

MASTER IN MATHEMATICS



INFORMATION BOOKLET

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Greeting from the Fachschaft

Dear new Master's students,

on behalf of the student council of mathematics, I would like to warmly welcome you to the Mathematics Master studies program at the University of Bonn. In the coming weeks and months, we will help you in every possible way to find your place in the world of mathematics in Bonn.

To help you getting to know each other, we have organized some events at the beginning of the semester, such as a rallye through the city, a cinema visit, a pub crawl and a hike to the Drachenfels. Then, during the bulk of the semester, we hope to be able to welcome you to our regular events with the rest of the math students in Bonn, such as our game nights or our infamous wine and cheese evenings. Furthermore, we have set up groups on messenger services where you can connect and exchange information at any time.

For getting you started with your studies, we have created this Master Information for you, in which we have, among other things, compiled some general information about who to approach with questions or problems as well as our own tips and tricks for studies and life here. We know that moving to a new place is always challenging, so we tried to give you as much useful information about the city as possible, ranging from the locations of the different institutes to the best places to grab food. In case this should leave open any questions or if you encounter any problems, do not hesitate to talk to us, write us an email or come to our office – we are there for you and will assist you to the best of our abilities.

We are looking forward to meet lots of new people and wish you the best of luck and lots of fun in the upcoming semesters.

Roxana Mittelberg

Head of the (FSR)

Greeting from the Head of the Examination Board

Dear new Master's students,

it is my pleasure to welcome you at the University of Bonn, and to wish you all the best for your Master's studies in mathematics!

You are joining an exceptional academic environment with access to a wide range of resources and opportunities. These include a huge variety of lecture courses, tutorials and seminars in all fields of mathematics. Besides the regular teaching, there are also many research seminars and lecture series offered for example by the Hausdorff Center for Mathematics (HCM), the Hausdorff Research Institute for Mathematics (HIM), and the Max-Planck Institute (MPI).

Do not hesitate to interact with your fellow students, tutors, PhD candidates, postdocs, and professors. Working together in teams and discussing with others is very important for Mathematics, and plays a crucial role in homework, tutorials, exam preparation and seminars. We are fortunate to have a campus with generous outdoor spaces, including benches, tables and blackboards in the park behind the Mathematikzentrum. Other places for group work are free seminar rooms (if available), the math library, and the Mensa. If you do not have partners for your homework assignments, your tutors will help you find them.

The student council (Fachschaft), the Bachelor–Master Office, and your mentors are here to support you, offering guidance and advice throughout your studies. Don't hesitate to contact them early in case of problems (academic, organizational or personal).

Bonn is not just about academia. The city itself and its surroundings offer many opportunities for recreation and exploration. Many beautiful places are just a short bike ride or walk away. We encourage you to make the most out of your time here, both in your studies and by experiencing all that this wonderful city has to offer. I wish you a successful and rewarding experience in Bonn — both in mathematics and beyond!

Andreas Eberle

Head of the Examination Board
for Master Mathematics

Contents

Start of your Studies	1	Libraries	30
The First Weeks	1	Mathematical Buildings in Bonn	32
Information & Assistance	2	History	32
A Crash Course on Master's Courses	3	Current Situation	32
The Kinds of Lectures	3	All about Money	35
Modules	4	Financing Your Studies	35
Frequency & Content	5	Semester Fees	37
Names Can Be Deceiving	5	University Funding	38
Secondary Subjects	6	Living in Bonn	39
The Goal	6	Living outside of Bonn	39
A Guide to Choosing Modules	7	Dormitories	39
Choosing Courses	7	Private Housing	39
Example Study Plans	8	Shared Flats	39
Digital Services of the University	15	Fraternities	40
Enrolment & Registration	17	Leisure Activities	41
Lectures	17	University Sports	41
Tutorial Sessions	18	Culture	41
Exams	18	Museums	43
Second Exams	19	Cinemas	43
Graduate Seminars	19	Places to Visit	44
Practical Training Courses	20	Places to Eat	44
Additional Modules	20	Pubs & Bars	45
German Language Courses	21	Nightlife	46
Equality, Health & Help	22	Cafés	47
Emergencies on Campus	22	Tips, Tricks and Further Advice	48
Student Counselling	22	Student Mentoring	48
Gender Equality	22	Bicycles	48
Discrimination	22	foodsharing	48
Mental Health	23	PDF Editing Tools	49
General health	23	Public Holidays	49
What the Fachschaft?	24	Imprint	51
Who We Are	24	List of Figures	52
Events	24	List of Tables	53
Other Tasks	25	Glossary	55
Meetings of the Fachschaft	25	Maps & Dates	61
Participate!	25	Map of Bonn	61
The Master Department	26	Map of the Campus	62
Structure of the University	28	Dates	62
Organisational Structure	28		
Bodies of Administration	28		
Mathematics in Bonn	29		

Start of your Studies

You wake up in the morning, get ready, eat breakfast and then take your bike or the bus to go to the university. There, you attend a lecture, eat lunch with your friends in the Mensa and take part in an exercise class afterwards. Later, you meet up with some fellow students in a seminar room or in the library to look at the last lecture again, solve exercise sheets or simply to study together.

In the evening you go home, pursue a hobby or go grocery shopping. Afterwards, you (and your roommates) cook dinner and to finish your day, you do a little more math.

This is approximately what a usual day during the semester looks like for a maths student.

The First Weeks

On 12. October, the first day of the **lecture period**, there will be an information session by the **Bachelor–Master Office (BaMa)**. It will take place at 8:15am in the morning in the “Kleiner Hörsaal” in “Wegelerstraße 10”. You should definitely attend this event, as you will receive general information about your studies there. Mrs. Kiesel from the BaMa will give an overview of how the master in Mathematics in Bonn is structured, which sorts of lectures there are and which requirements you have to meet in order to graduate in the end. After that, some professors from the different areas will introduce the specific lectures that are offered this semester and tell you which lectures are recommended for your first semester. In the end, we, the student council, will also introduce ourselves and tell you about the events that we have planned for the first two weeks of the lecture period.

But our events already start before that! First of all, we have planned a Welcome Event on 7. October at 4pm at the **annex**, starting with a campus tour. Then, we will play some fun games to get to know each other. Afterwards, there will be enough time to talk to each other and maybe find fellow students that take the same lectures as you. We will have some free snacks and drinks that you can buy at cost.

Later that week, on 9. October we will have breakfast

together, starting at 9am. We will have food ready for you, but you are of course also free to bring something of your own.

On the same day, there will be a rallye organized for you, starting at 3pm at the annex. You will be given a set of fun tasks to complete while exploring Bonn. Free drinks included!

The weekend before the lecture period, we have planned a hiking tour through the local countryside. We will meet on 11. October at 10am at **TODO ADD MEETING POINT**—provided the weather plays along.

The day the lecture period begins, 12. October, we will have another campus tour for the people who missed the first one, starting at 6pm at the annex.

A few days later, we will hit the town on our pub crawl, sampling some of the finest pubs and bars Bonn has to offer. We meet on 14. October at 8pm at the Beethoven statue on the Münsterplatz in the city centre. You are, of course, in no way required to drink alcohol. Nevertheless, this will be a great opportunity to get to know your fellow master’s students, so tag along!

Furthermore, on 19. October at 8pm, we will be paying a visit to the local cinema, the WOKI. We will be attending the Sneak Preview there, which means that we get to view a random movie not yet released to the public. Anyone interested is to approach the person walking around at our events with the related list.

And lastly, on 20. October at 7pm, there will be a “Wine and Cheese Evening” (**WaCE**) explicitly for master’s students. At this event we have free baguette, cheese, hummus and some other vegan options. But most importantly, there will be wine and grape juice sold at cost. We have “good” wine and “better” wine, so you are in for a treat. This is always a very popular event, which is why you should definitely come around!

Table 1 also provides an overview of all the events we have planned for master’s students at the beginning of the semester.

rallye

hike

second campus tour

pub crawl

WOKI Sneak Preview

WaCE

BaMa

Welcome Evening

breakfast

Welcome Event	7. October
Breakfast	9. October
Rallye	9. October
Hike	11. October
2nd Campus Tour	12. October
Pub Crawl	14. October
WOKI Sneak Preview	19. October
WaCE	20. October

Table 1: An overview of our events

Information & Assistance

Master’s students WhatsApp group [chat.
whatsapp.com/JStCeHmSSr3ImiyR10fqyqy](https://chat.whatsapp.com/JStCeHmSSr3ImiyR10fqyqy)



Student Council Website
www.fsmath.uni-bonn.de/en

Master Department Email
master@fsmath-bonn.de

The BaMa offers office hours to advise you on questions about your studies. Usually you can just drop by their office. More information about the times can be found on their website. Additionally, you can always ask them questions via email.

The following box contains contact information of the BaMa and also a link where you can find up-to-date information about how you can use the [Library of Mathematics](#).

BaMa
Address Endenicher Allee 60, Room 0.004.
Email bama@math.uni-bonn.de
Phone [+49 228 73 3180](tel:+49228733180)
Website www.mathematics.uni-bonn.de/studium/en/contact

Library of Mathematics
bib.math.uni-bonn.de

There is a WhatsApp group open for all master’s students who started in the current semester. We plan on using this group to keep you posted on current events.

Finally, for additional information about who we are and what we do, you can read the appropriate chapter further in this booklet, or visit our website. And if you have any Master-related questions or problems, you can contact the Master Department of the Student Council by email.

A Crash Course on Master's Courses

In this article, we try to give an overview of what kinds of lectures exist in Bonn, and how these differ from one another. More detailed information can be found in the official "Module Handbook".¹

The Kinds of Lectures

The mathematics courses in Bonn are divided into six areas, labelled A–F. For technical reasons, there are also two additional groups of courses, labelled G and X, but we will ignore these labels for now.

A	Algebra, Number Theory and Logic
B	Analysis and Differential Equations
C	Discrete Mathematics
D	Geometry and Topology
E	Numerical Mathematics and Scientific Computing
F	Probability and Stochastic Analysis

Table 2: The areas of mathematics in Bonn.

