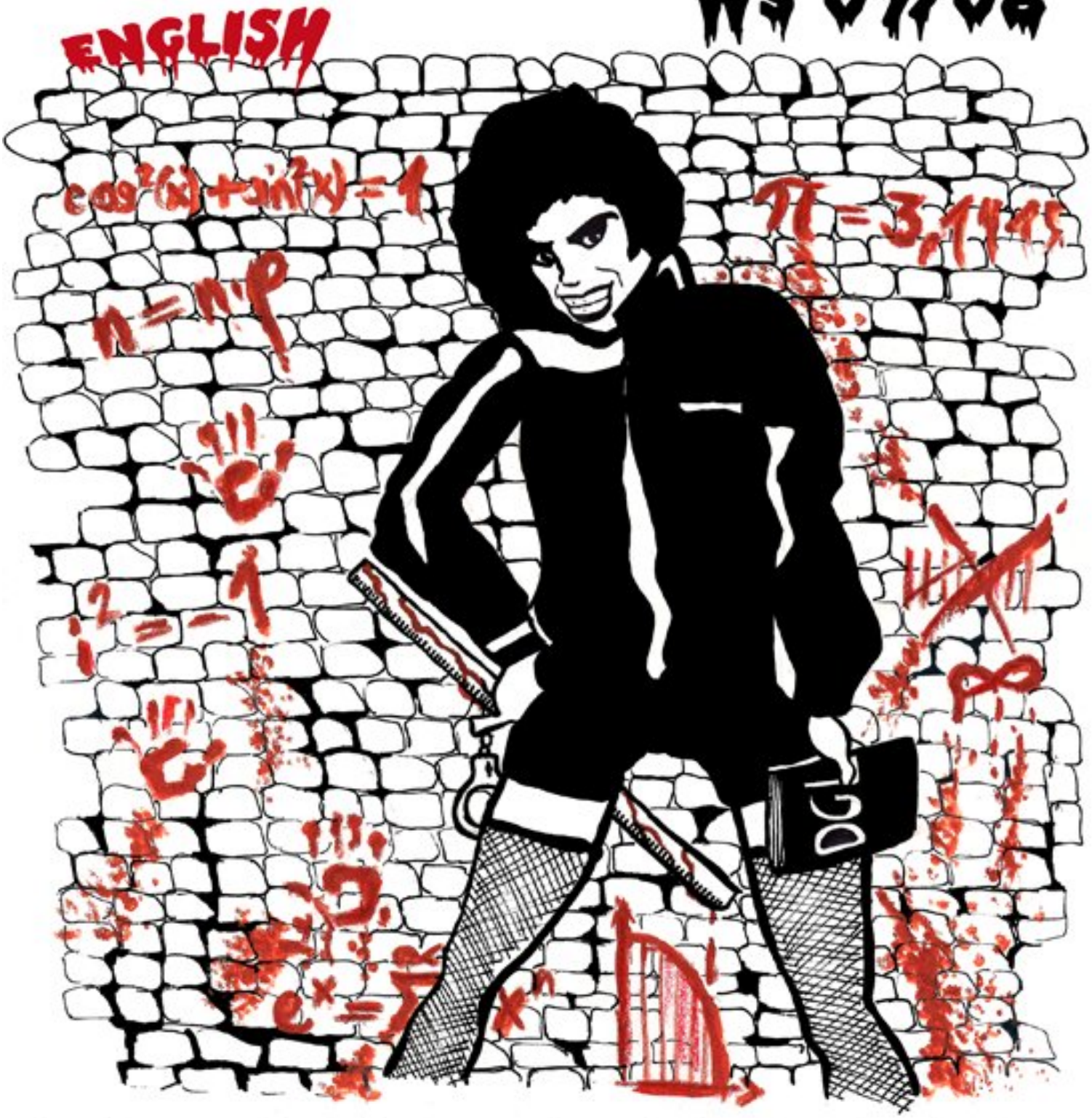
AWA-INFO

WS 07/08



DIE MATHE HORROR PICTURE SHOW

Table of Contents

Welcome

Preface

Hello dear freshers,

I am your very personal **OWO-Info**. Actually, this is only a nickname that means orientation week's journal (which is '*OrientierungsWOche-Informationsheft*' in German).

During the orientation week I will be your guide. That's where my name comes from. But I am sure I will be helpful at the beginning of your studies and maybe even much longer.
I can give some hints where to go out and what else you can do in Darmstadt apart from studying. Moreover, I include a little introduction to your courses of your first years. And if it should happen that you feel frustrated and confused due to your studies I will gladly offer advice.
These are only parts of my features. Go on exploring on your own!

Finally, I would like to mention that I only exist thanks to a lot of volunteers who were busy as bees writing and translating articles. Thanks to all of you. Thanks to my layouter, to my editors and to the Computer science student's union (*Fachschaft Informatik*).

Well, all the best then with your studies. Remember my pages and have a look at them from time to time. I'd enjoy that.

Best Wishes,
your *OWO-Info*

OWO timetable MCS

Monday, 8.10.	**Tuesday,** 9.10.	**Wednesday,** 10.10.	**Thursday,** 11.10.	**Friday,** 12.10.
8^{00} reception (S1|03 226)	**8**^{00} breakfast	8^{00} breakfast	**8**^{00} breakfast	
8^{45} KG OWO (_____)	**9**^{30} project (_____)		**9**^{30} project finals (_____)	**10**^{30} brunch (603 qm)
9^{50} lecture (S1|03 223)	**11**^{30} misc. fun activities		lunch break	
11^{00} project (_____)	**12**^{30} KG activities (_____)	**13**^{30} meet the lecturers (S1|03 223)	**13**^{30} KG plan your studies (_____)	
lunch break	lunch break	**14**^{30} misc. fun activities	**14**^{30} project award ceremony (S3|06 051)	**14**^{30} sports (Hochschulsport area)
13^{30} exercise Analysis (_____)	**14**^{00} project+ homework	**16**^{00} contest of the departments (meet at S2|09)	**15**^{40} KG Learning Methods (_____)	
15^{15} rallye	(_____)	**18**^{30} games night (S2|15 217 + ε) + film society (S1|01 50)	**19**^{30} owo-theatre + **21**^{00} party (Bessunger Knabenschule)	
	18^{30} FS-meeting (S2|15 219)			
	19^{40} pub crawl (starts at S2|15)			

Commented OWO timetable

In this article we will briefly introduce you to the various slots in the OWO timetable. Further details will be given in the *KG OWO* (see below), or consult your OWO tutors.

General note: The term "KG" stands for German "Kleingruppe", meaning "small group". Sessions marked so will take place in a small group of about 15 students plus two OWO tutors. This group is fixed throughout the whole OWO.

Get to know everybody and everything

The OWO starts with the **Welcome** Ceremony conducted by the vice president of the university and the dean of the maths department. Afterwards, you will be divided into the above-mentioned "KGs". In the **KG OWO** you have a chance to get to know the others in your group as well as your OWO tutors, and will learn more about what happens in the OWO. After this block, the **project** starts, in which you all work together on a fun project involving programming robots and other fun stuff. The idea is that you need to team up to have a chance to win the price, which will be awarded during the **project award ceremony**.

The **rallye** is about solving tricky riddles in small teams and while doing so, getting to know the maths building and its inhabitants. The winners will be honored just before the start of the theatre play (see below).

Studies and Learning

During the OWO, there will be **lectures, exercise classes, home work and office hours** – and just like later on during you studies, these will be in direct competition to other events. You have to decide what is more important for you. Can you cope with that responsibility? In the **KG learning methods** we will return your marked homework, will review together with you how well you managed this week and give additional hints.

In the **KG plan your studies**, your OWO tutors will help you to get an overview of the MCS bachelor program and how it all works, with a special focus on planning your first semester.

Activities beyond studying

Studying means more than attending lectures and learning. So in the **KG activities**, we will introduce you to some things to do beyond the core of your studies. Some of the more important ones even have their own slots: the **film society**, **games nights** and **sports** are all very popular amongst students. During the latter you will have the opportunity to try out several programs offered by the University Sports Center (*Hochschulsportzentrum*).

But there is also more in the maths department than just research and education. Many decisions have to be made. These often affect all of us. So if you are interested in standing up for the interests of you and all students, then consider dropping by during the **FS-Sitzung**.

Last but not least, many people would consider the **pub crawl** a highlight of a student's life ;-).

OWO specials

The **contest of the departments** is a big spectacle in which the freshmen of the computer science, maths and physics departments compete against each other in lots of fun games for the title of the "best department".

There will be several other **misc. fun activities** throughout the OWO. It's not yet clear what we will offer then, but typical examples might include: learning the game of GO, playing Frisbee, learning about university politics. Parallel to this and other events, there will also be office hours for the exercise. Once more, your must decide what to do.

Unofficial highlight of the OWO is the **theatre play** (written, staged and performed for you by some enthusiastic OWO tutors) and the big **OWO party** right after it, lasting well into the night. Luckily, Friday starts late with a snug **brunch**.

Markus & Max

Freshers' Weekend

What, Where, When and Why is Freshers' Weekend?

What: FreWe is a weekend with your fellow freshers and the *Fachschaft*. We're staying in a very cool seminar house. The trip will be organized together with private cars. During your stay you'll have a lot of time to relax, but also fun and entertainment with your new student friends and the possibility to take part in interesting activities every day.

Where: At the Gerhard–Löffler–Freizeitheim (Stierhöfstetten, near Würzburg). The house is a bit out of the way, and we've rented all of it, so we'll be all alone there. ;-) There's a main house and some cottages for sleeping. In the house you'll find, apart from the lounges: rooms for tabletop football, table tennis, pool, and a room with a fireplace. Outside there's a place for a bonfire, a beach volleyball court, a basketball court, and a football court.

When: Friday, November 23rd, till Sunday, November 25th 2007

Why: Because maths at TUD is much more than just lectures and tutorials! You can meet all the other students who show up at the same lectures (or don't, depending). You'll experience that the department of maths is more than studying, like parties, maths musical evenings, the maths choir, university politics, the maths dance, ...

In short, too much to learn about in one short week of OWO. During that OWO, you'll probably be more concerned about your timetable, your lectures, etc. The first weeks at university turn out to be quite stressful, too. New city (perhaps even new country), strange people, weird mathematics.

At the Freshers' Weekend you'll have the opportunity to relax, and to get to know some of those people in a more un-mathematical atmosphere. We've organised lots of fun activities to take part in, but there'll still be lots of time for you to chill out, do sports, play cards or board games, explore the surrounding area, take your favourite book and find a place away from the entire bustle, whatever. If you feel that a weekend without maths is impossible, fine. Grab your lecture notes and come along! It's surely better to discuss your maths exercises with your fellow students, or have some tutor you can ask if you run into problems, than to stay at home by yourself and get frustrated.

You can *sign up* for the weekend during the "misc. fun activities" tuesday and wednesday in the *Fachschaft*'s room (219). The *Fachschaft* will pay most of the costs of this weekend, but even they do not have endless money, so everyone who wants to come has to pay 15 € when signing up.

If you have any more questions, ask Black, Christina or Elli, your tutor or anyone else or send an email to frewe07 (at) gmx.de!

Elli, Christina and Black

Studying

Lineare Algebra I

Christian Herrmann
PhD Darmstadt 1972, Habilitation Darmstadt 1981
Research: Somehow to be subsumed under Algebra, Geometry, and Logic with a thread of lattices. Most recent: how to recover (or invent) points in pointless geometries. A short relation with databases.
PhD students: 6 PhDs awarded
Recent teaching: Linear Algebra, Introduction to Algebra, Algebra, Introduction to Logic.
Beliefs: Existence of space in reality is a fiction helping a lot to avoid the common confusions in Linear Algebra which arise from obsession with coordinates. Formal precision is a contradiction in terms, but informal precision is possible, at least asymptotically.
Vehicle: Bicycle
Sports, games, arts: None, except solid rock
Favorite writers: L.Euler, K.Čapek
Favorite assistant: Achim Blumensath
Favorite students: all math students; computer science students which convert to mathematics
Class: Linear Algebra (in English), in particular for MCS students
Office hours: For students asking mathematical questions: anytime

Achim Blumensath
I joined the logic group of our department two and a half years ago after having studied computer science at the RWTH Aachen. My current research concerns model theory for monadic second-order logic. So far I have mostly been in charge of the Automata Theory and Logic courses for computer scientists. This year I will help with the English version of the Linear Algebra course for mathematicians.
I am also an active member of the Go community of our university. We meet every Monday evening at 19:00 in room S215/217. New players are always welcome.

