineering need a (technical) internship of at least fourteen weeks in the bachelor's program and six weeks in the master's program. The content and the time restriction for the individual areas can be seen in the figure on pages 20-21)

111.1.1 Before Studies Begin

An internship of at least eight weeks should be completed before studies begin (the so-called pre-internship). At least four weeks should preferably be completed in the field of production processes. These weeks can be supplemented by hands-on activities.

III.1.2 For the Bachelor's Degree In order to obtain a bachelor's degree in bioengineering, fourteen weeks of internship must be recognized.



III.1.3 For the Master's Degree When applying for the final module of the bio-engineering program (master's thesis with presentation), another six weeks of internship must be recognized.

III.2 Organization of the Internship for the Mechanical Engineering Course of Study

A (technical) internship of at least 20 weeks is mandatory for mechanical engineering students. The content and the time restriction for the individual areas can be seen in the figure on pages 20-21.

111.2.1 Before Studies Begin

An internship of at least eight weeks should be completed before studies begin (the so-called pre-internship). In the process, the content of the basic internship should preferably be completed by four weeks of training in the area of production processes. The hands-on activities can be learned in the remaining weeks.

III.2.2 For the Bachelor's Degree Twenty weeks of internship must be recognized to successfully complete a bachelor's degree in mechanical engineering.

III.3 Organization of the Internship for the Industrial Engineering (Mechanical Engineering) Course of Study

A (technical) internship of at least 20 weeks is mandatory for industrial engineering (mechanical engineering)students. The content and the time restriction for the individual areas can be seen in the figure on pages 20-21.

111.3.1 Before Studies Begin

An internship of at least seven weeks should be completed before studies begin (the socalled pre-internship). Preferably, this should include the content of the basic internship, with at least four weeks in the area of production processes. The hands-on activities can be learned in the remaining weeks.

III.3.2 For the Bachelor's Degree Twenty weeks of internship must be recognized to successfully complete a bachelor's degree in industrial engineering (mechanical engineering).

III.4 Organization of the Content of the Internship

(see figure on pages 20-21)

III.4.1 Examples of Activity for the Basic Internship You can choose from the following activities, but not all must be completed:

Metal-cutting production processes:

Filing, chiseling, sawing, thread-cutting, spinning, planing, milling, boring, scaling Note: ongoing inspection of one's own work, as when filing, belongs in this section and not in the measuring or testing sections.

Transformative production processes: Rolling, deep-drawing, pressing, punching, leveling, riveting, bending.

Prototyping production processes: Shaping through casting – modeling, dry construction, wet and dry casting; shaping of plastics – extruding, injection modeling, film

casting.

Thermal joining and separating process/surface technology:

Autogenous, arc and resistance welding, soldering, surface coating, painting, galvanizing, enameling Production technologies in the materialconverting industries:

Flows of material and energy in industrial processes, including material conversion, as in the chemical/biochemical industry, food industry; basic operations of process engineering and related equipment.

Activity in a chemical/biochemical, microbiological or physical/technical lab: Introduction to the technological structure, the interrelationships of technical processes and the operation of the systems in the laboratories, creation of nutrient solutions and nutrient mediums, maintenance of strains, introduction to the basic principles of working with microorganisms, in sterile and non-sterile, continuous and fed-batch fermentations.

	Legend
0	Basic Internship Bachelor
\triangle	Engineering Internship Bachelor
	Basic or Engineering Internship
Δ	Engineering Internship Master

Basic internship bachelor

Engineering internship bachelor

Engineering internship master

Production Processes

- Metal-cutting production processes
- Transformative production processes
- Prototyping, chemical biological processes
 - Thermal joining/seperating processes
- Production technologies of the material-converting industries, in
- chemical/biological, microbiological or physical/technical laboratories

Hands-on Activities

- Assembly, installation, maintenance, startup
 - Measuring, testing, quality control
 - Experiment: hands-on testing of new products
- Chemical and biological product processes, manufacturing, manufacturing preparation, tool and fixture construction

Development and Planning

- Development, construction, product planning
- Production planning control, work preperation (logistics)

Software Development and Operation

- Product/project planning, (system/program) development
 - Programming, coding, testing

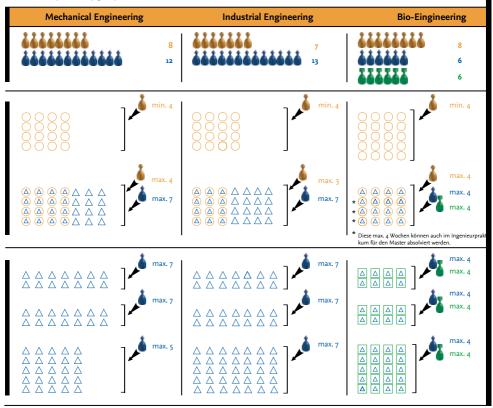
Business, Legal Activities

- Order aquisitation, customer consulting, marketing, distribution, purchase and procurement
 - Accounting, area of finance, controlling, audit
- Human resource management, corporate planning, organisation and strategy
 - Materials science and logistics
 - Work and system safety, environmental law, patents and patent law

INTERNSHIP CONTENT AND STRUCTURE

The goal of the game is to distribute all basic ($\overset{\circ}{\bullet}$) and engineering ($\overset{\circ}{\bullet}$) internship weeks for the bachelor or the master ($\overset{\circ}{\bullet}$) across the playing field.

Basic internship weeks can only be used on a basic internship field (\bigcirc) , engineering internship weeks for the bachelor only on a engineering internship bachelor field (\triangle) , and engineering internship weeks for the master only on a engineering internship master field (\square) . The (\checkmark) symbol stands for the maximum or minimum number of basic and/or engeneering internship weeks that can or must be used per activity group.



Contact

Praktikantenamt der Fakultät für Maschinenbau

Schleinitzstraße 20 38106 Braunschweig Telefon: +49 (0)5 31-3 91 40 12 Telefax: +49 (0)5 31-3 91 40 44 E-Mail: praktikum-fmb@tu-braunschweig.de Internet: www.tu-braunschweig.de/fmb