The mathematics courses in Bonn are also distinguished into the following six kinds.

Graduate lecture course This kind of course consists of two lectures per week. There are weekly exercise sheets and weekly tutorial sessions in which solutions are discussed. At the end of the course, there is an exam. This exam can be either written or oral, depending on the number of participants. Completing such a course rewards you with 9 credit points.

Foundation lecture course These are bachelor's lecture courses that are also open to master's students. There are between two and four Foundations in each of the areas A–F. They are structured just like Graduate lecture courses: There are two lectures per week, weekly exercise sheets, weekly tutorial sessions and an exam at

the end of the course. This exam is usually a written one, but it may also be oral, again depending on the number of participants. This kind of course is also worth 9 credit points, just like Graduate lecture courses.

The Foundation lecture courses are meant to give you the opportunity to widen your mathematical horizon and explore new areas of mathematics. However, the university does not want you to spend too much time on modules of the bachelor's programme. Because of this, you're only allowed to count one Foundation course per area (A–F) towards the final grade of your master's studies. (We'll come back to this later.)

Advanced Topics This kind of lecture course also consists of two lectures per week, but there are neither exercise sheets nor tutorial sessions. There is an exam at the end of the course, which is typically oral. Passing the exam grants you 7 credit points.

Selected Topics With this kind of lecture course we are down to one lecture per week with neither exercise sheets nor tutorial sessions. There is an exam at the end, which is typically oral. This kind of course is worth 5 credit points.

Graduate Seminar Such a seminar consists of a series of talks throughout the semester, usually at the pace of one presentation per week.

The topics are distributed among the participating students, and each student typically gives one talk. But it may also happen that two students share one presentation, or that some students cover several topics, depending on the total number of talks and participants.

The final grade is not based on an exam but the given presentation instead. Successfully participating in a seminar will yield 6 credit points.

Practical Training Courses The study of mathematics can oftentimes be of a rather theoretical nature. But if you want to spice things up in your studies, then you should consider taking a

¹The Module Handbook: www.mathematics.uni-bonn.de/studium/medienordner-studium-1/dateien/po-modulhandbuch/mscmath-modulhandbuch.pdf.

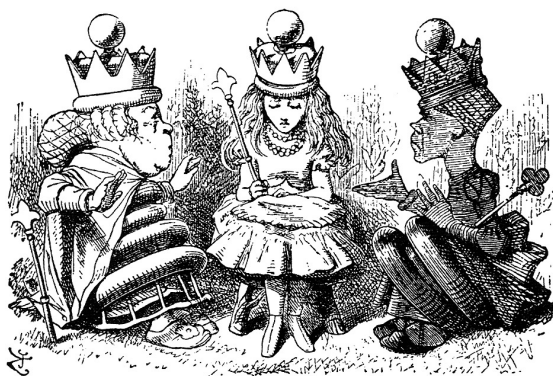


Figure 1: An oral exam at the end of an Advanced Topics course on game theory.

Practical Training Course. There are three options from which you may choose, each of which provides 9 credit points:

Practical Teaching Course To take a Practical Teaching Course you'll have to work as a tutor for one of the mathematics lecture courses for one semester. (This includes both bachelor courses and master courses.) As a tutor, you'll be in charge of one of the weekly exercise sessions,² which includes correcting the exercise sheets for this exercise group.

You need to be employed as a tutor at one of the mathematical institutes to do a Practical Teaching Course.³ This requires an application at the end of the previous semester.

At the end of the Practical Teaching Course, you will have to hand in a portfolio. Your grade will be based on this portfolio and how well you did your job as a tutor.

External Internship Doing an internship during your studies can really boost your career. On top of a broadened horizon and some hands-on experience, you will be awarded credit points as well.

So how does it work? It is your responsibility to find an internship position in a field corresponding to your studies. The minimum duration is 6 weeks. After you have found a position, you

²It should be pointed out that the three introductory bachelor's courses "Analysis I", "Lineare Algebra I" and "Algorithmische Mathematik I" include two tutorial sessions per week, instead of the usual single session.

³As a nice side effect, this will also provide you with some money.



Figure 2: A proposed Practical Training Course on algebraic geometry: students harvesting fresh stalks from local fields.

need a university lecturer to approve of your internship and agree to act as your examiner.

Once you have completed your time at the company, hand in a written report about your experience. You will also be asked to present the contents of the report orally.

Programming courses There are also different kinds of programming courses, the details of which vary. There is typically one lecture per week, accompanied by programming exercises.

All mathematics courses you'll take during your master's degree can be classified into one of the above-named categories—except the master's thesis and the master's thesis seminar.⁴

Modules

To each mathematics course, there is an assigned "module code" that depends on its area (A–F), its type (Graduate lecture course, etc.) and its specific content. However, there are only certain predefined module codes available. As an example, Table 3 contains all module codes associated with area D (Geometry and Topology).

module code

Each module can only be completed once: after passing a course you won't be able to take the exam for another course that shares the same module code. This may be an obstacle if two courses differ in content while

each module only once!

⁴The modules Master's Thesis, Master's Thesis Seminar, Practical Training Course and External Internship form the group G that we mentioned at the beginning of this text.

Foundation lecture courses	
F4D1	Topology I
F4D1	Topology II
F4D1	Foundations in Analysis and Geometry on Manifolds
F4D1	Geometry
Graduate lecture courses	
V4D1	Algebraic Topology I
V4D2	Algebraic Topology II
V4D3	Advanced Geometry I
V4D4	Advanced Geometry II
Advanced Topics	
V5D1	Advanced Topics in Topology
V5D3	Advanced Topics in Geometry
V5D5	Advanced Topics in Diff. Geometry
Selected Topics	
V5D2	Selected Topics in Topology
V5D4	Selected Topics in Geometry
V5D6	Selected Topics in Diff. Geometry
Graduate Seminars	
S4D1	G.S. on Diff. Geometry
S4D2	G.S. on Topology
S4D3	G.S. on Advanced Geometry
S4D3	G.S. on Advanced Topology

Table 3: All modules in area D.

sharing the same module code. Then it is not possible to take the exam for both courses.⁵ This typically happens when it comes to Advanced Topics and Selected Topics, whose contents are almost always different even if they are assigned the same module code.

To every rule there are exceptions, and the before-mentioned has two notable ones:

All Foundation lecture courses that belong to the same area (A–F) share the same module code. But you are nevertheless allowed to take the exam for all of them. However, towards the end of your master’s studies, you can only choose one of these courses (per area) to count towards your final grade.

There are also three special modules, so-called additional modules. Let’s say, for example, that you want to take the exam for an Advanced Topics course even though you have already passed this exact kind of Advanced Topics in an earlier semester. Then you can request from the Bachelor–Master Office (BaMa) to

⁵Unless you use up one of your “Additional Topics”, as we’ll explain later.

treat the new lecture as an “Additional Advanced Topics”. However, this can only be done once during your entire course of studies, and only if the differences in content are regarded as significant enough. It is, for example, not possible to take the exam for two “Advanced Topics in Geometry” and also for two “Advanced Topics in Topology”. The same guidelines apply to “Selected Topics” and “Graduate Seminars”.⁶

When a lecturer offers multiple Advanced Topics courses in a row, they often make sure to use different module codes if possible. A professor may, for example, offer an “Advanced Topics in Algebraic Geometry” (V5A3) in one semester and an “Advanced Topics in Algebra” (V5A1) in the next semester to ensure that students can receive credit points for both courses.

Frequency & Content

There are numerous Advanced Topics and Selected Topics lecture courses each semester, but their contents seldom recur. If you find an Advanced Topics or a Selected Topics course that seems interesting to you, then you should definitely check it out. This also applies to Graduate Seminars.

When it comes to Graduate lecture courses and Foundation lecture courses, things get more complicated. Some lecture courses discuss fixed topics and are offered annually. This is especially the case for some Foundation lecture courses. But other courses are offered only irregularly, and their topics often depend on the lecturer.

The following list contains all Foundation lecture courses and all Graduate lecture courses, grouped up by how often they are offered.

Names Can Be Deceiving

Most modules have names stating what kind of course they represent. However, names can be deceiving.

Some modules have names like “Advanced Geometry I” or “Advanced Algebra I”. These may seem like Advanced Topics, but they are not.

Some modules have the same name except for a trailing “I” or “II”. This often means that one lecture is a continuation of the other one, as is the case for “Algebraic Geometry I” and “Algebraic Geometry II”.

⁶These three modules form the mysterious area X which we alluded to at the beginning of this text.

Annually

Foundation lecture courses: Algebra I; PDE and Functional Analysis; PDE and Modelling; Linear and Integer Optimization; Combinatorics, Graphs, Matroids; Topology I; Topology II; Scientific Computing I; Scientific Computing II; Stochastic Processes; Foundations in Stochastic Analysis; GZ Analysis and Geometry on Manifolds; **Graduate lecture courses:** Algebraic Geometry I; Algebraic Geometry II; Non-linear PDE I; Nonlinear PDE II; Combinatorial Optimization; Approximation Algorithms; Chip Design; Algebraic Topology I; Algebraic Topology II; Numerical Algorithms; Numerical Simulation; Stochastic Analysis; Markov Processes

Not annually

Foundation lecture courses: Algebra II; Foundations in Representation Theory; Mathematical Logic; GZ Number Theory; GZ Computer-assisted Mathematics; Global Analysis; Geometry; Foundations in Analysis and Geometry on Manifolds; **Graduate lecture courses:** Representation Theory I; Representation Theory II; Advanced Algebra I; Advanced Algebra II; Advanced Mathematical Logic; Advanced Global Analysis I; Advanced Global Analysis II; Real and Harmonic Analysis; Advanced Geometry I; Advanced Geometry II

Disclaimer: This list is based on experience from previous semesters and does not always reflect the officially required frequencies of these lectures. There is, for example, no official requirement for Topology I to be offered every year. So there could theoretically be a winter semester without Topology I in the future. In the Winter term 2023 for example, there was no Algebraic Topology II course.