Christian Herrmann

Achim Blumensath

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Christian Herrmann	225	herrmann (at) mathematik.tu-darmstadt.de
Achim Blumensath	204	blumensath (at) mathematik.tu-darmstadt.de

Analysis I

Walter Trebels
In the summer semester 1961 I enrolled at the RWTH Aachen (Institute of Technology) and attended courses in mathematics and physics. My interest in Pure Mathematics grew during these studies. After my *Habilitation* in 1973 I was appointed to a professorship in Mathematics at the TH Darmstadt in 1975.
My mathematical interest focused on Analysis – more precisely: on classical Harmonic Analysis, Interpolation Theory, Function Spaces, Approximation Theory. My visiting research positions at foreign universities as well as guest scholars visiting our group in Functional Analysis opened up many possibilities for international collaboration.
I am thoroughly convinced that lectures are of basic importance for freshmen. I made the surprising and pleasant experience: The longer I have been involved in teaching courses, the more am I committed to lecturing. Simultaneously, my appreciation for the difficulties that students normally encounter, just at the beginning of their studies, is growing.

Eyvind Martol Briseid
Eyvind Briseid comes from Norway, and studied at the University of Oslo. Since October 2005 he has been a doctoral student and *Mitarbeiter* at the TU Darmstadt.
Feel free to contact him if you have questions of a mathematical nature, or questions concerning the tutorials and exercise groups for Analysis I for MCS.

Walter Trebels

Eyvind Martol Briseid

person	room	email
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Eyvind Martol Briseid	203	briseid (at) mathematik.tu-darmstadt.de

Introduction to Mathematical Software

Michael Joswig
I grew up in Hanover. After studying (my minor subject was Computer Science) in Tübingen and Zürich, doctoral studies in Tübingen and stopovers in Linz (in Austria) and Berlin I ended up in Darmstadt. Since 2004 I represent the subject “algorithmic discrete mathematics” at this department.
In the first semester you will get to know me as the one who wants to teach you how one can do mathematics with a computer.
My office hour in the winter semester will (presumably) be on Wednesdays from 11 to 12 o’clock.

Michael Joswig

Room 211
joswig (at) mathematik.tu-darmstadt.de

Mentor groups at the Department of Mathematics

For many students the first year of their studies at a university is also a year of orientation. Questions arise, which many students encounter here for the first time:
Did I choose the right subject? How does one study properly? What is important? Should I be afraid of the exams? Will I be able to handle my maths studies? Where do I stand compared to my fellow students? What actually is mathematics? Is there still something left to discover in mathematics?
To answer these and other questions, a mentor can be of some help. They are experienced members of the mathematics department, usually professors, that are available to answer arising questions. Every student will have a mentor assigned before the start of term. This is done in two ways: Students that participated at a talk to a professor during the introductory phase will have that very professor as their mentor later on. Everybody else will have the mentor assigned during the orientation week. Starting this winter term, every mentor group will also be joined by a student mentor.
Each mentor group will meet several times during the term. The form of these meetings may vary between the mentoring groups; private talks, if desired, are just as possible as talks with the whole group.
Also, the questions and subjects to be discussed at the meetings will depend on your needs and interests. There will be a fixed day, the mentoring day, where all mentor groups are supposed to meet. It will be approximately half-way through the term. In time for this day, every first-year student will receive from the respective assistant an overview in writing about their performance so far that can then be discussed with the mentor. This makes estimating one's performance much easier and therefore helps to decide whether one's work habits should be adjusted.
Participation at the mentor group is not mandatory at present, however it is strongly recommended for first year students. Even if there are no pressing issues in the beginning, these might very well emerge later on and it could then be important to be in a mentor group. The activities of the mentor group are part of the tutoring system for students and regular attendance at group meetings is considered a duty of all students. By the *hessische Hochschulgesetz* (Act of higher Education of Hesse) the attendance at one talk towards the end of the first year of studies is obligatory.
During the master studies, mentors play the important role of approving the study scheme that has to be set up by every student. This is meant to ensure that students plan their course of studies under supervision of the mentor and hence do not neglect important aspects such as compliance to study regulations and practicability.
Altogether, the mentoring system allows professors and students to get to know one another better by interacting in person. This way, one can exchange experiences and has the opportunity to give feedback. The latter might even be reported to the dean and can subsequently be used to improve the conditions of studying.

Dr. (AUS) Werner Nickel, Studiendekan, translated by Lion

Overview of the first two years of MCS

In this article we would like to present you the first two years of your study program. There will be an introductory course concerning the third year during your fourth semester. We start with some remarks:
The size of your courses is measured in ECTS credits (European Credit Transfer System). One credit is equivalent to 25 to 30 hours of study. Apart from the time at lectures postprocessing is contained as well. You need to gain 180 ECTS credits to graduate.
Another measure for the size of your courses are SWS (*Semesterwochenstunden*). They tell how much time you are supposed to spend in class.
In order to take part in an exam you have to "participate in exercises sucessfully". The exact rules can be set by the organizers. So you should check with them what you have to do.
There is a difference between *Studienleistungen* and *Prüfungsleistungen*. You can find more information in the article about **examinations**.

1. Semester
In your first semester you will take part in Analysis I (Ana) and Linear Algebra I (LA) (both 9 ECTS or 4+2+2 SWS). That means there will be 4 hours of lecture, 2 hours of exercises and 2 hours tutorial. Apart from that you attend an Introduction to mathematical software two hours per week (3 ECTS). In Computer Science you will take the course Computer Science I (CS) (10 ECTS).
Exams: There will be written exams in Analysis, Linear Algebra and Computer Science. The course in mathematical software is a *Studienleistung*.

2. Semester
In your second semester Analysis, Linear Algebra and Computer Science are continued in the same size. If German is not you native language you acquire 3 ECTS for your language class. Before your third semester begins there will be an Introduction to scientific programming (3 ECTS) which takes two weeks.
Exams: As in your first semester there will be written exams in Analysis, Linear Algebra and Computer Science. The course in scientific programming is a *Studienleistung*.

3. Semester
Your lectures will be: Ordinary Differential Equations (4,5 ECTS, 2+1), Complex Analysis (4,5 ECTS, 2+1) and Introduction to Numerical Analysis (9 ECTS, 3+2+1 programming). Apart from that you attend a Proseminar (4 ECTS) and the course Working Skills In Mathematics (2 ECTS).
Exams: You will have to take part in written or oral exams to pass your three lectures. The other two courses are *Studienleistungen*.

4. Semester
The next courses will be: Algorithmic Discrete Mathematics (4,5 ECTS, 2+1), Introduction to Algebra (4,5 ECTS, 2+1), Integration Theory (9 ECTS, 4+2) and Introduction to Stochastics (9 ECTS, 4+2). Apart from that you will take part in Logic and Foundations or *Mathematik im Kontext* (each 3 ECTS) depending on which will be offered.
Exams: To pass the lectures you will have to take part in written or oral exams again. The last course is a *Studienleistung*.

Computer Science
During your second and third year you have to participate in 18 ECTS credits. You can take part in the *kanonische Einführungsveranstaltungen* each worth 4,5 ECTS.

Rebecca, Stephan & Markus

Teaching and Learning Methods

After thirteen years at school, you have come quite close to being experts in teaching and learning methods. You already know that class can have quite different forms: sometimes you need to listen and understand, sometimes you need to work on exercises yourself, also you know about homework. All this you can also find at uni, however here, these different forms of teaching all have their respective courses. This article is intended to guide you through that jungle.

What might distinguish the TU Darmstadt from most other universities is not only the intensive support for the students but also the prominence of the do-it-yourself principle. This means that your are expected to talk a lot about mathematics, formulate these thoughts, and write them down – in the current education infrastructure this is counted as a methodical responsibility.

Lectures

In the lectures, what matters is not the training of your skills but to convey content: Here you will get the subject matter presented in form of a discourse. The presentation is usually enhanced by the use of the blackboard, sometimes also the overhead projector or a video projector. That way you get crammed with information for one and a half hours, hardly ever understanding or memorizing it to full extent. That is why every lecture will require both preparation and revision of about the same time as the lecture itself.

Taking notes during the lecture may prove usefull afterwards. However, in many cases it is not at all necessary to busily take notes since the professor often makes lecture notes available. In there you will find everything written-down neatly and well-structured, it is thus probably enough to put some side notes down (experience shows you won't be able to write down entire proofs here)! In case there are no lecture notes, the suggested literature can be helpfull to prepare and revise. Sometimes there might only be tidy sketches on the blackboard, that, if copied, will serve you just as well.

In spite of all preparation and revision you do, there might still be some lectures that will not make much sense to you. That is why there are supplementary tutorials and exercises to every lecture and also some other support is offered. However it is not only allowed but in fact desired that you ask questions. In the larger lecture halls you might have to put some effort into attracting the professor's attention – but please do so: normally there are more than just a few students wondering about the same question.

The fact that they provide an opportunity to ask questions is not the only reason to attend the lectures despite the fact that there is no compulsory attendance (in mathematics). Ultimately it is up to you to find out where and how to study best, how eagerly to take notes etc. But missing a lot of lectures will get you into trouble very soon, for their high pace makes it hard not to be left behind. So you might want to attend lectures even if you think that the professor is not that good at explaining or just copies the lecture notes to the blackboard. You can only afford to skip lectures if learning by yourself not only works better for you, but if you actually do it.

Exercises/Tutorials

In addition to the lecture, there are exercises and tutorials where you will finally get to do some maths yourself, too. Whereas it is common at other universities that students work on some problem sheet and will get the "correct solution" presented later on, in Darmstadt great emphasis is put on communication.

Basically, in exercises and tutorials you will get a sheet with problems and there will be an assistant, that is an advanced student, to answer your questions. They are supposed to keep help to a minimum, i.e. they ought not reveal the solutions immediately, but instead provide hints such as "Isn't there a useful theorem in the lecture notes?" To facilitate this, the students are divided into reasonable sized groups. The way this is done can be different but it is announced during the first lecture. The exercises themselves, which will require you to do proofs much more often than you are used from school, range from simple applications of the content of the lecture (more often than not you will only then understand the true benefit of a particular theorem or the real meaning of some definition) to entire sheets that explicitly elaborate on an advanced question.

The most important and also most common form of studying is the group exercise: these exercises are supposed to be worked on during class. For this purpose the tutors will ask you to form small groups (about four persons) and to work together towards a solution. That way you not only learn to talk about mathematics, but you will also realize quickly that you can often benefit from the knowledge of others. Make sure though that you do not only copy from others but also follow the course of thoughts, otherwise you will not learn much, if anything. Eventually you will find out with whom you can work together well, that is to say who has a similar pace. Not solving all the problems should not worry you too much: They are designed to keep everybody busy. Usually the tutor will indicate important exercises.

As for the assignments, which can also be solved in groups, it is very important to write down everything neatly. They have to be handed in to the tutor every week and will then be corrected. This way you receive individual feedback, not only concerning the actual solution but also on how to properly write it down.

Occasionally during exercise classes solutions will be presented on the blackboard, but only after you worked on them yourself, or you will be asked to present your solution, thereby practicing your lecturing skills.

