Technische Universität Darmstadt

Fachbereich Maschinenbau

Patenprogramm 2008/2009

Dear Exchange Student

A warm welcome to the faculty of mechanical engineering (Fachbereich Maschinenbau) at Technische Universität Darmstadt!
We are mechanical engineering students, and have initiated the 'Patenprogramm' for you. With this program we want to give exchange students - you - during their stay in Darmstadt some additional information about the city / night life and the studies of mechanical engineering in general. For questions about studying in Germany, especially in Darmstadt, we are your first choice to ask. In addition we can help you with selecting your courses here in Darmstadt and with the preparation for the exams. In this paper you can find already some information concerning the studies of mechanical engineering.

On top of the studying stuff we organize furthermore events to get to know each other, so that you meet us tutors but also the other exchange students. As example one of these events is an excursion to a well known German company in a famous city in Germany (München, Berlin, Hamburg, etc.).

In short the first events in the winter period are:

- Welcome-Day: 01.10.2008
- Tour around university and meeting with the „Paten": 16.10.2008
- Excursion to Berlin: 14.11.2008
- Exam information: at the end of the period

Exchange Students and Paten during the tour around university

Structure of the Faculty of Mechanical Engineering

The Technical University of Darmstadt is subdivided in 14 faculties like mathematics physics or mechanical engineering. The faculty of mechanical engineering consists of 27 departments. Every department is lead by a professor and has defined emphases in research and teaching. The department employs additionally some assistants who do research and support the professor. Professors and assistants hold the lectures corresponding to the research fields of the department.
In the faculty of mechanical engineering there are 6 subjects. Subjects are combinations of several courses and exams with a certain emphasis. Most of the students study the "general mechanical engineering" with the degree of "Master" or "Diploma Engineer". In the following text we describe therefore the structure of the subject "general mechanical engineering".

Structure of the Studies of Mechanical Engineering

The study of mechanical engineering at TU Darmstadt is subdivided into **Bachelor** and **Master Studies**.

The **Bachelor Studies** continue normally for 3 years (6 semesters) and will end with the Bachelor Thesis. Most courses during the Bachelor studies are mandatory courses. The courses in the Bachelor studies contain for example fundamentals of mathematics, mechanics, physics, chemistry, thermodynamics and principles of electrical engineering.

The Bachelor Studies are followed by the **Master Studies** that last normally 2 years (4 semesters). In the field of Master Studies there are mandatory courses and selectable mandatory courses. The student chooses these selectable mandatory courses out of different fields.

There are written and oral **exams**. The exams in the Bachelor Studies are almost written exams and will take place at the end of the semester or in the semester break. In which semesters the exams will be done can be decided by the student. The mandatory courses out of the Master Studies cease are in written exams too. Oral exams will be taken by the professor himself, that's why they usually last only 20 to 40 minutes.

Grades for the exams come up from 1.0 (best effort) to 5.0 (worst effort). A result of 5.0 is failed.

The courses of TU Darmstadt are subdivided into lectures, exercises, seminars, tutorials, practical works and projects.

In the **lectures** the professor or lecturer will submit the content of teaching. You can ask questions during or at the end of a lecture. You don't have to attend the lectures.

Some lectures contain **exercises** as well. In an exercise you practice the learned theory from the lecture in example tasks. Exercises take place in a small group of students. This is why you have more than one exercise for a lecture. Mostly there are offered different times so that you can choose the most suitable one for you and your schedule.
You will register for the exercise in the lecture. You don't have to attend the exercise. But it's recommended.

A **seminar** is like a lecture, but the students participate actively. Actively participation means that the students will hold discussions or reports/presentations. Mostly you have to attend the seminar. The grading of a seminar is very variable. Sometimes there are no grades; you only get a transcript that you participated in that seminar.

A **tutorial** is in most cases a weekly course during the Master Studies. Often it will be realized in laboratories or workshops. You might get a practical experiment or you have to solve a task with specified software. At the end of the tutorial you have to write a small report. This report will be graded. Some departments offer tutorials during the semester; others will provide it as a block event in the beginning or the end of the vacations. You have to attend the tutorial.