Nevertheless, it may happen that one lecture is not a direct follow-up of the previous one. This occurs particularly if modules do not have a fixed content and are given by different lecturers. This is, for example, the case with the modules “Advanced Algebra I” (V4A5) and “Advanced Algebra II” (V4A6). Both these modules are meant for lectures on algebra and have no fixed content: their topics depend entirely on the lecturer that decides to offer such a lecture course.

One may wonder why there are two such modules, and not just one module called “Advanced Algebra”, which is then offered by different lectures with different topics. This can be explained by the aforementioned rule about completing every module only once: The current situation allows students to take two Graduate lecture courses about “advanced algebra” for credit.

Advanced Topics can vary widely in their difficulty. Some of them are follow-ups to previous lectures, given by the same lecturer. These kinds of Advanced Topics can be quite challenging and usually require a fair amount of pre-existing knowledge. Other Advanced Topics are introductions to new topics, which might require fewer prerequisites.

Selected Topics can similarly vary a lot in their diffi-

culty. They have only half as much time as the other kinds of lecture courses to introduce new content since they only take place once a week. This lack of time can make things easier or harder for students, depending on the topic and the lecturer.

Secondary Subjects

If you are fed up with mathematics and you want to improve your knowledge in other subjects, then you can also take lectures in a secondary subject. Choosing a secondary subject is not mandatory, but it could be a valuable addition to your studies. Most students taking a secondary subject choose Physics, Computer Science or Economics; in these cases, it is clearly defined on **BASIS** which modules of the corresponding master's programmes can be chosen. Other cases usually need to be discussed with the BaMa on a case-by-case basis.

The Goal

You will have to collect a total of 120 credit points throughout your master's studies. You must take lectures (excluding Graduate Seminars and Practical Training Courses) from at least three of the six areas A–F. In one of these areas you have to gather at least 23 credit points, in another one at least 16 credit points, and in yet another one at least 9 credit points. You also have to take at least two Graduate Seminars. These seminars and your master's thesis plus master's thesis seminar will earn you an additional 48 credit points; the remaining 24 credit points can be collected in arbitrary modules, including more lectures, seminars and a secondary subject. More details about these regulations can be found at www.mathematics.uni-bonn.de/studium/en/study-programs/master-program-mathematics.

credits rule everything around you

more confusing names

“Advanced” Topics

A Guide to Choosing Modules

Bonn offers a huge amount of mathematics courses. This can make it hard for freshmen to know where to start, and what to consider when choosing their courses. This article aims to provide a handy guide to choosing well. It is followed by a collection of study plans gathered from former master students. This text is written both for those who have already decided on which areas of mathematics they want to focus on and for those who are still undecided. We hope that the following advice will be especially helpful for students who are new to Bonn.



Figure 3: The introduction of sign conventions.

Choosing Courses

Lecture Courses

Let us first talk about lecture courses. By this, we mean Foundation lecture courses, Graduate lecture courses, Advanced Topics and Selected Topics.

In your first master's semester, it is best to start off with lecture courses from at least two different areas, so that you stay flexible enough in the coming semesters. For this, you should know which areas of mathematics you're interested in. Unfortunately, we cannot help you to figure this part out.

It is recommended to begin with Foundation lecture courses and progress to more advanced courses as time goes by. However, you have probably already deepened your knowledge in particular parts of mathematics during your bachelor's studies, e.g. the area in which you wrote your bachelor's thesis. In these areas, you may start off with more advanced lectures, e.g. Graduate lecture courses, from the beginning of your master's studies.

None of the lecture courses in Bonn formally require you to have passed certain other courses beforehand: you may check out any lecture course that you're interested in. There are, of course, informal prerequisites in terms of prior knowledge. It is, for example, generally considered a bad idea to take the lecture course

“Algebraic Geometry I” without previous knowledge about commutative algebra.¹

It's best to choose two “full” lecture courses—i.e. Foundation lecture course or Graduate lecture courses—in your first master's semester, but *at the very most* three such lecture courses. These lectures, their accompanied exercise sheets and tutorial sessions will already take up quite a lot of your time.

During your studies, you will also start taking Advanced Topics and Selected Topics. Their difficulties vary a lot: some Advanced Topics and Selected Topics require vast amounts of previous knowledge, others very little. They are, nonetheless, a good source of **credit points**. Advanced Topics typically cost less time than Foundation lecture courses and Graduate lecture courses since they have no weekly exercise sheets, but they still grant you 7 credit points (instead of 9 credit points). Selected Topics include only half as many lectures as Advanced Topics, but they still reward you 5 credit points.

You may already want to check out some Advanced Topics or Selected Topics during your first semester, as they are not only a good source of credit points, but even more importantly a good source of interesting mathematical topics. You might in particular want to

¹One may even argue that one should have taken Algebraic Geometry I before taking Algebraic Geometry I.

careful!

Advanced Topics
and Selected
Topics

cover enough
areas

Foundations

consider those Advanced Topics that are of an introductory nature, requiring little to no previous familiarity with the discussed topics.

The contents of the offered Advanced Topics and Selected Topics vary every semester and are almost never repeated. So if one of these lectures makes your heart flutter, then listen to your heart and try getting to know it better. Maybe you are meant for each other.

We want to remind you again to take lectures from different areas early on. You may already know which area you're most interested in and plan to focus only on this area. But you must not forget that you will need to have covered at least three different areas to get your master's degree. It happens regularly that people have to prolong their studies by some additional semesters just because they have not covered enough areas yet.

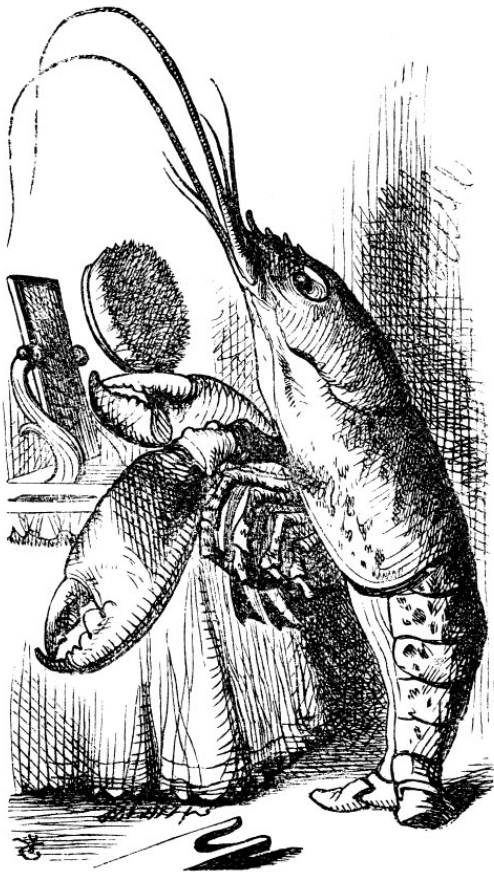


Figure 4: A student new to topology struggling to understand the hairy ball theorem.

Graduate Seminars

Let us talk about Graduate Seminars next. One usually starts attending them in the second semester.

To take part in a Graduate Seminar, it is obligatory to attend its preliminary meeting, which will probably take place towards the end of the preceding semester. In this meeting, you will learn more details about the chosen topic of the seminar and the planned talks. You can then decide whether you would like to participate in the seminar or not. You need to complete at least two Graduate Seminars for your master's degree but many people participate in more than just two seminars. Graduate Seminars are also a good way of practising your presentation skills and usually it is not very hard to get a good grade. In addition, they can be very helpful to find a master's thesis topic or supervisor.

Practical Teaching Courses

Another option for getting 9 credit points and usually a good grade is through a Practical Teaching Course. As explained in the previous chapter, this means that you work as a tutor for one of the mathematics lectures for one semester. This also provides you with some money.

Master's Thesis

Now is the time to address the elephant in the room: the master's thesis. You will need an advisor for your thesis and—most importantly—a topic. In order to find an advisor, reach out to a lecturer for one of the courses that you previously attended. If they are willing to supervise the thesis then they will typically suggest possible topics, taking into consideration your studies up to this point. Choose your topic wisely! You should have regular contact with your advisor during the writing of your thesis. To this end, it is recommended to attend the lectures and seminars offered by your advisor during this time. Finally, note that some students take an additional semester to finish their thesis.

Example Study Plans

From the next page onward we provide you with study plans of former master's students. These are meant to give you an idea of what someone's master's studies realistically look like. We'd like to point out some observations regarding these study plans beforehand:

There is no standard study plan. Each plan is different, and the result of the unique choices made by the respective former master's student. Your own study plan will similarly be distinctly yours and will reflect the choices that you will make during your studies.

You will notice that the study plans differ in their length, taking anywhere from 3 to 8 semesters, with only around half of them taking 4 semesters or less. Your individual studies may end up shorter or longer than the study plans from the area that you're interested in. This depends on your individual choices and situation.

Note also that many students counted credit points from their bachelor studies towards their master's degree. Some of these students completed their bachelor's degree in Bonn and decided to already take master's courses in advance. Others did their bachelor's studies elsewhere but transferred credits they received for additional lectures anyway. If this might be possible for you, make sure to get in touch with the **Bachelor–Master Office (BaMa)**. This may alleviate the workload during your master's degree significantly. Note however that there is a deadline for this transfer of credit: You will

have to apply for it **in your first semester** by June 1st in summer or December 1st if you start in winter.

Let us now quickly explain how to read the study plans. We use the following abbreviations:

AT	Advanced Topics in ...
ST	Selected Topics in ...
GS	Graduate Seminar on ...
F	Foundation module

Each module starts with its module code and credit points in square brackets. Modules coloured in **orange** were counted for the final grade whereas modules coloured in **cyan** were not, e.g. due to not taking the exam, not passing the exam or a bad grade.

Modules in the row named "B" were brought in from the bachelor's programme. The total number of credit points earned in a semester is denoted at the end of the corresponding row. For the calculation of the credit points per semester the credit points of the master's thesis and master's seminar were split between all semesters during which the thesis was written.