Attendance at the exercise classes is usually not compulsory, it is however strongly recommended, since it is here that you are prepared best for the exams, which will consist of similar exercises. Sometimes, "regular attendance" or achieving a certain number of points at the assignments is required to be admitted for an exam. Good performance at the exercises is frequently rewarded with a bonus for the exam.

Seminars

In many ways the seminar is like school lessons: The number of participants is limited and you are sitting in a room together with the host – in most cases a professor, or else a scientific assistant. Normally you will have to work unsupervised, alone or in a small group, using suitable literature to become acquainted with a particular subject and subsequently give a short lecture on it. Moreover, a preparation of a paper is often required. Also you will find that in some seminars discussions are commonplace. Obviously, only attendance will enable you to learn something here, it is therefore in most cases compulsory.

There are various flavours of seminars: Whereas proseminars require only little qualification, you will need to have some knowledge on the things from the first semesters to be admitted to a *Mittelseminar*. All the other prefixes more or less just indicate the issues to be treated or the working method. What might also be of some importance though is the *Blockseminar*: Here, work is done in a few periods instead of in a weekly meeting.

Other Courses

In addition to all these kinds of courses there are the internships: They allow you to learn stuff – e.g. maths software – hands-on. But you will learn about that when the time has come.

There is one other thing that deserves some attention: the "Orientation Colloquium". They take place sporadically and aim to familiarise young students with the research groups of our department. This is interesting as you will eventually have to focus your studies on particular subjects. To this end it definitely comes in handy to know what there is and what you like. Every Orientation Colloquium features a mathematical talk about the work of the research group. That way you get to know the people and catch a glimpse of their work at the same time. Afterwards you have the opportunity to get to know each other while having a cup of tea and biscuits.

Offers of Support

There is additional support to all the courses, which you can, even should, make use of, whether you have problems or not. Every tutor and everyone in charge of an exercise group offers a weekly office hour, where you can ask questions as well as you can request some "minimal help" with your homework, for instance. Moreover, the assistants of the lectures, who are usually responsible for the exercises and compile the problems, offer office hours and so does

the professor. Time and place can be found on the website that accompanies the course. Here you can also download exercise sheets and lecture notes.

In case you cannot make it there at the those times, or if you have got just a quick question in between, the doors are open: in the maths building it is quite alright to simply knock on the door and ask the person behind it a question. At the worst, you get there at an inconvenient time and are asked to try again later on. As for longer requests – just send an email and ask for a separate appointment.

Many successful students thus have a daily routine that looks as follows. If they are not attending a lecture, they are sitting in one of the study rooms for students (tip 1) together with their learning group (tip 2) and are working on the assignments. In case they are not already in their tutor's office for the office hour (tip 3), they could get some ideas from the other people in the room (tip 4), from an office hour that goes along with the lecture, or from the *Lernzentrum Mathematik* (LZM, room 244, tip 6), where you can always find staff members that passed their *Grundstudium* (the first two years at uni) with flying colours – or just from one of the many open doors (tip 7). Anybody who still got problems solving the exercises can only blame himself.

But you will also receive support beyond the exercises: the mentoring system, the course guidance and other advisory bodies of the university and certainly the student body as well, are there whether you have general questions, some problems or simply want to talk about how your studying goes. Don't hesitate to take the offers! This is the crucial distinction from school, indicated mainly by the non-compulsory attendance: The university makes offers, but it is up to you to take them!

Rüdiger, translated by Lion

Eight Tips against frustration

The first couple of weeks are supposed to be some of the most difficult ones of the whole time of your studies in mathematics. Probably most of you will make their first experiences in living in an apartment of your own or a shared flat. Some of you even have to get used to a completely new country. On top of all those uncomfortable things there are homework exercises that need to be done, the lectures that need to be understood and the tutorials that need to be revised in case you did not succeed in doing them on time. You will experience that the exercises are not designed in a way that you know immediately how to solve them. Everybody will come to a point eventually where you are completely frustrated. We did as well. In the following we want to give some advice, where to seek help and how to handle some difficulties that come along with your studies.

1. First of all, it is absolutely normal if there is a moment from where on you cannot follow the lecture anymore. There is absolutely no reason to give up at that moment. Now, it is important to act immediately. You will need the missed material in the next tutorials and exercises. Moreover, the lecturer will carry on with the material the next time. Do not hesitate to seek advice. Otherwise it will be even more difficult to keep up with the course.

2. Make use of the office hours and ask older students in and around the *Fachschaftsraum*. There is always somebody around who is willing to help. Moreover, it is a myth that office hours are only designed for bad performing students. Sometimes, it is very helpful to get a deeper understanding of the problem if somebody else explains it.

3. Find some fellow students to form a team to learn and work together. You will see that other people have the same questions and problems you have. Working on a solution together deepens your understanding and is more time-efficient. It is sensible to find people who are approximately on the same level as you are. It is frustrating working with people who are ahead in their studies. You should try to do most of the exercises on your own.

4. It may be advisable to bring along some chocolate, cookies or similar sweets. You may also treat yourself to some ice cream from time to time.

5. It is definitely necessary to find something else to do to get your mind free of mathematical thoughts regularly. There is lots going on, you should inform yourself. Something might be of interest, like the sports program of the university, the ‘Math Choir’ or the ‘University’s Orchestra’.

6. In any case you should participate in the ‘Fresher’s weekend’. There you will meet other students of your year and you will discover for sure that you are not alone with your frustration.

7. One point concerning the ‘Computer Science’ part: You do not need to know how to program at the beginning of your studies. Of course, it is an advantage if you do, but it is not necessary. Both of us did not have a clue of programming before we started here. Do your homework assignments regularly and ask people if you need help. There are enough people around who know how to program. Keep on with the course and you will be fine.

8. At last, if you are completely overwhelmed and you feel you cannot produce anything sensible anymore, have a break, do something completely different, take a breath of fresh air or have a coffee in the *Fachschaftsraum*. Some problems even seem easier to handle if you look at them at a later point.

Eva & Anita

Examinations

There is no study program without examinations. This article will explain the different kinds of them and it will present the administrative details.

There are two different kinds of examinations: *Studienleistungen* and *Prüfungsleistungen*. You can find out which courses are *Prüfungsleistung* and which are *Studienleistung* in the article **Plan of the first two years of MCS**.

Prüfungsleistungen

You will spend most of your time on courses which are examined as *Prüfungsleistung* e.g. Linear Algebra or Analysis. Usually you have a written or oral exam at the end of the term.
Your grades in *Prüfungsleistungen* are part of the final grade of your Bachelor. Exceptions are the courses in your first semester (Analysis I, Linear Algebra I and Computer Science I).
You may take a second try in every *Prüfungsleistung*. In six courses it is possible to have a third try as well. But you have to talk to the *Studienberatung* before that.
You need to sign up for the exam in every *Prüfungsleistung* at the **zentrales Prüfungssekretariat**. You can find it in S1|03 room 1 to 4 and 76b. It is not known yet who will be responsible for you. You can find the forms you need to sign up at http://www.tu-darmstadt.de/pvw/abt_i/ref_ib/pruefsek/anmeldeformulare.tud . After filling in your data you have to put it into the mailbox at the *zentrales Prüfungssekretariat*. There is a deadline for the registration which has changed several times during the last years. Thus you should check it at the homepage of the *zentrales Prüfungssekretariat*.

Studienleistungen

Apart from *Prüfungsleistungen* there are (usually smaller) courses which have an examination as *Studenleistung*. That means that there are no different grades so that you either pass or you don't pass the course. Usually the lecturer responsible for the course will inform the *Prüfungssekretariat* directly. You don't have to sign up for a *Studienleistung* and you can try to pass them as often as you want. That means that the lecturer can decide what is necessary to pass the course, e.g. an oral or written presentation of your results or a programming project.

Markus

Studying abroad – don't I do that already?

It is true that you as a foreign students are in a foreign country already, so we don't have to convince you that studying abroad is a good idea. But even if you want to study in Germany for quite a while, you might want to go to a third country and another university later on during your studies.

In general one can say that it is more difficult for foreign students to spend a year abroad, e.g. most of the financial support like the Erasmus program is available for inhabitants of the EU only. But still it is possible, so if you are interested don't hesitate and ask a lecturer or go to some of the information sessions on studying abroad that will be held in the Maths building during the year.

More information can be found on this page, but since its mainly for German students it is written in German: http://www.mathematik.tu-darmstadt.de/Math-Net/Aussen/ausland.html

For the german MCS-students, who like to spend one year abroad: Please have a look at the german part of this OWO-Info, where you can find some useful advices.

Ute

Some experiences: Trinity College, Dublin

It's been a little more than one month now since I came back to Germany after spending my year abroad in Dublin, Ireland. Did anything chance during this time and why did I decide to study abroad? I hope this small article gives an answer...

The decision to go abroad was made pretty early. Even before beginning my studies in Darmstadt I already was determined to spend some time in a different country, but I didnt't really know where to go until short before I left Germany. Firstly, the Imperial College in London was my first choice. But some others also applied for this specific university, and finally I went to Dublin. Looking back, all I can say is that whoever has the chance to go abroad should seize it.

Of course, in the beginning, everything is not only different but also hard. Living in an unknown city is tough in the first few weeks. One doesn't know where the next supermarket, butcher and so on are located. Probably every foreign student has those problems in the first place, but after two or three weeks they are gone and one begins to enjoy the stay.

After some time (believe it or not) the term and the lectures began. It became clear rather rapidly that sometimes it is easier to learn at home with the notes you are given than sitting in the lecture hall and listening to a lecturer using the overhead instead of the blackboard when talking about algebra, for example.

Another advantage with lectures that last only one hour is that we had enough time to travel and visit nearly every major tourist attraction Ireland has to offer. The landscape also offers sights from beautiful to spectacular, so I can understand everone who misses the country and the people.

Finally and inevidable, there were some exams. They are somewhat all alike: You have to answer six out of nine questions. Usually, you have to state and prove some theorem that is given in the notes and/or in the lectures. There is not much time for thinking, so one is better off learning the notes by heart than trying to understand those things ;-). However, this probably only takes the last couple of weeks before the exams. But sometimes even students have to study :-).

The year abroad probably was one of the most valuable experiences in my life. I can only recommend to really accept any help the department has to offer and to go to a different university for a year. Maybe you consider going to Ireland now? Feel free to ask me about it ;-).

Andi

Study-advisor mathematics

Where to go with questions like

- "I did not pass the exam – what should I do?"
- "I would like to change from MCS Bachelor to mathematics with another minor subject or to *Lehramt* – is that possible?"

Of course, you can ask older students or students from the *Fachschaft*. And the professors and assistants will usually try to help you when you ask them. Often they are also available outside their office hours.

But you can also direct your questions at the *Studienberatung* (study-advisor): to Reiner Liese or to me. Normally one can find at least one of us during our fixed office-hours Tuesday and Thursday 10:30 to 12:00, Reiner Liese in room 413 and me in room 424 (in the maths building S2|15). If you want to come at another time, you can contact us via email (studienberatung (at) mathematik.tu-darmstadt.de) and we can make an appointment. If your questions are related to MCS, you can also see Ms. Cosulich (room 325, mcs (at) mathematik.tu-darmstadt.de).

And what else does the *Studienberatung* do? Together with other members of the mathematics department we organize information days for high school students, we offer a special training for tutors, we create information material and we participate actively in the committees of the department. You want to know more? Then come and visit us.