The student will do practical experiences in a **practical work** in science or engineering field. There is more then one experiment in a practical work. You have to do a report with the results for every done experiment. Every report will be graded and the final grade is calculated from the single grades. Practical works are offered mostly during the semester. You have to attend the practical work.

There are some science works additionally to the courses. First there is the Advanced Design Project (ADP), second the Bachelor Thesis and last the Master Thesis.

The **ADP** is a project work in more than one team out of more than 4 students and will least about 80 hours per student. It is much more extensive then a tutorial. The students have to work more autonomous, they get less help during solving the task. Additionally the teams have to write a report. Also the results must be presented. There will be no exam at the end, but the grade will be calculated from presentation and report. Some departments will offer the ADP during the semester but mostly it will be offered as a block event (2 weeks) during the vacations.

Bachelor and **Master Thesis** are likewise science works. A Bachelor Thesis lasts about 400 hours and must be finished in 5 month. A Master Thesis lasts 1000 hours and must be finished in 6 month. The Master Thesis is the completion of your studies. In this work you have to research a certain subject and you have to write an extensive elaboration. Of course you have to present your results at the end.
You get the task from the professor or his assistant and they will supervise you.

Selection of Courses

The faculty of mechanical engineering leaves the selection of courses open to the exchange students. That means that the subdivision into Bachelor and Master Studies is not valid for you. Exchange students in Darmstadt are allowed to choose their courses independently from Bachelor and Master Studies. In addition you can even take courses from other departments, for example from biology or humanities. The only limiting factors are your time and the restrictions you may have from your home university. No matter where you choose your courses you still count as mechanical engineer in Darmstadt.
You can find a complete overview of the courses offered in Darmstadt at http://www.tu-darmstadt.de/vv. It is called the "Vorlesungsverzeichnis". Here you can also find small descriptions of the lecture content. Much more precise descriptions can be found on the homepages of the single departments. There you can also find the subjects they offer for Bachelor- and Master-Thesis (often called "Studien- und Diplomarbeiten").
ADPs can not be found in the Vorlesungsverzeichnis. A synopsis over all ADPs can be found under the following link:http://www.maschinenbau.tu-darmstadt.de/studium_lehre/studienangebot/allg_mb/allg_mb_adp.php or you can find a summary at the MechCenter.

In Germany you do not have to stick to the lectures you chose first, that means you can change lectures in the first weeks. As a hint: choose first all the lectures you are interested in and sort the lectures you do not like out after 2 or 3 weeks.
If you have further questions, we, the tutors of the Patenprogramm, and/or the study consultant Barbara Seifert are most willing to help you.

Exam Preparation

For studying the student needs good literature. Most professors recommend buying course notes (Skripte) from their departments. These 'Skripte' give a written overview of the lecture or contain tasks for practicing. In most cases they are better than books because the professor has customized the content of the 'Skripte' especially for his lecture. In addition 'Skripte' are far cheaper than books. You can buy 'Skripte' at the beginning of the period at the particular departments.
Sometimes a Professor does not sell a 'Skript' but his own books; here it is recommended to buy the book.
Additional literature can be borrowed from the University library.

The best way to prepare for an exam is to learn with old exams or exam protocols. Exam protocols are collections of questions that other examination candidate were asked during their exams. The advantage of this type of preparation is that you can see how a certain Professor structures his exam and which topics he likes most.
Old exams and exam protocols can be received in the study hall for mechanical engineers (**Lernzentrum Maschinenbau**) in room **S1|03-200**.
For further preparation and questions professors or their assistance offer consultation hours.

This was the basic information about studying mechanical engineering at TUD. Anyway, at the beginning of the study period, we will give you a more detailed personal introduction. If you already have some questions, you can contact us by e-mail: paten@fsmb.tu-darmstadt.de. We also created an e-mail list with all exchange students. Here you can contact other students coming from abroad to study mechanical engineering in Darmstadt:
austausch@fsmb.tu-darmstadt.de

Important Addresses:

You can contact us at:
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See You
Yours Paten