1	F4A1 [9] F: Rep. Theory	F4D1 [9] F: Topology I	V4A1 [9] Alg. Geometry I	V5D4 [5] ST: Geometry	V4A5 [9] Adv. Algebra I	32
2	V4A3 [9] Rep. Theory I	V4A2 [9] Alg. Geometry II	V5D3 [7] AT: Geometry	S4A2 [6] GS: Rep. Theory		31
3		F4B1 [9] F: Global Ana. I	MA-INF 4111 [6] CS: Intelligent Learning I			33
4	T5G1 + S5G1 [36] Master's Thesis + Seminar	S4D1 [6] GS: Differential Geometry	MA-INF 4112 [6] CS: Intelligent Learning II	Lang. course [6] French A2		30

Table 4: A study plan focusing on algebra, starting in a winter semester.

B	F4D1 [9] F: Topology I	V4A3 [9] Rep. Theory I	V4A4 [9] Rep. Theory II	V5A5 [7] AT: Rep. Theory	34
1	V4A1 [9] Algebraic Geometry I				9
2	V5A1 [7] AT: Algebra	V4B5 [9] Real and Harmonic Analysis	S4A2 [6] GS: Rep. Theory		22
3	V5B7 [7] AT: Analysis	S4B1 [6] GS: Analysis			13
4	T5G1 + S5G1 [36] Master's Thesis + Seminar	V5B7 [7] AT: Analysis			25
5					18

Table 5: A study plan focusing on representation theory, starting in a winter semester.

B	V4A1 [9] Algebraic Geometry I	V4A5 [9] Advanced Algebra I						18
1	F4A1 [9] F: Rep. Theory	V5A3 [7] AT: Alg. Geometry	V5D3 [7] AT: Geometry	V4A1 [9] Algebraic Geometry I	V4A5 [9] Advanced Algebra I			23
2	S4D2 [6] GS: Topology	S4A2 [6] GS: Rep. Theory	F4D1 [9] F: Topology II	V4A2 [9] Algebraic Geometry 2	V5A1 [7] AT: Algebra	V5A4 [5] ST: Alg. Geometry	V5A4 [5] ST: Alg. Geometry	30
3	T5G1 + S5G1 [36] Master's Thesis + Seminar	F4B1 [9] F: Global Analysis I	V5D1 [7] AT: Topology	V4A1 [9] Algebraic Geometry I	V5A4 [5] ST: Alg. Geometry	V5A2 [5] ST: Algebra		34
4		V4A2 [9] Algebraic Geometry II	V5D1 [7] AT: Topology					18

Table 6: A study plan focusing on algebraic geometry, starting in a winter semester.

1	F4D1 [9] F: Topology I	F4A1 [9] F: Rep. Theory	V4D1 [9] Algebraic Topology I	V5D3 [7] AT: Geometry	V5D4 [5] ST: Geometry	39
2	V4D2 [9] Algebraic Topology II	V4A8 [9] Models of Set Theory I	V5B8 [5] ST: Analysis	S4D2 [6] GS: Topology		29
3	T5G1 + S5G1 [36] Master's Thesis + Seminar	F4B1 [9] F: Global Analysis I	V5D1 [7] AT: Topology	S4D2 [6] GS: Topology	V5D1 [7] AT: Topology	40
4						18

Table 7: A study plan focusing on topology, starting in a winter semester.

1	V4C1 [9] Combinatorial Optimization	V4A1 [9] Algebraic Geometry I	F1A1 [9] F: Set Theory	F1D1 [9] F: Topology I		36
2	V4C2 [9] Approximation Algorithms	V5C2 [5] ST: Discrete Mathematics	S4C1 [6] GS: Discrete Optimization	S4C1 [6] GS: Discrete Optimization	S4D2 [6] GS: Topology	32
3	T5G1 + S5G1 [36] Master's Thesis + Seminar	V5C1 [7] AT: Discrete Mathematics	S4F2 [6] GS: Stochastic Analysis	V5F1 [7] AT: Probability Theory		38
4						18

Table 8: A study plan focusing on discrete mathematics, starting in a winter semester.

B	F4C1 [9] F: Linear and Integer Optimization				9
1	P4G1 [9] Practical Teaching Course	V4C1 [9] Combinatorial Optimization	F4D1 [9] F: Topology I		9
2	V4C2 [9] Approximation Algorithms	MA-INF 1312 [9] CS: The Art of Cryptography	F4F1 [9] F: Stochastic Processes		18
3	F4E1 [9] F: Scientific Computing I	F4B1 [9] F: PDE and Functional Analysis	F4D1 [9] F: Topology I	F4B1 [9] F: PDE and Functional Analysis	9
4	V5C2 [5] ST: Discrete Mathematics	S4C1 [6] GS: Discrete Optimization	V4B5 [9] Real and Harmonic Analysis	V4C3 [9] Chip Design	5
5	F4B1 [9] F: PDE and Functional Analysis	S5E2 [6] GS: Efficient Simulation	V4E1 [9] Numerical Algorithms	BA-INF 141 [9] Media Informatics: Big Data Analytics	15
6		V4E2 [9] Numerical Simulation	P4E1 [9] Practical Lab Numerical Simulation		30
7	T5G1 + S5G1 [36] Master's Thesis + Seminar				12
8					12

Table 9: Another study plan focusing on discrete mathematics, starting in a winter semester.

1	F1B1 [9] F: PDE and Functional Analysis	F4E1 [9] F: Scientific Computing I	V4E1 [9] Numerical Algorithms	V5E1 [7] AT: Numerical Methods in Science and Technology	V5A1 [7] AT: Algebra	18
2	F4D1 [9] F: Geometry I	V4E2 [9] Numerical Simulation	V5E4 [5] ST: Scientific Computing	V5E2 [5] ST: Numerical Methods in Science and Technology	S4E2 [6] GS: Numerical Simulation	34
3	P4G2 [9] External Internship					9
4	T5G1 + S5G1 [36] Master's Thesis + Seminar	V5B3 [7] AT: PDE	V5B5 [5] ST: Calculus	V5E3 [7] AT: Scientific Computing	Lang. course [6] Spanish B1	37
5		S4F3 [6] GS: Applied Probability	V5E5 [7] AT: Numerical Analysis			24

Table 10: A study plan focusing on numerical mathematics, starting in a winter semester.

1	F4C1 [9] F: Linear and Integer Optimization	F4E1 [9] F: Scientific Computing I	P4G2 [9] External Internship	V4E1 [9] Numerical Algorithms	F4B1 [9] F: PDE and Functional Analysis	36
2	P4E1 [9] Practical Lab Numerical Simulation	V4E2 [9] Numerical Simulation	S5E1 [6] GS: Numerical Analysis	V4C2 [9] Approximation Algorithms		24
3	T5G1 + S5G1 [36] Master's Thesis + Seminar	V4C1 [9] Combinatorial Optimization	V5E5 [7] AT: Numerical Analysis	S4E2 [6] GS: Numerical Simulation	V5F4 [5] ST: Stochastic Analysis	40
4		F4F1 [9] F: Stochastic Processes				27

Table 11: Another study plan focusing on numerical mathematics, starting in a winter semester.

B	V4C1 [9] Combinatorial Optimization	F1C1 [9] F: Linear and Integer Optimization		18
1	V4C2 [9] Approximation Algorithms	F4B1 [9] F: PDE and Modelling		9
2	S4F1 [6] GS: Probability Theory	F4B1 [9] F: PDE and Functional Analysis	V4F1 [9] Stochastic Analysis	6
3	F4F1 [9] F: Stochastic Processes	S4F2 [6] GS: Stochastic Analysis	MA-INF 1301 [9] CS: Algorithmic Game Theory and the Internet	24
4	P4G2 [9] External Internship	F4E1 [9] F: Scientific Computing I	V4F1 [9] Stochastic Analysis	18
5		V5F5 [7] AT: Applied Probability		19
6	T5G1 + S5G1 [36] Master's Thesis + Seminar			12
7		MA-INF 1218 [9] CS: Algorithms and Uncertainty		21

Table 12: A study plan focusing on stochastics, starting in a summer semester.

B	F4D1 [9] F: Topology I	F4A1 [9] F: Algebra I	CS [9] CS: Automata, Logic and Games (other university)		27
	V4B5 [9] Harmonic Analysis	V4F1 [9] Stochastic Analysis	V5F5 [7] AT: Applied Probability	S4F1 [6] GS: Probability Theory	31
2	V4F2 [9] Markov Processes	F4B1 [9] F: Global Analysis I	V5F3 [7] AT: Stochastic Analysis	V5F1 [7] AT: Probability Theory	25
3	T5G1 + S5G1 [36] Master's Thesis + Seminar	S4B2 [6] GS: PDE			42

Table 13: Another study plan focusing on stochastics, starting in a summer semester.

Digital Services of the University

As a student at the University of Bonn, you will have access to several online services, some of which are presented here.

First of all, you will need your **Uni-ID** to register with all of these services. Shortly after enrolment, you will receive an email with instructions where to find and how to activate your Uni-ID. The Uni-ID and corresponding email (see below) are the bread and butter for most of the digital services the university provides, as most of them can be accessed with one of the two. Further information about the setup of your Uni-ID and all the following services can be found at hrz.uni-bonn.de/en. If you encounter any problems, the staff of the **HRZ** will be happy to help you.

A rather new service is the Uni Bonn App, where you can find your student ID and the public transport ticket. Also, you can connect your digital library card with the app or see the meal plan of the Mensa. Another interesting feature for the start of your studies is the collection of links and instructions there (e.g. for connecting to the university WiFi), and even more features are in development.

The university provides you with an email address, namely `Uni-ID@uni-bonn.de`. This email address comes with 1024 megabytes of space on the university's email server. You can access your emails with the online client¹ or with an email client of your choice. The necessary information about the configuration of a personal client can be found at hrz.uni-bonn.de/en/all-services/e-mail-calender-contacts/e-mail.