Markus Helmerich (translated by Rafael)

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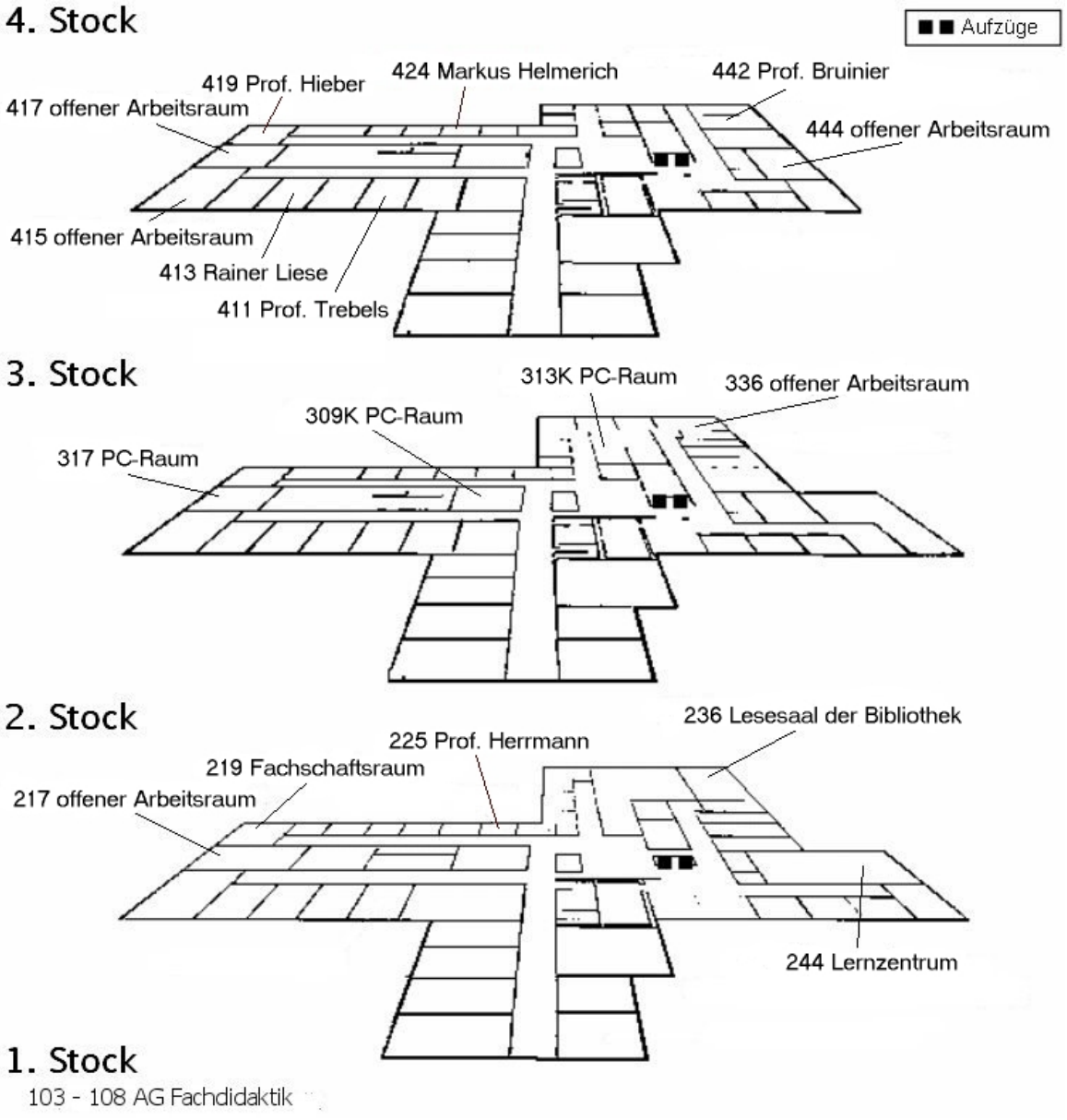
Fachstudienberatung im Fachbereich Mathematik
Schlossgartenstr. 7
64289 Darmstadt
Tel. 06151-163787 oder -162087
studienberatung (at) mathematik.tu-darmstadt.de

Survival

Floor plan of the maths building



TUD map City


S1
S2
S3
Schloßgartenstraße
Ruthstraße
Prinz-Georgs-Garten
Herrngarten
Willi-Brand-Platz
Hochschulstraße
Lauteschlägerstraße
Kantplatz
Pankratiusstraße
Magdalenenstraße
Mauerstraße
Dieburger Straße
Hessisches Landesmuseum
Hessisches Staatsarchiv
Hotel
Karolinenplatz
Alexanderstraße
Kongresszentrum (Darmstadium)
Fraunhofer IGD
Ollenhauer-Promenade
Friedensplatz
Luisenplatz
Ernst-Ludwigs-platz
Marktplatz
Am Schloßgraben
Landgraf-Georg-Straße
Merckstraße

Virtual Realities

Well, looks quite real, the maths building, doesn't it? That much concrete just has to have a firm foundation in reality, right? But there's more to it, as you can also find it on the internet.

So let's start our descent into the virtual realities hidden beneath the grey surface with the *Fachschaft*'s **homepage**: http://www.mathebau.de. There you can find a list with important dates, an archive with old "Mathe-Info"s, a board to discuss with other students and much more. And of course you can also reach the Fachschaft via email: fachschaft (at) mathebau.de.

The department of mathematics can be found under http://www.mathematik.tu-darmstadt.de. There you can, for example, find course materials for your lectures as well as the email addresses of your professors and their assistants.

Mailing lists

There exist several internal mailing lists in the math department, which are used to broadcast various announcements. For one thing, every year the freshmen get their own list. There are also lists which are for a fixed topic or for a specific group of people. You can find an overview on https://wwwlists.mathematik.tu-darmstadt.de/mailman/listinfo (where you can also subscribe to the lists).

Among those mailing lists, for you the most important is mcs2007 (at) mathematik.tu-darmstadt.de, which is yours. There you can discuss with other students from your courses. Also, announcements regarding your courses, special events, changed time table and so on, will be broadcast there. So you really should make sure you are subscribed to that list!

If you want to be informed about upcoming games/reading/music evenings, parties or other events by students for students, subscribe to the **wasgeht** list.

Computer access in the maths building and the HRZ

There are three computer pools in the maths building: 309K, 313K and 317. To get access to those, you need a special user account. In the past, only third year students would get such an account. With the introduction of the new bachelor this semester, all freshmen should get one, too. However, at the time this article was written, no details were available.

The HRZ ('Hochschulrechenzentrum' = university computation center, http://www.tu-darmstadt.de/hrz/) provides additional computer pools in various places. In the city center, you can find them in the old main building: S1|02 030, S1|02 030a, S1|03 016. On the Lichtwiese there are two more: L1|01 055 and L1|01 074. All students have a special HRZ user account, which you need to activate in order to use them. More on this can be found on http://www.tu-darmstadt.de/hrz/stud/.

As part of this you also get a special email address (IRGENDWAS@stud.tu-darmstadt.de), and are allowed to use the university wide HRZ WLAN. So if you have a laptop, get the required VPN software from http://www.vpn.hrz.tu-darmstadt.de/ (available for free for Windows, Linux and Mac OS X) and start surfing.

Max

Tuition fees in Hesse

In this winter semester students in Hesse had to pay for the first time the tuition fees of 500 € in addition the to already existing "long-time-study fees". Although the TU Darmstadt is self-governed, there is no exception. But there is still hope that the tuition fees will be dropped next year. Review and outlook on a controversial topic:

In 2003 the government of Hesse started with a stepwise introduction of tuition fees. As the first step, they enforced the passage of the debatable *Studienguthabengesetz* (short *StuGuG*). At the same time they introduced the administration fees, which every student has to pay. These fees, 50 € for this year are to cover the students' office's expenses caused by each student. However the university does not benefit directly from this money since it stays with the state Hesse.

The *Studienguthabengesetz* defines the "study-balance", which is the number of semesters for a certain course after which a student has to pay the "long-time-study fees". It is calculated by taking the average study-time, given by the university, plus 3 or 4 "extra semesters" (depends on the average study-time). The first semester after this time costs 500 €, the second 700 and the third 900 €.

With the introduction of the tuition fees, the long-time-study fees get recalculated. For each semester a student has to pay long-time-study fees, the tuition fees get subtracted from the long-time-study-fees.

Example: For the course Mathematics at the TU with a Bachelor of Science as the desired degree a student that has never studied at another German university has a study-balance of: 6 ("average study-time") + 3 ("extra semesters" for course with average study time less than 7 semesters) = 9 semesters.

For the 10th semester, the student doesn't have to pay any additional fees since the originally intended amount of 500 € in the *StuGuG* has to be paid (as tuition fees) anyway. But in the 11th semester the student has to pay 200 € in addition to the tuition fees. In the 12th semester he additionally has to pay 400 €.

Now for all

On the 5. May 2006 the Hessian state government revealed their plans to introduce tuition fees between 500 and 1.500 € starting with the winter semester 2007 / 2008 although the Hessian constitution actually prohibits this by common view. Paragraph 59 says that all education (this includes universities) should be free.

Therefore the state government asked several experts for their opinion on how to introduce tuition fees that comply with paragraph 59. On of these expertises said that the introduction of tuition fees would be legal under the state's constitution if every student, independent of his creditworthiness, had the chance to obtain a credit, which had to be paid back once the student finished studies and found a proper job. After the announcement of this expertise in April 2006 the state government started their work on the new law, which was announced in May 2006.

The first draft included minimal fees of 500 € per semester. In addition, universities should have the possibility to claim up to 1.500 € per semester for students in master courses or foreigners from non-EU countries.

Resistance against the plans

On the very day the plans were revealed students in many university cities, also in Darmstadt, started spontaneous demonstrations against the state government's intentions. During the whole summer there were many demonstrations, some small, some rather big with up to 10.000 participants, that showed the students' displeasure about those plans. Even the university presidents (all but the president of Frankfurt's University) disapproved of general tuition fees.

Until the bill's passage on the 5. October 2006 the plans were marginally softened. The university's possibility to charge up to 1.500 € tuition fee was dropped. In addition, Phd students exempted from the fees and some other exceptions to the fees were introduced.

Successful complaint of unconstitutionality

Directly after the bill's passage the Hessian students' councils (*Asten*) began with their preparation to compose a complaint of unconstitutionality by the citizens of the state Hesse because in their opinion the new law does not comply with paragraph 59 of the Hessian constitution.

The complaint could not simply be turned in since a single citizen or an organisation can only institute legal proceedings against a state law if at least one percent of Hesse's citizens that

are eligible to vote support the complaint within one year. This one percent were in 2006 / 2007 exactly 43.308 people.

Therefore in November 2006 the attempt started, the first in the Hessian state history, of getting a state law directly by the public to the state's court of justice and check its constitutionality. All over Hesse forms were distributed and collected. A single signature wasn't enough: The form had to be signed in front of a public servant from the appropriate registry office and double stamped.

Despite those obstacles and the moderate start more and more forms were collected, so that it was possible to hand the state's court of justice in Wiesbaden on the 21st of June 2007 78.721 valid forms. Now the court of justice deals with the complaint and it is expected to pronounce a judgment at beginning of 2008.

Parallel to the public complaint the opposition parties in the parliament, SPD and Grünen, submitted their own complaint in Mai 2007. This was possible since the factions in the Hessian parliament can directly counteract state laws due to the fact that they already have a public mandate. This means that at the moment there are two complaints with a different "line of attack". It remains to hope that at least one of them will succeed and that the law for tuition fees (*Studienbeitragsgesetz*) will be dropped.

What is the meaning of this law?

- All students have to pay another 500 € tuition fees in addition to the already existing semester contribution.
- All students from EU-countries or from non-EU countries that obtained their general qualification for university entrance in Germany have the chance to obtain a credit (free of interest for BAFöG-beneficiaries) from the Hessian state bank until the age of 45. The maximal dept for tuition fees and BAFöG-depts amounts 15.000 €.
- The repayment of the credit starts at the earliest two years after the degree and at the latest eleven years after the start of the studies. However one only has to pay back the credit once one earns more than 2.360 € (after tax) per month. The obligation for the credit's payback expires 25 years after the start of this obligation.
- A delay of the degree caused by the university leads to a liberty of the tuition fee for the same amount of time.
- Universities should in general free ten percent of their students from the tuition fees due to above-average achievements.
- Students that have a child under the age of 14 are freed from tuition fees for up to 6 semesters
- Students from non-EU countries that are already registered at a German university have the right to take a credit for four semesters.
- the long-time-study fees introduced in 2003 get recalculated so that one has to pay only the difference on top of the tuition fees.

Are there any exceptions?

The law allows a few exceptions only. Pupils will be freed from the tuition fees if they visit lectures and do university exams during their school days. Prospective medics don't have to pay any tuition fees for their practical semesters.

For "normal" students there are only two cases that allow them to be freed from the tuition fees: For a year abroad that is intended in their curriculum or for a "holiday semester". Students in bachelor courses can only have a maximum of two holiday semesters. The catch: it is not allowed to do any exams in that time, unless you are in your last part of the exams or you were voted into any boards of the university.

Waiting for 2008

The time of direct resistance is over. We have to wait now for the court of justice's decisions about both complaints. Maybe it is not even necessary that one of those complaints succeed. In January 2008 the elections for the Hessian parliament take place. SPD and Grüne announced that they will revoke the law during the first 90 days of their governance. However one should be careful with political statements like these: The Austrian social democrats made the same promise before the election and "forgot" about it as soon as they were elected in 2006...

So, all that we can do now is wait, see, and hope.

Paragraph 59 of the Hessian constitution

In all public primary and secondary schools as well as in universities the education is free. Furthermore all learning aids, except the ones at universities must be free as well. The law must make sure that for gifted children from socially disadvantaged families, educational grant must be provided. It can dictate the payment of an adequate school fee, if the economical situation of the child, his parents or of any other person liable for support necessitates it.

The access to primary and secondary schools as well as to universities must only depend on the student's eligibility.

Andreas Marc Klinger, FS Informatik, translated by Sascha

Money

Expenses

Studying is expensive. Some pages before you read about the tuition fees of 500 €. In Addition to that, the TU Darmstadt charges a semester contribution of 193,84 € that includes administration fees, the *Semesterticket* and some other fees.

For the course itself, you don't need so much money. All you need is basically paper, a pen, a ruler and sometimes a calculator. Maybe you like to learn from books instead of the course-scripts. If so, you can rent them from the university library, read them in the library of the math-department or buy some from the next bookshop. Anyways, make sure to read and work with the books before you buy any of them.

Housing is rather expensive in Darmstadt. The rent for a room in one of the boarding houses varies between 120 - 260 €, rooms on the private market are a bit more expensive (150 - 350 €). In case you are looking for a room, take a look at one of the many billboards (like the one in the Mensa-basement) or look in the internet.

For lunch you may want to go to the Mensa. It is open on weekdays from 11 am to 2:30 pm (bistro from 8 am to 4 pm). The selection of meals you can choose from is manifold, with mixed quality. A complete meal costs about 2.50 €. So here one spends 50 to 80 € a month.

Besides all that you will also want to feed your fridge, maybe go to the movies every now and then, have fun, the usual. Summing it up, you are probably looking at 500 to 650 € (not including the tuition fees and semester contribution) per month.

Financing

Unfortunately, the situation is pretty bad for foreigners, as they do not have many of the financing options German students have. So if you already know that you will not be able to come up with enough money, you should first of all check if there are any scholarships you can apply for in your own country. It is not always necessary to be a super-mind, in order to obtain one. In the era of globalisation, more and more governments, companies and other institutions support students who wish to go abroad.

For German students, whose parents have a low income, there is the possibility to get an interest free loan, called BAföG. Sadly, if you are not German, you will most likely not be eligible for BAföG. There are, however some exceptions. For example, if you are from a state within the European Union or if one of your parents has been working in Germany, there may be a possibility. If you think, that this might apply to you, then you should consult the Office for Educational Furtherance at the Studentenwerk. I dearly hope they speak English there. Their websites are unfortunately in German.
http://www.tu-darmstadt.de/studentenwerk/geld/

The last resort is of course to find a job that does not consume too much of your time. If you are from a foreign country which is not a member in the European Union, you will only be allowed to work 90 or 180 days a year, but you should be told about that when you obtain your visa. If you come from an EU-state, you can work, like every German student, up to 20 hours per week during the semester and fulltime in the semester break. Good jobs are of course those that are related to the study branch you are in, so in your particular case hopefully some that got to do with maths. There are usually many jobs offered at the math department. Like becoming a tutor for exercise classes (8,02 € per hour). Doing this you can not only refresh the material of former courses and meet other people, but since you work at the university you get a short pedagogic training. Obviously, this is only an option for higher-level students, so if you decide to become a tutor after the next semesters, just look at the billboards in the maths-building or talk to one of the professors that are going to hold the lectures for the next time. Outside the University, the jobs offered at the Fraunhofer Institute for Graphical Data Processing (http://www.igd.fraunhofer.de) are particularly interesting for maths students. They often look for students who are familiar with computers and programming.

Sascha

Living

Going out in Darmstadt

First of all, the best source of information about what is going on in Darmstadt is www.partyamt.de. Here you will find a calendar of events, an overview of the local band and DJ scene and more.

Pubs

Right next to the university is the nice, little pub **Hobbit**. As you would expect a pub to be, the flair is rustic. The pizza is tasty and favourably priced especially for lunch when it is 1 € cheaper.
Everyone who is into foosball will find the best tables at **Café Chaos** and **Goldene Krone** where you can compete with the best players in town. Beside excellent foosball tables the **Goldene Krone** presents a jam session which is Tuesdays and an alternative music programme which is offered several days a week.
Café Chaos is one of the most popular pubs in Darmstadt. The menu is substantial but we particularly want to recommend the hot waffles and the self-made cake, which is served for free with any hot drink ordered after half past eleven.
On Tuesdays after 9pm the Irish Pub **An Sibin** is worth a visit. It presents a table quiz which is both in English and German language. Every Thursday there is a karaoke night. The other days of the week the pub is famous for its live music.
Anyone who likes it rather small and comfortable should visit the **Sumpf**. Every second Thursday of the month there is a jam session and for birthdays or other occasions you can rent it for 70 €.

Hobbit Lauteschlägerstr. 3 – **Goldene Krone** Schusterstr. 18, www.goldene-krone.de – **Café Chaos** Mühlstr. 36 – **An Sibin** Landgraf-Georg-Str. 18, www.ansibin.de.vu – **Sumpf** Kasinostr. 105, www.sumpf.de

Further Pubs

- **Pillhuhn** Riegerplatz 7 – 0,4-beer for 2,50 €
- **Hotzenplotz** Mauerstr. 34 – traditional *Laternchen*: cider with liqueur
- **Clusters** Wilhelm-Leuschner-Str. 48 – sunny couch pub
- **Exil** Im Karlshof – tasty food and hookah, www.exil-karlshof.de
- **Herkules Pilsstube** Zeughausstr. 9 – for the last drink shortly before 5am in the morning

And particularly in summer

- **Biergarten Dieburger Straße** Dieburger Str. 97 – 1l of beer 5 €, coke 2,50 €
- **Bayrischer Biergarten** Kastanienalle 4 – with WLAN-Hotspot

Cocktail Bars

Located on the upper floors of the Hundertwasser building you can enjoy a very beautiful view on Darmstadt from the **Coyote Bar**. On the menu you will find a wide choice of different cocktails. The **Hemingway's** offers as well a very wide choice of cocktails. The bar's flair is a bit more exalted but nevertheless very jovially.
Beside its low priced Cocktails we recommend the big nacho plates of the mexican bar **Mex** which are served with self made dip. Internet junkies may feel happy about the free accessible WLAN.

Coyote Bar Waldspirale 8 – **Hemingway's** Terraza Sandstr. 30, www.hemingways-terraza.de – **Mex Cantina Mexicana** Bessunger Str. 6, www.mex-darmstadt.de

Further Cocktail Bars

- **Havanna Bar** Lauteschlägerstr. 42 – on mondays: pizza 3 €, Caipi 4 €
- **Pueblo** Erbacher Str. 5 – on mondays: each cocktail 3,50 €
- **Cubana** Donnersbergring 20 – www.cubana-darmstadt.de
- **Enchilada** Kasinostr. 5 – after 11pm magarithas are sold for the half price
- **Bar Brasil** Kopernikusplatz 1 – happy hour 7pm - 9pm
- **Bartaunus** Kranichsteiner Str. 42 – minimalistic design, www.bartaunus.de

Hookah-Bars

- **El Shisha** Karlstr. 46 – hookah 5 €, speciality: hookah made from a melon
- **Arabesque** Julius-Reiber-Str. 42 – hookah 4 €

Cafés

Located in the pedestrian zone in the centre of Darmstadt, the **Salve!** serves high-quality coffee.
If you fancy reading journals during your lunch break we commend the **Café Blu**. It is situated near the university and displays the most common newspapers for public inspection, unfortunately only in German.
Tea-lovers should try out **Linie 3** in Bessungen, which is also convenient for a visit at night.

Salve! Wilhelminenstr. 2 – **Café Blu** Lauteschlägerstr. 28a – **Linie 3** Ludwigshöhenstr. 1a

Further Cafés

- **Kaminzimmer** Elisabethenstr. 45 – many board games
- **Carpe Diem** Schuhknechtstr. 1
- **Quatier Latin** Wenckstr. 1a – french specialities and sometimes live music
- **Habibi** Landwehrstr. 13 – fairly traded coffee and vegetarian cooking
- **Café Godot** Bessunger Str. 2
- **Eisfriedel** Friedensplatz – the cheapest ice cream in town but nevertheless tasty

Eating out

Out of all the worthwhile possibilities to get pizza in Darmstadt, there are two you should pay special attention to. Both the **Lokales** and the **Kneipe 41** allure with their miscellaneous menu. Fresh, mediterranean cooking can be found in the **Café Ballon**, which also provides a delicious buffet brunch each Sunday.

Lokales Dieburger Str. 50 – **Kneipe 41** Kahlertstr. 41 – **Ballon-Café** Magdalenestr. 3

Further addresses

- **XS-Döner** Lauteschlägerstr. 3 – tasty kebap close-by university for 3 €
- **Hallo Papi** Pallaswiesenstr. 26 – tasty pizza by Papi – the guy with a hat you always meet at Schlosskeller

Clubs & Discotheques

With an interior decoration connecting the 70s and modern design the **Stella** is definitely one of the most interesting clubs in Darmstadt. Sometimes a club, sometimes a lounge, the **Stella** presents a very multisided music programme with changing DJs who try to find the symbiosis between electronic and other styles of music. Drinks are very low priced for a club.
The **Orange** plays primarily house music. Drinks are a bit more expensive.
Clubbers should also pay attention to the club scene in Mainz where you get within half an hour by train – without buying a ticket thanks to the fact that Mainz is still within the area of validity of your *Semesterticket*.

Stella Rheinstr. 40/42 – **Orange** Mainzer Str. 106

Further Clubs

- **Musikpark** Gräfenhäuser Str. 75 – big discotheque, younger audience
- **Nachtcafé**
- **Steinbruch Theater** Odenwaldstr. 26, Mühltal – legendary hardrockdiscotheque, www.steinbruch-theater.com
- **Catwalk** Landwehrstr. 89 – big discotheque, black-hiphop and RnB
- **Odeon** Seilerstr. 34, Frankfurt – thurday is student's day: incl. midnight buffet 3 €

Clubs in Mainz

- **Starclub** Holzhofstr. 1 – house, www.starclub-mainz.de
- **50 Grad** Mittlere Bleiche 40 – house, techno, minimal, www.50grad.de
- **Caveau** Schillerstr. 11 – rock, www.caveau.de
- **Red Cat** Emmerich-Josef-Str. 13 – varies from Indie to HipHop, www.redcat-club.de

From Students for Students

The AStA (see it's article) is not only active in politics but plays an important role for Darmstadt's nightlife with its two locations **603qm** and **Schlosskeller**.
The **603qm** is situated right next to the university cafeteria. By day it is a cosy café, which sells fairly traded coffee at low student prices, at night it offers a daily changing programme from salsa dance night and pub night to jam sessions.
The **Schlosskeller** has been a steady part of Darmstadt's nightlife scene for more than twenty years. If it is live music, rock disco, drum'n'bass or a lesbian/gay party, there is almost nothing which is not in some way part of Schlosskeller's programme.
Cheap and convenient for everybody who stays at Lichtwiese, the second campus of TU Damstadt, is the **Biergarten Lichtwiese** which is part of the *Mensa* there.
A favourably priced alternative to ordinary movie theatre is the cinema hosted twice a week by the **Studentischer Filmkreis**. Not only Hollywood productions are presented but independent low budget movies as well.