On **GOsa** you can define up to two email aliases. These aliases are alternate addresses that lead to the same account, i.e. a message sent to an alias will end up in the same inbox as the emails to the standard email address `Uni-ID@uni-bonn.de`.

You should check this email account regularly! The **Bachelor–Master Office (BaMa)** and the professors use it to send you important announcements.

It is recommended to set up your account in an email client like Mozilla Thunderbird or Microsoft Outlook. You can find instructions on the website of the HRZ.

¹Email web client: email.uni-bonn.de.

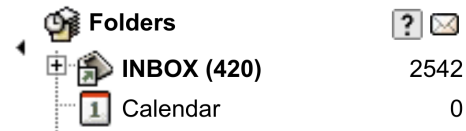


Figure 5: Don't be that guy.

Another important web service is **BASIS**.² This platform takes care of many organisational aspects of your studies in Bonn.

- » It contains a course catalogue where you can find out which courses are offered in the current semester, and which courses were offered in previous semesters. The course catalogue for an upcoming semester is usually published towards the end of the preceding semester.
- » Registrations for exams, seminar and practical teaching courses are also done via BASIS.
- » Your transcript of records can be found on BASIS, and you can download it as a PDF file.
- » You can find many features for general study-administration including downloading official certificates of enrolment, viewing the status of your payments to the university and changing your residential address.

During the last summer semester BASIS underwent fundamental changes. There are still some bugs in the new system and some features do not work properly or are unavailable. Due to this the system is still undergoing major changes and the information here as well as in the chapter “Enrolment & Registration” might be subject to change.

Another important web service is **eCampus**.³ This is a learning management system that can be used by lecturers to organise, distribute and collect materials. Most courses use eCampus, but many courses also provide a custom website in addition to their presence on eCampus.

The university offers a cloud storage service called **sciebo**.⁴ It comes with 30 gigabytes of online space. Sci-

²BASIS: basis.uni-bonn.de.

³eCampus: ecampus.uni-bonn.de.

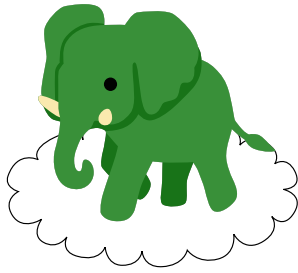


Figure 6: The sciebo logo consists of a cute green elephant. We won't display this logo here in fear of legal problems, but offer you an artistic rendition of another cute green elephant on a cloud instead.

ebo is not only available at the University of Bonn but a total of 28 institutions based in North Rhine-Westphalia. This has some consequences for its usage: You cannot log in with your Uni-ID and your usual password. Instead, you need to register for this service at hochschulcloud.nrw/en/index.html. As part of the registration process, you will be redirected to a university page, where you will have to log in with your Uni-ID and password to prove that you are indeed a student at the University of Bonn. In the end, your username will not be just your Uni-ID but instead your full email address Uni-ID@uni-bonn.de.

Enrolling gives you access to a free Zoom license, which is a conference software we used frequently for online teaching during the pandemic. It is recommended to use Zoom through the university's Zoom portal.⁵ This way you will not have to register with Zoom: you can log in to the Zoom portal with your Uni-ID and usual password instead. You can use Zoom either via the online interface accessible through the university's Zoom portal, or via a standalone client installed on your computer. If you want to use the client then you can choose "Sign in with SSO" and then choose "uni-bonn.zoom.us" to log in to the client via the university's Zoom page.

The university offers some licenses for paid software for students (such as MATLAB). The full list can be found in the HRZ-Doku under "Software and Licenses"⁶ (only accessible from within the university network, see VPN).

Perhaps one of the most important services: there is free and (mostly) fast WiFi under the name eduroam all around campus. The login credentials are your email

address Uni-ID@uni-bonn.de and your password. Eduroam is actually an international service, which will allow you to get free WiFi at universities around the world.

Besides eduroam, there is also a VPN-based solution just for the University of Bonn, which allows you to log into the university network from outside.

More information about both eduroam and the VPN service can be found at hrz.uni-bonn.de/en/all-services/internet-network-access/wifi-eduroam.

Finally, you can find printers in the CIP-Pool in the annex. During the opening times you can print documents necessary for the study.

VPN

⁴Sciebo: uni-bonn.sciebo.de.

⁵Zoom portal of the University of Bonn: uni-bonn.zoom.us.

⁶hrz.uni-bonn.de/de/hrzdoku-links/software-und-lizenzen-1

Enrolment & Registration

In this chapter, we give a quick explanation on how to register for the various kinds of modules. We often refer to **eCampus** and **BASIS**, which are introduced in the chapter “**Digital Services of the University**”, page 15.

Lectures

In general, no registration is needed to attend a lecture course, where by “lecture course” we mean Foundation, Graduate, Advanced Topics and Selected Topics lecture courses. You just go to lectures and try your best to keep up with the course.

However, some lecture courses will require you to sign up to them on eCampus to gain access to the provided materials. Courses can be found on eCampus in the following way: After logging in to eCampus (with your Uni-ID and usual password) go click on “Repository” on the top left, and then on “Repository - Home” on the upcoming drop-down menu.



Figure 7: Going to the front page.

This will lead to eCampus’ front page. In the section “Courses” near the top of the page, you can now select “Courses from Winter Semester 2025/26 onwards” and choose the current semester.

Alternatively you can also go to the bottom of the page, where you will find the section “Lehrveranstaltungen ab WiSe 25/26”. Now you can choose the current semester.

In the upcoming menu you can now search for “Mathematics” and after clicking on that search for the course you are interested in. In case you can’t find a course

Courses

All eCampus courses from the electronic course catalog (BASIS)

» Courses from Winter Semester 2025/26 onward

» Courses up to Summer Semester 2025



Figure 8: The section “Courses”.

there, try it from “Mathematik” (German for *mathematics*). There you will be presented with subdirectories, which contain the various mathematics courses. Now choose the directory for the course that you are interested in.

If the course is available on eCampus and open for enrolment, then you may click on the button at the end of the row to find the option “join”. Clicking on it will make you join the course on eCampus.

Some courses may already be available on eCampus but not yet open for enrolment. In this case, you will have to wait until you are allowed to join them. But you may already look at them, yearning for the day that they finally become available to you.

In this case, you will need to have some patience and look for the course another day, or frantically refresh the eCampus page every few minutes for multiple days to not miss the moment the course goes online. This is a matter of personal preference.

Some courses will prompt you for a password when you try to join them. You will be told the password

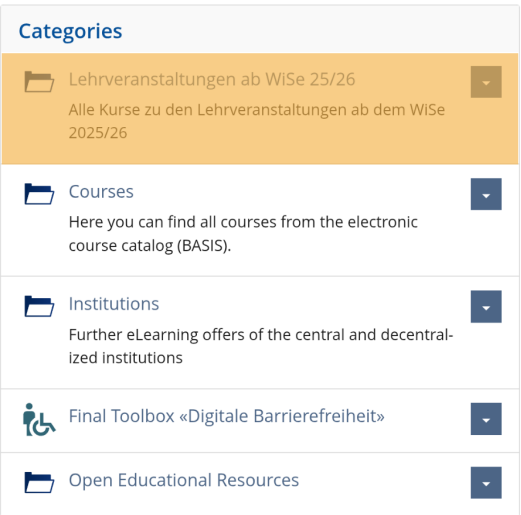


Figure 9: The section “Courses”.

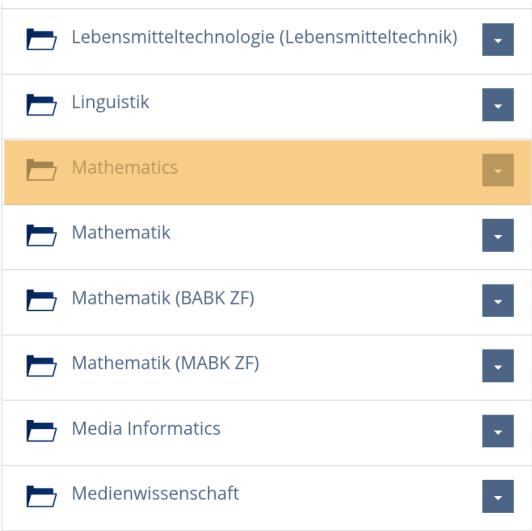


Figure 10: Searching for “Mathematik”.

(or where to find it) mostly during the first lecture. Some courses are open for enrolment only for a certain period.

Tutorial Sessions

Foundation lecture courses and Graduate lecture courses require you to do weekly exercise sheets. The handed-in solutions will then be corrected and discussed in tutorial sessions. For this, you will need to sign up for one of the provided exercise groups.

How this works for every particular course is usually explained in the first lecture of the semester. Afterwards you need to join the exercise groups on eCampus:

For each exercise group, there is a corresponding virtual group through which this exercise group is organised. Some lecturers will make it possible to join one of these virtual groups through eCampus at the beginning of the lecture course, while some other lecturers will instead require you to write an email with your preferred exercise groups. In this second scenario, you will then be assigned to one of the exercise groups and also added to the virtual group by the lecturer.

There is only a restricted number of free places available for each of these virtual groups. So if you want to participate in a specific exercise group, then you should try to join said group while there are still spots left.

virtual exercise group

first come, first served

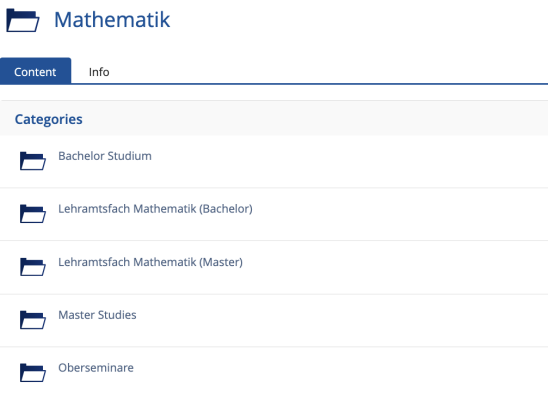


Figure 11: “Master Studies” on eCampus.