603qm Alexanderstr. 2, www.603qm.de – **Schlosskeller** Innenhof Schloss, www.schlosskeller-darmstadt.de – **Biergarten Lichtwiese** Mensa Lichtwiese – **Studentischer Filmkreis** www.filmkreis.de

Sebastian M.

FreWe 2005 – How it all began

Just about three weeks of university and the *Fachschaft* makes our time more pleasant.

No doubt we're talking about the *Fachschaft Mathematik* and their wonderfully organized Freshers Weekend – a kind of get-to-know-each-other trip for meeting new friends within the freshers and beyond.

So on Friday we set forth for the metropolis of Stierhöfstetten, where all telephone numbers have, believe it or not, exactly three digits.

Just a few hours and some wrong turns later we met in the Freizeitzentrum Stierhöfstetten, where the merry task of writing our character sheets began. That works like this: a mostly highly inphotogenic picture of yourself is put on a sheet of paper with some pseudo-creative comments so that really everybody gets to know you.

After this taxing task it was time for some food and drink in order to be fit for the evening's activities. Those differed rather strongly from hut to hut and room to room, ranging from chilling with a beer to soft guitar sounds over sports like table football, table tennis or ballroom dancing to brilliant performances of the mind which were, quite typically for mathematicians, expressed in the form of some matches of Go or a group playing Therapy.

After a long night and a short period of deep sleep we awoke on Saturday and (surely just due to lack of sleep!) swayed to the common room. There we found out that a lot of very nice people had gotten up even earlier in order to prepare breakfast or even to go jogging.

After breakfast everybody chose one of the morning's activities in order to do something useful with his or her time. Thus the first ideas and implementations for the mathematical Advent calender as well as the cookies for the assistants & secretaries were created. It was also possible to get information about university politics or to help prepare lunch.

After the fancy, very delicious lunch we had some more activities like "natural studies with the *Studienberatung*", "a true mathematician must know Go", "merry chorusing" or "basketball with Sebastian".

As you might have noticed, the FreWe is completely made up of having fun and eating. You might know what came next. No, not dinner! A small afternoon snack of baked apples. The rest of the afternoon was spent with nice matches of pool, exciting games of Werewolf or some essential sleeping.

Afterwards we got a sample of the choir's abilities and a spontaneous theatre play in which a lot of fellow students downright outperformed themselves.

Later in the evening we gathered around the campfire where we were driven mad by some classical mathematician's problems ("he likes god, but he dislikes the devil!").

Also worth remembering is the brilliant feat of the guardian of the fire – also known as the *Studienberatung*: he really managed to put 10 whole marshmallow in his mouth.

The next morning began with a solid brunch so that we were all invigorated in preparation for the final cleaning of the place. The tasks were distributed with mathematical precision and the house was cleaned in record time, as the owner acknowledged.

All that's left to say in the end is that it'll be hard to beat such a fantastic FreWe on an organisational level, and also on all other levels. I think I speak for everyone if I say: Orga, you were the best!

Of course praise and thanks go not only to the Orga but also to the guardian of the fire, the people who prepared breakfast, the helpers, the people who offered the different activities, the vocalists and guitarists, the Go- and Werewolf-players, the actors and grillmeisters, the drivers and people responsible for the luggage, the weather, hut number 4, the cooks and bakers, the sportsmen and thinkers and to all those I missed with this long list.

Nico, translated by Thilo

Organizing

Fachschaft and Department of Mathematics

So now you're a student at the mathematical department. What is this mathematical department and how does it work? And what is this ominous "*Fachschaft*"? These and similar questions are (hopefully) answered in this article.

The Fachschaft

Fachschaft actually means all students of the mathematical department. But in everyday use, "*Fachschaft*" means all students dealing with the politics of the mathematical department, organising Orientation Week and/or coming to *Fachschafts* meetings Tuesdays at 5:30 p.m.

By law, these tasks are taken over by 5 persons elected in University Elections for the "*Fachschaftsrat*" (FSR). In our department many people do this without being elected for the FSR. Because of this, the FSR is regarded as contact persons for the students.

Then there are also some *Fachschaft*-teams. Here, some people (in the ideal case, they are mathematicians) sometimes do certain activities. These teams are always happy about newcomers. These teams are

The $f \cup \mathbb{N} - \forall g$

Several times each semester (for example Wednesday in the Orientation Week at 6.30 p.m.), the $f \cup \mathbb{N} - \forall g$ arrange a games night. Most of the time, these events take place near the *Fachschafts* room, sometimes they take place in other departments. You play games you brought with you or use games of the $f \cup \mathbb{N} - \forall g$. Additionally, some sweets are handed out (based on donations). The games nights are announced by posters and over the mailing list "wasgeht". If you are interested in a games night, you can contact fun-ag (at) mathebau.de.

The Ball-AG

Once a year, in June, there is a math-ball where you wear a nice suit or dress, dance to the music of a live-band and admire the show. To be prepared, there are also some dance courses, and tickets have to be sold as well. The work taking place directly at the ball day (like preparation and the programme) is only a small part of the whole organisation. All this of course requires planning and enough time in advance. For this purpose, the Ball-AG is brought into being. A few experienced people are always in that team, but often you can see new faces and there are always more people needed helping to bring the new Math-Ball to a success.

Math-choir

Possibly the only mixed choir not short on guys! The Math choir meets every week in order to practice (under experienced leadership) together four-part, mostly modern songs. These are performed every semester at the popular "Math Music Evening" (MMA) and at certain events of the department and the university. The always increasing requests prove the quality. You will surely have the possibility to have a look during OWO and Fresher's Weekend. And remember: everybody can (learn to) sing! And it's fun!

Go

Go is a game, that some wise man once called "Chess for adults". The Go-Players meet every Monday at 7 p.m. in *Fachschaft* room to lay patterns and conquer areas. They aren't really a ram, but are always happy about newcomers coming over to play.

The Department of Mathematics

A department has to be organised. For this, there are several committees. The most important one is

The Faculty Council (*Fachbereichsrat* (FBR))

The Faculty Council as the mightiest committee of the faculty discusses important things, such as e.g. affairs of study (i.e. the planning of the courses in the coming semesters and the spreading of assistants to the lectures), occupation of councils (i.e. appointment commissions), affair of personnel (i.e. job posting, suggestions about occupation of professorships, adjustment of academic colleagues at the faculty), distribution of the faculty's funds (Do we buy new computers, do we complete our library or do we use the money for anything different?), election of the dean [Dekan] who represents the faculty and leads the current business, election of the vice-dean [Prodekan] and the provost [Studiendekan] who form the deanery (with the dean - of course), distribution of the rooms, and so on... The Faculty Council is a sort of a parliament of the faculty.

Besides five students there are eleven professors, three academic and two administrative-technical assistants, that means the professors have the majority. But since it is a bad impression if difficult decisions are made with 11:10 votes, the professors try making compromises - here we can intervene :-)

There are of course many other important committees, for example, the Committee of Studies (every decision regarding studying and teaching are prepared here), the Diploma Committee, the Graduation Committee, the Committee of Research, the Budget Committee, the Evaluation Committee (takes care of evaluations of lectures and improvement of learning quality), the Perspective Commission (how will we develop our department?) and the Commission for the equality of treatment of women.

As you can see, there are a lot of committees, in which students make sure that the world/*Mathebau* doesn't collapse. To keep it like that, your *Fachschaft* need your help. Because you can tell us the best where the problems are; and we need dedicated people like you going into the former mentioned committees. So: come over to the *Fachschaft*! It's always open and somebody is always there.

University politics

Not only our homely department, also the big TU Darmstadt must be governed (might there be a system behind that?). And again there are multiple committees, for example

Parliament of Students (StuPa)

The Parliament of Students is the legislative organ of the general student body. Its tasks are the election and supervision of the AStA and the budget's passing of the student body. Besides, it decides on the principle students' affairs (i.e. the statute or the semester ticket). The Parliament of Students is elected by list election. It is worth while to visit the sessions (they are always open). The representatives will be highly motivated if there are more interested students. Here also a high election turnout is important.

University Congregation and Senate (*Universitätsversammlung und Senat*)

The University Congregation is a sort of a university's parliament. It issues and changes the basic order and elects the president and vice-president of the university. Here the professors also have the absolute majority: Out of 61 they have 31 seats while the rest distributes on 15 students, 10 academic colleagues and five administrative-technical assistants. Another quite important issue of the University Congregation is the election of the Senate which consists of 11 professors (one of them is the president of the university), 4 students, 3 academic colleagues and 3 administrative-technical assistants. The Senate is a substantially smaller committee with more might. It decides on affairs of science and study (i.e. agreement on all faculties. conditions of study), affairs of research and the academic junior staff, affairs of budget and the university's development planning, university elections, information management (library and computers), affairs of jobs, goal agreement between Land Hesse [Land Hessen] and the university and between the university and the faculties. In the Senate the before mentioned 4 students represent the interests of nearly 17000 students. So you see, it's important to demonstrate interest with a high election turnout and to elect the four best students into this position. Because the four students are elected by the students of the University Congregation it is important which list you elect into it. The lists' way of acting and their estimation you can find on the traditional hustings (election campaign). Additional information, e.g. about the various lists, can be found on the internet, http://www.stupa.tu-darmstadt.de.

Stephan, translated by Tristan

AStA

Damn it, another abbreviation you don't know? But AStA is really way too long to write it unabbreviated all the time: "Allgemeiner Studierenden-Ausschuss" (general student committee). The AStA is the representation of students on the university level and a public corporation.

The AStA does politics, but also offers a lot of services. For example, one can buy an international student card (**ISIC**) at the AStA-office, cheaply rent a **bus** to move, as well as buy **stationery** at the *Lichtwiese*. Besides the deliberation of **BAFöG** and help with other social problems, the AStA furthermore freely offers a **legal advice** (lately a special office hour offering legal advice for foreigners has been added), a **job advice** office hour (how much am I allowed to earn, what are my rights, etc.) and advice for disabled people. But the AStA is also the centre of the student protests, they plan demonstrations, organize operating groups, print flyers and much more, where everybody is invited to help.

But the funny things in life are not forgotten – therefore the AStA has the **Schlosskeller** and **603qm**.

Politically, the AStA is involved in the committees on university level, such as senate, *Hochschulversammlung* (university assembly), etc. and represents there (together with other elected students) the interests of the students. And very often this is needed, because one can wait long for the day when the professors represent the interests of the students.

Well, that sounds like work for at least 20 people. It probably is, but the main work is at the moment done by five people, who are supported by a secretary and an executive board.

The structure of the AStA is appointed by the structure of the **Studentenparlament (StuPa)** (student parliament) because it is built of the biggest list. This year the list "FACHWERK" sends representatives to the AStA. Fortunately there are people who accept this arrogation, what's not sure at all.

That's a pity, because you can see: The AStA is one of the most important institutions on which most things are dependent on (for example: the **Fachschaft** gets the money from the AStA). So, if you're interested in assisting them, they would be glad about it.

If that is too much for you, you can indirectly support the AStA: with your vote! This is the minimum of support you can give the people who stand up for and represent your interests. That is also a confirmation for them whether you enjoyed their work or not.

The topic "election" is a very important these times for the TU because the work of the AStA needs much money. The AStA gets his funds from "Land Hessen", but this is a little bit tricky: If there is less than 25% electoral participation the funds will be drastically reduced. This means that projects like 603qm, bus-leasing, legal advice, ... and especially the "Semesterticket" run risk to be cancelled because the AStA cannot finance them anymore.

This year the result of the vote is: We've done it, we got 31,12% electoral participation and that's a little more than enough to retain our funds. Last year we were quite close to failure as well. Looking at the first election according to the new rule (participation of more than 40%), it is kind of disappointing, especially when looking at the approaching study fees. We hope the interest in voting the student's representatives will raise again the next years, so read the next sentence carefully: Whenever there's a vote of the general student parliament, the AStA or something else, go to the election. Every vote is important and earns ready money.

So, enough recruiting you for elections and enough whining, it is not supposed to look like one cannot enjoy all that (actually one can).

Alech (revised by Patrick S.)

Be smart and use RMV!

"In an endeavour to attend to the social and economic interests of the students and to assure their mobility with environment-friendly means of transportation, the RMV and AStA conclude an agreement: [...]"

This is the preamble of a contract between RMV and AStA, in which the reasons for a semestral ticket are mentioned. Such a contract was first agreed on in 1996. In enables us free travel in RMV area. To receive such a great benefit for a rather small price is only possible when every student is obliged to buy this ticket (exceptions: see below). This principle is based on the fact that the ticket is used in a different amount by every owner and everyone has to pay the average amount (including a big discount).

So for the next semester the price equals 77 €. This amount is paid automatically with the semester fee.

What counts as a ticket?

To use the semester ticket, you need two things: your student's identification card with the note "RMV-AStA-SemesterTicket" on the back and a valid photo identification. The latter is significant, because the semester ticket is non-transferable and the student's identification card doesn't count as unforgeable.

If you forget one of those, it counts as "Without ticket", so you have to pay the fee of 40 €. But because you actually own a ticket but only forgot it, there is the possibility of giving it to the transportation company within one week. In that case, the fee is reduced to a handling fee.

Since summer semester of 2005, the RMV prohibits the laminating of the ticket. For the RMV, this would mean an illegal change of the ticket, rendering it useless. If you do it anyway, you risk paying the fee for riding without ticket and losing your student's identification card.

Foreign students whose passport is far more important than a German id-card because of the visa, have the possibility to use the International Student's Identification Card (ISIC) instead. You can get it for example at the AStA.

What if I don't need the ticket?

As told in the beginning, the ticket is so low priced only because every student is obliged to buy it. But some students aren't able to use the ticket, so there are the following cases in which the RMV refunds the money:

- demonstrable residence outside of the RMV area because of
- foreign study or practical of more than three months
- postgraduate studies or free semester
- severe disability with free ride in public transports
- double matriculation (the cheaper ticket is refunded)

To make use of these possibilities, you have to apply for the refund *within 14 days of semester start* (watch out: start of semester, not start of lectures!). You have to state and document your reasons, then your semester ticket is cancelled and you get your money back.

The application form is found at the AStA and in the internet. Here you can also find out what exactly is needed for the application and which conditions must be met.

Which transports may I ride?

In the RMV, all buses, trams, interurban trains, subways and all local traffic trains (Regionalbahn, StadtExpress, RegionalExpress) are usable. ICE- and IC-/EC-trains may not be used. For special offers, such as the Night buses of Frankfurt and the Airliner of HEAG you have to pay an additional charge.

Where can the semester ticket be used?

The semester ticket applies in the whole RMV area as well as in the crossover-areas to the VRN.

Travelling larger distances

To travel farther then RMV area, you have to pay the fee from the borderline of RMV. There is also the possibility of buying a connective semester ticket for VRN (141 €) or RNN (133 €), which enables you to use the whole areas. You can find more information at the according sales agencies.

All stations from which you have to buy connective tickets are listed here:

direction	border station
Mannheim/Heidelberg [via Heppenheim]	Lützelsachsen
Mannheim [via Groß-Gerau]	Lampertheim
Eberbach	Erbach
Aschaffenburg [via Dieburg]	Babenhausen
Aschaffenburg [via Hanau]	Großkrotzenburg
Gemüden	Jossa
Bad Hersfeld/Bebra	Burghausen
Kassel/Treysa	Neustadt
Siegen	Dillbrecht
Koblenz [via Limburg]	Limburg
Koblenz	Lorchhausen
Bad Kreuznach/Bingen	Mainz-Mombach
Alzey	Mainz-Marienborn

FS Informatik

Life, university and all the rest

You social life may not be centered around university, but the TUD does provide you with a variety of interesting activities – not just lectures, exercise classes and exams. You'll also find lots of societies, offering a wide spectrum of activities, from artistic to academic, from religious to commercial, from sports to politics.

Let's have a look at the **artistic groups** first, and as there are many kinds of art, so there are many of creative groups, dealing with different artistic activities:

- **Schauspielstudio:** plays ranging from Shakespeare to Dürrenmatt (www.tud-schauspielstudio.de)
- **Filmkreis:** movies from Hollywood to Cannes (http://www.filmkreis.de)
- **Audiomax:** radio with topics covering everything from S1/01 to the cafeteria (http://www.audiomax-campusradio.de)
- **University orchestra:** music by our orchestra . . . (http://www.tu-darmstadt.de/hg/orchester/)
- **University choir:** . . . and the choir (http://ww.tu-darmstadt.de/hg/chor/)

For **academic activities** you might want to look at the following societies:

- **AKASOL:** build vehicles using solar energy . . . (http://www.akasol.de)
- **AKAKRAFT:** . . . or an Otto-Motor (http://www.akakraft.hg.tu-darmstadt.de)
- **AKAFLIEG:** gliders — from drawing board to runway (http://www.akaflieg.tu-darmstadt.de)

Then there are **religious groups** such as:

- **Evangelische Studierenden-Gemeinde:** Protestants . . . (http://www.esg-darmstadt.de)
- **Katholische Hochschulgemeinde:** . . . Catholics . . . (http://www.khg-darmstadt.de)
- **Studentenmission in Deutschland:** and Christians in general (http://www.smd-darmstadt.de)

If you want to establish contacts to companies or do a traineeships in a foreign country:

- **konaktiva:** fair where students meet companies (http://www.konaktiva.tu-darmstadt.de/web/)
- **AIESEC:** help you find traineeships abroad (http://www.aiesec.de/da)

Information about **sports** and **politics** you'll find in other articles in this OWO-Info. And last but not least at http://www.tu-darmstadt.de/hg/ there's a list of all university societies.

Andreas

Working

Mathematics and working life

Discover the Options

I studied Mathematics at TU Darmstadt from 1995 to 2003. At first sight this seems to be a very long period but the following article will show the reason. I just want to give an example of ways to gain practical experience and furthermore I want to describe how to get a job.

My second topic was Computer Science. In my third semester I got a Hiwi-Job at the "Frauenhofer Institut für Graphische Datenverarbeitung" (institute for graphical data processing). There is no direct connection between my side topic and that job, but I really could use some of the contents of computer science lectures (Java). At least I learned HTML at the age of Netscape 3 (!) and I experienced a first introduction into the work in front of a computer monitor although the job was quite near to university life.

In my first part of university education it became obvious to me that I wanted to take a look at other subjects. So I went to lectures of other subjects (e.g. Physics). On the other hand I planned to go to a foreign country after my "Vordiplom". I was not very happy with the way Computer Science developed so I changed my second subject to Philosophy. That's why my "Vordiplom" took a much longer time than I had wanted, I had no chance to go abroad.

Luckily there are other means to get experience. One of my first lectures after the Vordiplom was "Einführung in die graphische Datenverarbeitung" (Introduction into graphical data processing) by Prof. Hoschek. In that course we went to companies using Mathematics. There we were able to look at projects, and at the end we could even talk to some employees. Most of the times there was someone from the department of human rescources who told us that the most important qualification is to gather experience in a job in the course of university education. Their image of someone starting to work after having several years of job experience is nearly impossible but you can get quite near to that.

If you study Mathematics at a "Fachhochschule" you have to spend two semesters in a company – so why not at our university? So I definitely wanted to take a practical training in a company. When I thought about when to take it, there were two possibilities. On the one hand I could spend three months of my semester holidays, on the other hand I could take a sabbatical and work for six months. There were several reasons why I chose the second one. The main reason was surely that it is easier to find a trainee job for the longer period. This sounds a bit paradox but it is easier to get into the content of the job. So I wrote five informal letters to companies I visited or which I searched online.

I recieved two phone calls. One of them sounded very interesting, so I started in Darmstadt at PROSTEP. Their main topic is the data transfer of three dimensional geometry. There are several subtopics which are very interesting for Mathematicans. I even quit my Hiwi job so that I could start working before my real training began. That secured my trainee job. What was left was to establish the prerequisites at university. Luckily the study advisor helped me. Offically a holiday semester can't be used for a training. That's why it was called "Preparation of diploma exam". Finally I was able to work six months full time for PROSTEP and gather a lot of experience.

When I talked to other students or to collegues in the company I was ensured how important it is to gather job experience in the course of university education. On the other hand, by working in the course of lectures (which was at least 15 hours – two complete days) and the holiday semester my education needed quite a long time. But the experience I gathered was to my point of view worth it. I saw that people who have a diploma with best marks after eight semester have sometimes fewer chances to get a job than someone who took twelve or thirteen semesters with a lot of job experience.

Nevertheless after my training I returned to "normal" study life and worked partly in a company. In the course of time the question came up which subject my thesis would have. Since I liked

3D-Geometry and I was in Prof. Reif's lecture cycle about spline–approximation, it was clear for me to choose a topic in that theme. Furthermore I worked on that in the company. In the end I found a theme for my thesis in the company which was monitored by Prof. Reif.

There are positive and negative effects when you write your thesis together with a company. On the one hand you get a subject which is down to earth. The company has an interest that the thesis will be finished successfully. One the other hand there are some dangers in that which should not be forgotten. It may happen quite easily that you are doing other work for the company. Furthermore if the company's project takes more time the thesis takes more time as well. That happened to me as well so that the deadline of my thesis was postponed.

Although there were these problems I am satisfied with my decision to take a thesis in the company. The training and that thesis gave me a job I work on for two years. Since I moved to Munich for private reasons, my field of work changed and I seldom work with Mathematics anymore. But my knowledge about geometry from my university education often helps me.

Of course you don't want to spend your whole life as a university student at a company but my suggestion is to take a look at things that differ from university. There are many companies in or near Darmstadt using interesting Mathematics. And when you finally search for a job it is a real help to know what this is all about.

In this spirit, happy studying

Jochen =8-) (ich (at) jochen-boy.de)

HiWis – student jobs at the university

What is the job of a HiWi?

The so-called "HiWis" are students, who work in different departments of the university. Their work is intellectual and demanding – most of them are involved into important research process, practical or theoretical development or various social or educational engagements, and, in this way, gaining precious professional experience in those areas. The range is truly vast – from aero-navigation to product development and applied software solutions, from technical text translation to being a tutor.

The concept of introducing the HiWi job is to stimulate further development of one's skills by financing. The benefit is mutual, since the employers could share the burden of a certain project with the HiWi and still supervise its work – in this sense, inciting the feeling of moral responsibility in it. That's why Germans call it "Unterstützung der Forschung und Lehre" – "Promotion of Research and Study".

Why a HiWi at TUD?

The Technical University of Darmstadt holds one of the leading places in the engagement of professors, assistants and students into research and development not only in Germany, but worldwide as well. Therefore it is not too surprising that the idea of the HiWi is well implemented and commonly embraced in the university's politics. Hundreds of students have jobs as HiWis, most of them even working at more than one place.

Why would I be interested in the HiWi job as such?