Exams

As there is no final examination in our study programme, every exam you take could potentially count towards your degree. **Before you can register for any exam, you have to register once for the so-called master’s examination.**¹ You have to do this **within the first month after starting your studies in Bonn.**

After having done so, you will be able to sign up for exams, in winter starting in December and in summer starting in June. The registration deadline depends on

¹This is a formal registration; you can find the respective form and more information about the master’s examination at mathematics.uni-bonn.de/studium/en/study-organization/calendar/registration-for-the-master-examination.

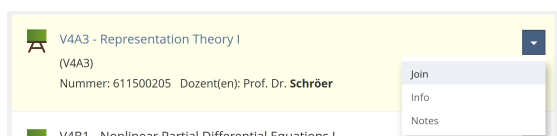


Figure 12: Joining a lecture course on eCampus.

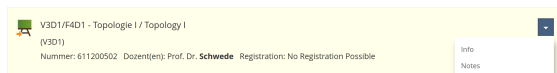


Figure 13: A course not open for enrollment. (This is an old screenshot.)

the course and if it is a written or oral exam. You will be informed about the **registration period** through emails of the **Bachelor–Master Office (BaMa)**.

There have been great changes to the registration system during the summer semester 2025. As of August 2026 there are still a few bugs in the system, so do not hesitate to ask the Fachschaft or the BaMa if you have any trouble registering. Most notably you have to register for the exam of a given module but also for the corresponding exercise sessions (if there are any). Registration for both is done via BASIS. After logging in you might be tempted to click on “My Studies” and then “Register for examinations” and indeed you are supposed to be able to register this way in the future. However one of the many bugs in the new system is that you will not find a button to register for the exercises here. Because of this you should use the second route. After logging in, click on “Course catalogue”. In the following menu select “Mathematik” and then “Master of Science Mathematics 2020” (the year depends on your version of the examination regulation, this might be a different one in future years). Now select the kind of module you want to sign up for (for example “Elective Modules/Electives - Lecture Courses”) and the respective area. Here you can see your module and during exams registration period a button to sign up for it (a little door symbol with a green arrow). Note that for lecture courses you will see the courses and an exercise for the course in the list. **You have to register for both the course and the exercise sessions.**

Second Exams

For every lecture course there are two exams: a first exam at the beginning of the **lecture-free period** and a second exam at its end. From this semester on, new

two tries per semester

Figure 14: A course not yet available on eCampus.

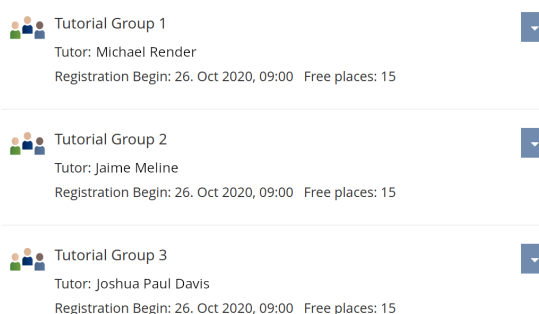


Figure 15: Virtual exercise groups on eCampus.

rules apply and you can register for the first and the second exam independently. This means if you want to have more time for exam preparation, you can decide to only register for the second exam. But note that if you cannot attend the second exam for some reason or fail it, you will not get a third chance in the same semester. You will have to wait until the module is offered again in one of the future semesters to get your next try at the exam.

This independency of registration also implies that if you didn't pass the first exam and want to write the second exam, you have to register for it yourself. On the other hand, it gives you the freedom to not spend a try on the second exam, but instead hear the lecture a second time when it is offered again. If the lecture course comes with mandatory exercise sheets, then you will not have to do these again—BASIS will remember that you have already completed this part of the course before.

You have a total of three tries for each module: once you have failed three exams of the same module, you will not be able to take another exam for this module.

Graduate Seminars

To take part in a Graduate Seminar, you will have to attend its preliminary meeting, which often takes place



Figure 16: A desperate student summoning help for an upcoming exam.

Quicklinks	
Study Service	Course catalog
Reregistration, certifications, personal data, payments, online requests	from winter semester 2025/26
Planner of studies with Module plan	Course achievements
	Overview of completed achievements (subject to change)
Enrollments	Register for exams
Overview of registered examinations and courses	Overview of the examinations you can register for in your degree programs

Figure 17: The starting page of the “Studienservice”.

at the end of the previous semester. There, you will be assigned to one of the talks.

At the beginning of the semester, you will then have to register for the seminar on BASIS: otherwise, you will not be able to get credit points for your talk. The deadline for the registration of Graduate Seminars is October 30th in winter and April 30th in summer.² Do not wait until the registration period for the exams to sign up for a Graduate Seminar—this is too late! The registration of Graduate Seminars works in the same way as for exams. Under “Elective Modules” go to “Electives - Graduate Seminars”.

Practical Training Courses

If you plan to do a Practical Training Course (e.g. a Practical Teaching Course or a programming course in discrete mathematics or numerical mathematics), then you will have to sign up for it at the beginning of the semester. The deadline is the same as for Graduate Seminars, 30th October (or April). Let us repeat our

²This date can be found at mathematics.uni-bonn.de/studium/en/study-organization/calendar/master-mathematics.

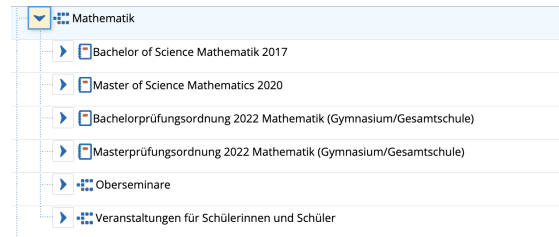


Figure 18: Finding “Mathematik” in the “Course catalog”.

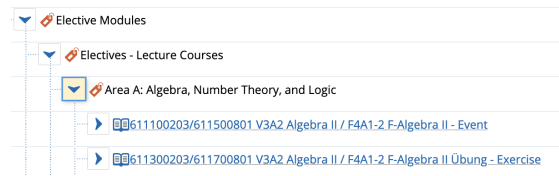


Figure 19: Navigating to your desired module.

previous warning: Do not wait until the registration period for the exams to sign up for a Practical Training Course—this is too late!

This registration is done on BASIS, in the same way as for exams and Graduate Seminars. Under “Elective Modules” go to “Electives - Practical Training Courses”.

Additional Modules

There will probably come a point in time at which you want to use one of your additional modules³. This only happens if you want to take the exam for a current course but have already completed a course with the same module code in an earlier semester, or if you have already signed up for an exam with the same code in the current semester. You can then apply for one of these courses to be counted as one of your additional modules.

For this, you will have to demonstrate to the university that both courses are sufficiently distinct in content because the university does not want to give you **credit points** for relearning something that you have already learned once before. To this end, you will have to fill out an “Application for an Additional Module”.⁴ The lecturer of the current course will have to sign this

³Additional Advanced/Selected Topics or Graduate Seminar, for Additional Foundation see below

⁴The application form for additional modules: mathematics.uni-bonn.de/studium/medienordner-studium-1/dateien/formulare/antrag_additional.pdf.

document: with this, they confirm that their current course is sufficiently distinct from the previous course. (You will probably have to explain to the lecturer what the previous course was about.) This document will then have to be handed in to the BaMa. If this Application for an Additional Module is successful (which it usually is) then the BaMa will add your registration on BASIS.

You have to hand in this application for an Addition Module during the same time as the registration for this module would have usually taken place.

For an Additional Foundation (which becomes a new module from this semester on), it all works a bit different. Since the BaMa knows that they have different contents and they are also different modules on basis, you don't have to prove this and can immediately register for as many exams of Foundations during your studies as you want. At the end of your studies when you decide which modules you want to count into your degree, you can apply for an Additional Foundation for being included in the free electives. Attention: If using a foundation as an Additional Foundation would lead to your master's degree, but you don't apply for it and instead continue your studies in the following semester, you will not be able to make use of this option later on!

German Language Courses

As mentioned above, for other courses outside mathematics, registration usually works differently, for example if you want to do a German language course. Even though it is not necessary to know any German for living here, you might be interested in learning some now that you do live here or you may want to refresh your knowledge from school. For this, the university offers German language courses on different levels (A1 to C1) and also special topic courses. For both you have to register before the courses start. You can find all the relevant information here: uni-bonn.de/en/studying/international-students/learning-german/in-semester-german-language-courses/

For the courses on level A1 to B2.1 and the special topic courses, it is not possible to earn credits (unless you are an Erasmus student), but from B2.2 on, you can get 6 ECTS per course. Since the courses are not regarded as master level courses, it is not possible to make them count towards your final degree, but you can make them appear on your final certificate.

Rheinische Friedrich-Wilhelms-Universität Bonn
Bachelor-Master-Büro Mathematik
Endenicher Allee 60, 53115 Bonn



Antrag auf ein Additional-Modul Application for an Additional Module

Studiengang: Master Mathematics Matrikelnummer: 12345678
Study program: Matriculation no.:
Name, Vorname: Smith, Eric
Surname, first name:

Hiermit beantrage ich die Anmeldung zur folgenden Additional-Modulprüfung:
I herewith apply for registration for the exam of the following additional module examination:

Semester: Winter / winter 2025 X-Modul: FSX2 Additional Advanced Topics
Kurs: VSA1 Adv. Top. in Algebra PrüferIn: Anna Baker
Course: Examiner:

Bei erfolgreichem Antrag wird die Anmeldung in BASIS eingetragen. Diese Anmeldung steht unter dem Vorbehalt, dass alle Anforderungen, die im Modulhandbuch angegeben sind, erfüllt werden, gemäß der Prüfungsordnung für den Masterstudiengang Mathematics der Mathematisch-Naturwissenschaftlichen Fakultät der Rheinischen Friedrich-Wilhelms-Universität Bonn.

Successful applications are automatically turned into registrations in BASIS. This registration will be conditional that all requirements specified in the module handbook are met, according to the examination regulations for the Master's program in Mathematics of the Mathematisch-Naturwissenschaftliche Fakultät at the Rheinische Friedrich-Wilhelms-Universität Bonn.

Eine Abmeldung muss separat auf dem Abmeldeformular erfolgen. /
Deregistration needs to be declared separately using the deregistration form.

Datum: 5.11.2025 Unterschrift AntragstellerIn:
Date: Signature applicant:

Bestätigung der PrüferIn / Confirmation of the examiner

Bereits bestandenes oder angemeldetes Modul: / Module already passed or registered:

Semester: Sommer / summer 2025 DozentIn: Fred Johnson
Teacher:

Hiermit bestätige ich, dass meine Lehrveranstaltung inhaltsverschieden ist von der unter demselben Modulcode im o.g. Semester von der o.g. PrüferIn gehaltenen.

I hereby confirm that the contents of my course and the one held under the same module code in the semester by the lecturer as mentioned above do not overlap.

Datum: 5.11.2025 Unterschrift PrüferIn:
Date: Signature examiner:

Figure 20: A filled-out application for an “Additional Advanced Topics”, without signatures.

Besides German, you can also learn other languages at the university. The current courses are available on basis ⁵ and the registration period is usually weeks before the lecture period starts. But note that at least for the beginners' courses, the language in which everything is explained is usually German.

Foreign
Language
Courses

⁵In the course catalogue scroll down to “Zentrale Angebote – Fremdsprachen & Interkulturelle Kompetenz – Fremdsprachenmodule am Sprachlernzentrum”

Equality, Health & Help

This page is supposed to give you an overview of different offers and contacts that you can turn to if you are experiencing discrimination, have exam anxiety or simply have questions about your studies. If you ever find yourself not feeling well during your studies, do not hesitate to seek help!

Emergencies on Campus

- » If you or someone else is in an emergency situation on campus or you need help, you can contact the Campus Security at any time under [+49 228 73 7444](tel:+49228737444). Each call will be handled confidentially.
- » During events from the **Fachschaft** there is always an awareness team whom you can talk to when you feel uncomfortable. You can recognize them by the fairy lights they are wearing.

Student Counselling

- » For any question concerning your studies or the start in Bonn, you can participate in the mentoring program for Master's students. You will be paired with a student who is already further along in their studies and who will help you with general questions. More details will be communicated to you in the first week of the semester.

Gender Equality

- » The math department has a Gender Equality Committee consisting of students, PhD students, post docs and professors. They coordinate any gender equality and diversity measures of the department.
- » The committee has a website and a mailing list where you can get informed about offers and events. Feedback and participation is always welcome! More information can be found here www.mathematics.uni-bonn.de/de/fachgruppe-mathematik/gleichstellungsgag.
- » A group of students organizes the Tea Time with Women in Mathematics, a networking

event where you can meet other female or gender diverse mathematicians over a cup of tea, listen to interesting speakers and participate in discussions. More information can be found here: www.mathematics.uni-bonn.de/hcm/diversity-equity/tea-time-with-women-in-mathematics.

- » Additionally, there are irregular events about gender equality, organized by the Fachschaft, the HCM or others. They'll usually be promoted via the equality mailing list mentioned above.
- » In the annex of the math building there is a study room for female and gender diverse students. The room number is N1.002. This room is also being used for helpdesks, so you can only study there outside of the helpdesk hours.
- » In the **Library of Mathematics** and on the ground floor of the **annex** there are gender neutral toilets for all students.
- » On the side of the university, there is the central Gender Equality Commissioner, Gabriele Alonso Rodriguez, who supports all employees and students at our university in topics concerning gender equality. Her email address is gleichstellungsbeauftragte@zgb.uni-bonn.de. On the website of the central Gender Equality Committee gleichstellung.uni-bonn.de/en you can find information about their offers and contacts.
- » If you have any issues or general questions in the context of gender equality in your maths studies that you first want to discuss with fellow students, there are Sophia Piacenza and Hannah Scholz from the Fachschaft standing by your side. Their email address is gleichstellung@fsmath-bonn.de.

Discrimination

- » The mathematics department has appointed ombudspersons that can be contacted at any time in case of inappropriate behavior or suspected sexual or other harassment. The ombudspersons are professors and scientific staff of mathematics with an open ear for the problems of students

Campus Security

Awareness Team

Mentoring program

Gender Equality Committee

Tea Time with Women in Math

Study Room

Gender neutral toilets

Gender Equality Commissioner

Ombudspersons

and employees in questions concerning equality. They are bound by secrecy. More information can be found here: www.mathematics.uni-bonn.de/en/departments/fachgruppe-mathematik.

- » If you feel discriminated on the basis of your ethnicity, sexual orientation, religion or belief, disability or age, you can report that to the Administrative Office for Protection against Discrimination (Verwaltungsstelle Diskriminierungsschutz, website only available in German) or to the Anonymous Discrimination Reporter by the central gender equality committee gleichstellung.hinweis-uni-bonn.de. They will support you in planning the next steps.
- » If you encounter any problems with accessibility, you can report them here www.mnf.uni-bonn.de/de/fakultaet/feedback-box-zur-barrierefreiheit-an-der-mathematisch-naturwissenschaftlichen-fakultaet. At the math department you can contact Dr. Thoralf Räscher or the BaMa office for support concerning disabilities and chronic illnesses.

Mental Health

Your mental health is relevant during your math studies, because it affects your studies and your studies affect your mental health. Studying math can be very stressful and you may feel isolated sometimes, but there are several offers at the university that might help you. Taking care of your emotional well-being and mental health is always worth it!

The Fachschaft organizes so called "Mental Health Group Talks" to lower the stigma around the topic and to give you a space to talk about it with your peers. Usually you are not alone in your struggles and talking to others might already help you to navigate some of the stress of your studies. If you participate in the mentoring program you might reach out to your mentor. On our Website we have collected a list of various resources, contact persons and offers. In particular, you can find all relevant website links and email addresses there. Remember that it is always okay to ask for help and seek support.

The university offers psychological consultation to students, and both the AStA and the Studierendenwerk offer a psychological counselling as well. These are first contact points that are confidential and free of charge. In particular, your relatives, the university or your insurance company will not be informed that you are

seeking counselling or why. After the counselling, you may be supported in finding a therapist or referred to other adequate contact persons. Furthermore, the Zentrale Studienberatung offers workshops and coachings on many different topics, like exam anxiety or self-confidence. Some of these are only offered irregularly or in German, but it can be worth checking out.

General health

There is a number of things that you can call in sick for, both for physical or mental health reasons during your studies.

- » If you are employed you can usually call in sick for a few days by telling your supervisor. As a tutor, it might be expected of you to find a replacement tutor or time slot. Starting with the third day of sickness, you need a medical certificate from your GP, called "Arbeitsunfähigkeitsbescheinigung".
- » The medical certificate can also be used to call in sick for exercise sheets. This is applicable if you are sick for at least a week, and you are struggling to get admitted to the exam. Note that you will still need to catch up on the contents that you missed.
- » If you are too sick to take an exam, you can call in sick from that too, as described on the website of the [Bachelor–Master Office \(BaMa\)](#). For that you need a different medical certificate from your GP, called "Prüfungsunfähigkeitsbescheinigung". The perk in calling in sick versus not attending the exam, is that you don't lose your tries, and can even get a chance at a third (usually oral) exam, if you would otherwise be unable to finish your studies in time.
- » If you have acute or chronic disadvantages for exams, i.e. a broken arm or some form of disability, it is possible to apply for compensation. You can for example get more time on written exams if you struggle with writing by hand. You will again need a certificate from a doctor to do so. You should take care of it as early as possible by contacting the BaMa so that a suitable solution can be found.

Reporting
Discrimination

Workshops

Calling in
sick

Group Talks

Resources

Psychological
counselling

What the Fachschaft?

Who We Are

The term **Fachschaft Mathematik** technically refers to all students enrolled in mathematics, i.e. it is the union of all matriculated students in the bachelor's, master's and doctoral programmes of mathematics and teaching, including *you* in particular. The German word "Fachschaft" etymologically means something like "body of students studying one subject". However, if someone refers to "the Fachschaft", like in "the Fachschaft writes the Freshmen Information" or "you can get minutes of exams from the Fachschaft", they mean a group of fellow students committed to helping others. In everyday usage, only a student involved in organising or executing Fachschaft-related tasks is called a "member of the Fachschaft". Some of them are elected members of the **Fachschaftsrat (FSR)** or the **Fachschaftsvertretung (FSV)**. Others, however, get involved without being elected.

The word "Fachschaftsrat" roughly translates to "student council". The FSR is responsible for almost all actions that take place on behalf of the Fachschaft. That is the reason why in the following we always say: "The FSR does x ". Please do not think, however, "the FSR" is some strange unreachable entity that operates high in the clouds. Your help is welcome and needed from day one—"the FSR", that can also be you! The FSR-meetings are weekly and public (and sometimes in English), attending and participating is simply a matter of showing up (more on that on the next page). You can read news from the FSR on the "loo paper", on Instagram, on the website www.fsmath.uni-bonn.de or on the notice board in the **annex** on the walls facing the Fachschaft rooms (office of the Fachschaft and **recreation room**) on the ground floor of the annex.

Since we live in a bureaucratic state, the "student self-government" is regulated by law. There is a "parliament" elected by all mathematics students, called **Fachschaftsvertretung**, which is supposed to represent the interests of all math students, and a "government" (the said FSR) elected by this parliament for doing the daily work. The word "Fachschaftsvertretung" roughly translates to "student representation". The FSV is the highest decision-making body of the Fachschaft.¹ It is elected

every year—usually in December. Every enrolled math student can stand for election and we are very happy to see new faces among the candidates! The FSV not only elects the FSR, but also oversees its activities. For example, the FSV passes the budget plan of the FSR, deciding what money should be spent on and how much. Besides, the FSV takes all decisions for the Fachschaft that are more fundamental or of higher importance than the usual day-to-day work of the FSR. The FSV meets far less frequently than the FSR, but its meetings are also generally open to the public, announced in advance², and new faces are always welcome.