After you receive your visa from the Town Hall, you are allowed to work (only) 90 days per year, in case your home land is a non-member of the European Union. One of the many advantages of a HiWi's job is the fact that its working days are not taken into account when considering these 90 days – that is, this somewhat heavy restriction does not apply to the HiWis. However, according to the university's regulations, a HiWi cannot be engaged for more than 82 hours/month in working for the TUD, regardless of the number of places it works at. Why hours/month? Since

one only has to cover those on his/her own judgment – i.e. one may distribute the working hours as one likes. Assume you have signed a contract for 30 hours/month. Then you may work three days ten hours each, or ten days three hours each, or 15 days two hours each or however you want – giving you considerable freedom and flexibility.

Even if the above does not apply to you, that is, you are German or you come from a land, which is a member of the European Union (then you do not have the 90-days work limit), the already mentioned advantages are definitely something to take into account.

The standard payment is 8.02 €/hour – certainly more that the average student's payment in other areas. Whether one pays taxes along with his/her contract or not depends on one's salary – if one earns more that 400 €/month (in the HiWi's case – working 50 or more hours/month), one pays about 10% so-called "Rentenversicherung" (retirement insurance). Otherwise one receives the whole sum, denoted in the contract.

One further point to consider in the HiWi's job is the opportunity to work at home and then present the result to your employer – if this is at all possible and if the employer approves of this, of course.

How to find a HiWi job?

As a starting point you should prepare your "Lebenslauf" (curriculum vitae, or the more popular term, "cv"). We recommend that, if you are uncertain about whether you are well-acquainted with the standards for writing it, look for a German friend of yours to help you with it. Beware that there *a*re differences between the English and the German standards.

Next, try looking for a HiWi job offer in the Internet site of TUD (http://www.tu-darmstadt.de). Click on "Fachbereiche" following further links to the "Fachgebiete". Most offers are only in German and, unfortunately, outdated. Therefore, be careful about the offers and try finding a date attached to it, the page, or the main page of the Fachbereich/Fachgebiet, at least. Once you have a list of all the offers you are interested in, write emails to the contact people for them. We recommend this option rather than calling on the phone directly – in the case with outdated offers this could cause quite a confusion to both sides. With mails, the worst thing that could happen is to have an email unanswered.

Many people prefer going directly to the university's buildings and look at the HiWi job offers hanged on the boards inside (those boards are already somewhat traditional to be seen around). Most of those offers are actual and ongoing; moreover, a sheet with a HiWi job offer often gives more information you would like to know that a plain internet page.

Assuming you already got an interview for the position – congratulations, you are not so far from getting the job itself! Be patient on the interviews, show interest in your to-be future task and be frank – do not lie about your capabilities just in order to receive the position desired and the dreamt-for-so-long contract. Lying would get you nowhere, say the wise.

Your initial contract could be for a short period of time (say, one to three months) and for not so many hours monthly. This is an usual test period, so that both you and your employer see whether you are suitable for this job or not. Showing effort and successful results leads to prolonging the contract and sometimes increasing your working hours, if the job becomes more demanding in its nature.

What documents do I need to complete my contract?

Let's face it, Germany is about paperwork. So before even starting to think of *any* job, you should know what steps you should have completed first. We shall only outline these steps, more thorough information would be given to you by other articles in this issue or by people who are in charge of helping you with them.

Initially, you should register at the Einwohnermeldeamt. Then you should prolong your visa, so that you receive the permission to work 90 days/year (with the temporary visa you receive in your home country you cannot work at all here), if your land is in the European Union. Even if the latter does not apply to you, you still need your visa to be hired. You should already have a bank account, health insurance and the semester ticket.

The compulsory documents are:

- Vertrag – the contract itself, as well as the
- Fragebogen – a personal questionnaire you fill along with your contract. Do not be ashamed to ask your employers for help in filling these both – even Germans could get lost in some terms and formalities there.
- Passport – the employer needs to photocopy some of its pages
- Studienbescheinigung – you get those together with your semester ticket. Your employer could photocopy it or hold it for him/herself. Anyway, you should have enough of them.
- Lohnsteuerkarte – this one you get from the Einwohnermeldeamt. We *strongly* recommend taking Lohnsteuerkarte EINS and giving it to your employer. We would not like to go to details with the different Lohnsteuerkarten, but we would like to explain what happens to your card as soon as you have submitted it. The card, together with your other documents, is sent to Kassel, where, at the end of the year, your total income is calculated and displayed on it. Then you get it back at the end of the year (unless you demand to have it back earlier). In that way, you may find another HiWi job in the University and still have your Lohnsteuerkarte in Kassel, which is only for your comfort. From the beginning of 2005 the whole tax notation should become digital and the Lohnsteuerkarten would not be needed at all any more. Please contact the Einwohnermeldeamt for further information on that topic. And, one last point to mention – even if you have more than one HiWi job at a time, you still have to submit only *o*ne Lohnsteuerkarte. This is so, since your real employer is actually the state of Hessen, not your employer personally (in the sense we called him/her in this article). Though it *could* happen that, signing a second HiWi Vertrag, you receive a letter in your postbox, demanding that you submit your Lohnsteuerkarte in order to complete the contract. In this case just go to the contact person, mentioned in the letter, and tell him/her you already work as a HiWi and give him/her the number of the Fachbereich you already work in – this should settle the problem.
- Krankenkasse Mitgliedsbescheinigung – this is just a sheet you request from your health insurance company. As an alternative, your employer may just copy your insurance card that you should always carry with you.
- Sozialversicherung – if you have worked anywhere in Germany before you took on a HiWi job, you should have received your Sozialversicherungskarte, sent by post. You should fill the number on it in the Fragebogen. If the HiWi job is your first job at all here, in Germany, then you would be subscribed automatically by the authorities in Kassel to a default social insurance company. In that case, certainly, you do not have to submit any card at all. What you should do is fill out a so-called Sozialversicherungsfragebogen, which goes together with the contract.

Even if you happen to forget a document or two when going to sign the contract, this is not at all fatal – but you should submit them to your employer as soon as possible.

How do I get my salary?

The initial submission of the bunch of documents described above is a rather slow procedure and it may happen that you do not receive your first salary on time. But once the formalities are over, you would get the delayed salary together with the new one in your bank account.

You submit your bank account details (your Kontonummer and the Bankleitzahl, so make sure you know these by heart or at least carry a small sheet of paper with these number on it with you) when you sign the contract. Once all the already described formalities are overcome, you would start receiving your monthly salary in your bank account on the end of the month.

Finally, I, the author of this article would encourage you strongly to become a HiWi and I await your further questions about or comments on this article. Feel free to contact me at: lucho_a_d (at) abv.bg.

Lachezar Dimitrov

Miscellaneous

Glossary

11er-Bau old synonym for the old main building (S1|03)

2d old synonym for the Mathebau (S2|15)

AAA academic bureau for everything abroad (Akademisches Auslandsamt)

AG working group, where mathematicians with the same research interestes work together

AllgAlg (or Alga) General algebra (Allgemeine Algebra)

ALZ Allgemeines Lernzentrum, building between the old main building and the mensa. The christmas party often takes place there (S1|04).

Ana Analysis, a part of mathematics, where everything is about limiting values (consistency, differentiation, integration etc.)

AStA Allgemeiner Studierenden Ausschuss (http://www.asta.tu-darmstadt.de)

Audimax Auditorium Maximum, biggest lecture room in an university (S1|01 50). The building S101 is often called Audimax, too.

BaFöG Bundesausbildungsförderungsgesetz, the law under which german students can get money from the state to finance their studies

BK appointment committee (Berufungskommission)

BuM (also BaMa) Bachelor and Master, the new study programs that just replaced the old diploma

CE Computational Engeneering, a study program that does not belong to any department (but math and engineering take care of it), nobody knows what it really is

CMPE Computational Mechanical and Process Engineering, a study program from the department of engineering, nobody really knows what the difference to CE is

CS Computer Science, see also GdI (not to be confused with a popular ego-shooter)

DAAD Deutscher Akademischer Austausch Dienst

DGLn differential equation (a part of analysis)

DPK diploma examination committee

ella see LA

FA functional analysis

FaSeR Fachschaftsseminar

FB department

FBA formal concept analysis (formale Begriffsanalyse)

FBR Fachbereichsrat

FreWe Freshers' Weekend

FS Fachschaft

FSK Fachschaften conference: a meeting of all Fachschaften of TUD

FSR Fachschaftsrat

GdI basics of computer science (Grundlagen der Informatik)

Glossary What you're reading right now

HDA Hochschuldidaktische Arbeitsstelle

HIS Hochschul-Informations-Systeme GmbH

HiT university information days (HochschulInformationsTage)

HiWi Hilfswissenschaftler, students who earn some money as tutors in exercises. See the HiWi-article in this OWO-Info!

HLM Höheres Lehramt Mathematik (doesn't exist anymore, it's LAG now)

HoBIT university and job-information days (Hochschul- und BerufsInformationsTage)

HoPo university politics

HRG Hochschulrahmengesetz

HRZ The Hochschulrechenzentrum maintains the PC-Pools with computers which every student can access (see http://www.hrz.tu-darmstadt.de)

HSZ Hochschulsportzentrum

ImThA improvisation theatre evening

Inf informatics

KGB Karsten Große-Brauckmann (professor from AG 3)

Kolloq Kolloquium = a lecture of a professor (often from another university) that is mainly for professors and assistants

Köhlersaal room where the Mathemusikabend takes place (S1|03 283)

KoMa conference of the german-speaking math-Fachschaften

LA linear algebra, another part of math

LAB lectureship for vocational schools

LAG lectureship for high schools

LHB old notation for the ULB

LiWi Lichtwiese

LZM Lernzentrum Mathematik

MaschBau engineering (Maschinenbau)

MCS Mathematics with Computer Science

MFI multiple integration (a part of analysis)

MMA Mathemusikabend

NF minor subject (Nebenfach)

Numa Numerik, numerical mathematics, math with numbers :-)

Omega always the last topic in a FS-Sitzung: pub crawl

O-Kolloq orientation colloquium = presentation of the AGs, so that all students gain an overview of math in their Grundstudium

OMO orientation month (for students from abroad)

OWO orientation week

PPK perspective committee

Pool a room filled with computers

PraMa practical mathematics (statistics und numerik)

PS Proseminar

RBG Rechnerbetriebsgruppe (belongs to the department of informatics, http://www.informatik.tu-darmstadt.de/RBG/)

Senat the highest elected committee, takes position to most changes in university

SnOWO seminar after the OWO

SoFA seminar without work for the Fachschaft

SPZ language center, offers language courses at no charge (http://www.spz.tu-darmstadt.de)

SS summer semester

StuGuG StudienGuthabenGesetz

StuPa parliament of students

StuWe Studentenwerk

sup Supremum (see inf)

SÜV seminar of the usual suspects

SWS Semesterwochenstunden, i.e. weekly hours

TEX a system to set fonts, used by many mathematicians, they even make OWO-Infos with it

TH doesn't exist any more, we are a TU now!

TMA Technomathematik

TOP TagesOrdnungsPunkt (topic)

TUD Technische Universität Darmstadt

ULB Universitäts- und Landesbibliothek (the library in the castle)

WiMi scientific assistant (Wiss. Mitarbeiter)

WMA economical mathematics

WS winter semester

Zintl the new home of the FB Informatik (S2|02); in fact its called Piloty, but nobody knows

ZSB central students consultancy

Imprint

OWO-Info – The *Mathe-Info* for the orientation week 2007/2008, published by the *Fachschaft Mathematik* at TU Darmstadt

- **ISSN** 1612-6025
- **Printing:** typographics GmbH, Darmstadt
- **Print run:** 300

- **Closing date:** 20.08.2007
- **Editor:** Miriam Schwebel
- **Typesetting & Layout:** Sebastian Hamann
- **Cover:** Jakob Schelbert
- **Contact:** owo-info (at) mathebau.de

Typeset using TEX and ConTEXt in:

- Trebuchet
- Boister

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9 771612 602005 00016