One of the most important tasks for the FSV and the FSR is to represent the interests of the students vis-à-vis the administration and the professors of the university. This is done through various committees of the university. We represent you in these committees, such as selection committees for new professors, in financial planning or in the discussion of examination regulations. If you want to know more about the committees, what they are about and what we do there, you can come by or read about it on our website.³

Events

In addition to the **Bachelor–Master Office (BaMa)** and the **Bonn International Graduate School of Mathematics (BIGS)**, the FSR and its Master Department organise several events to welcome the new Master students. In the winter semester, the FSR and its Bachelor first-year's Department organise an extensive welcome programme for the new Bachelor students. If you speak German and are interested in getting to know the bachelor's first-years you are welcome to join their welcome, too.

The FSR together with the Master Department also organises a master's first-year's time, including a Welcome evening and a Wine and Cheese Evening (WaCE).

(general assembly). Explaining the duties of the FSVV would go beyond the scope of this article.

²on our website, the notice boards in the annex and at the FSR meetings

³Committees overview: www.fsmath.uni-bonn.de/en/about/boards-and-committees.

¹It is really only the highest *elected* decision-making body; there is one body of the Fachschaft even higher, which is the FSVV

It's a lot of fun, so make sure that you come along, dates and details can be found in the introduction of this booklet.

Almost all the collective mathematics activities are also organised by the FSR: Something that hardly any other Fachschaft organises: our own ball (or formal dance, as our American friends say). The Maths Ball is—as the name promises—an opportunity to enjoy a really nice evening of ballroom dancing in a suit and evening gown. There is also a short introductory dancing class before the event.



Figure 21: The summer dance ball.

Furthermore, every year there are several game nights with various special features on the programme, such as karaoke. Our ever-popular long-running favourite events also include the **Wine and Cheese Evenings (WaCE, in German WuKA for “Wein- und Käseabend”)**. These events are well suited for chatting and getting in touch with other maths students.

Also, usually in the annual programme: a Mulled Wine and Cookie Evening (MulledWaCE), a Christmas party in winter, and a big end-of-semester barbecue and summer party at the end of the summer semester with all the mathematical institutes. At all events, drinks are always available at cost price, and we provide snacks, biscuits and other small items for free.

Of course, you are always welcome to all of these events—they are organised for you!

Other Tasks

We have office hours (**AWD** ⁴): During the **lecture period**, there is always someone in the office of the Fachschaft from Monday to Friday at 12:15 PM–1:45 PM. In the lecture-free period the office hours usually take place every Tuesday and Thursday at 12:15 PM–1:45 PM. To find out about changes, please check out our website (fsmath.uni-bonn.de). You can flood the AWD with questions or find advice from students about anything related to your studies.

office hours

But even if you have questions outside of office hours, the office is normally opened most of the day and you can still reach us by email. An email to info@fsmath-bonn.de can help to solve a problem very easily. Especially important to you might be the email of the master department, master@fsmath-bonn.de, for questions related to your master studies.

Meetings of the Fachschaft

To keep track of this pile of activity, we usually meet every Wednesday at 6 PM (**cum tempore**) in the seminar room 0.011 in the Math Center—sometimes with biscuits and always with a good mood. It is possible that they will be moved to the annex of the Math centre (or somewhere else entirely) in the middle of the semester, so make sure that you check our website before coming to a meeting.

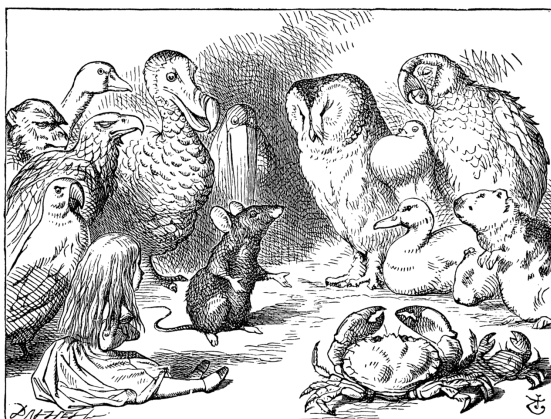
You are always welcome to drop by and listen to one of our FSR meetings or to contribute something. Every now and then, one of our meetings is by default in English, you can check out our website ⁵ to find out when the next one is. All other meetings are held in a language that everyone attending understands (usually English or German).

Participate!

Nobody has to be elected to get involved. As soon as you think this or that should be improved or you do not think your interests are well represented, you can help to make it better! Besides that, any help with our events (during the event or organising it) is always very welcome. There are many good reasons to get involved in the Fachschaft:

⁴“Anwesenheitsdienst”, German for attendance service

⁵fsmath.uni-bonn.de/en/about/fsr-and-fsv



You can find an overview on our website ⁶.

Figure 22: One of the weekly meetings of the FSR.

- » It is fun to champion the interests of your fellow students. You will see how you make a difference through your own work and help others.
- » This is your chance to actively participate in shaping Bonn's mathematics and to put your ideas and visions into practice. You will get practice solving non-mathematical problems beyond your curriculum.
- » The Fachschaft is a colourful bunch of great people from different semesters who are committed to helping others and always have an open ear for you and are happy to advise you in any life situation.
- » The work simply needs to be done. Without organisers there will be no parties and no other events. You will gain valuable experiences learning how to organise events, plan a budget etc.
- » This is the opportunity to learn how to convince others of one's ideas. At no point in your life can you gain these skills as safely as in student self-administration.

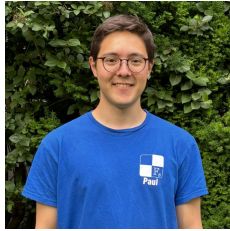
The Master Department

The so-called "Master Department" represents master's students and organises some events for them, in particular at the start of the semester. But also during the semester, we organise events like a How To Master's thesis, where other Master students share their experiences with writing a Master's thesis. The Master Department is also responsible for updating this booklet. If you want to participate in the Master Department, you are always very welcome! You can either get in contact with us in person or write an email to master@fsmath-bonn.de.

Besides the Master Department, there are many others.

⁶www.fsmath.uni-bonn.de/en/about/departments.

Chairperson
Paul Robaschik
He/Him



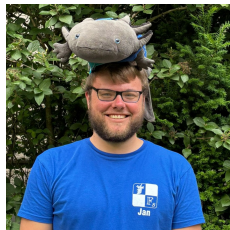
Presidency of the FSV
(The parliament)

Deputy
Lou Herrmann
They/Them



Board of the FSR
(The government)

Treasurer
Jan Malmström
He/Him



Chairperson
Roxana Mittelberg
She/Her



Deputy
Nik Scheer
He/Him



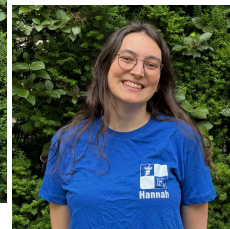
Departments of the Fachschaft



Public Relations
Felina Barth
She/Her



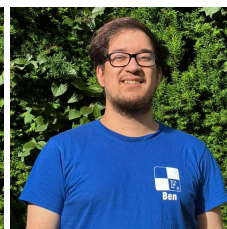
Events
Julian Henseler Garcia
He/Him
(on the right)



Equal Opportunities
Hannah Scholz
She/Her



Bachelor first-years
Claudia Plaza Morales
She/Her



Master
Ben Huber
He/Him

Structure of the University

Welcome to the jungle! Universities are structures that have grown over the past 1000 years. The one in Bonn was founded over 200 years ago and consists of more than 700 professors, 5,500 research assistants, 1,900 technical and administrative staff and 38,000 students. No wonder the organisational structure is not always immediately understandable.

Organisational Structure

First of all, the university of Bonn consists of seven faculties. You can think of faculties as areas of subjects, institutes and programs. There are also a few institutes that do not belong to any faculty: for example the Bonn-Aachen International Center for Information Technology, but also the **Research Institute for Discrete Mathematics (DM)**.

A faculty, in turn, consists of institutes. Often several institutes are involved in a single degree program, which is why they are combined into teaching units. How can you tell that there are several institutes in mathematics? In almost every aspect of administration! For example, each institute has its own homepage—this does not make it any easier for you.

Bodies of Administration

On every organisational level, there is administration. And where there is administration, there is also a boss:

The university is headed by

Rectorate (one rector, one provost [a.k.a. chancellor], five vice rectors): takes all decisions not otherwise specified in the **HG**, e.g. the draft of the university development plan. This includes study programmes, research priorities and university organisation.

Senate (representatives of university teachers, students, academic staff): responsible for the constitution of the university and other decrees

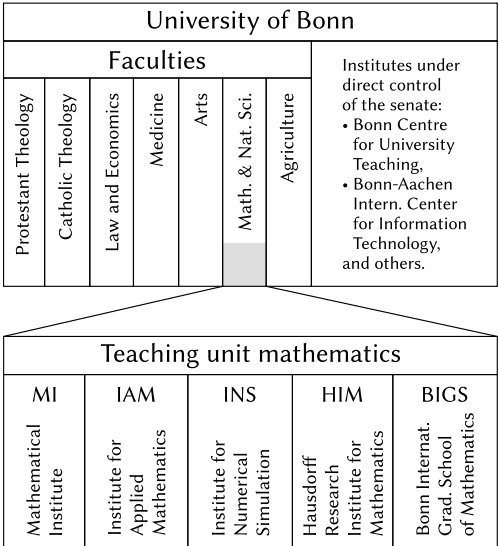


Figure 23: Faculties of the university and the teaching unit of mathematics (excluding the DM).

and regulations, it approves the university development plan and influences the election of the members of the rectorate.

University Council (persons from important societal positions): advises and supervises the rectorate.

Faculties are administered by

Dean's Office (one dean and two or three vice deans): among other things, ensures that the academic courses offered are complete, and is responsible for study and examination regulations.

Faculty Council: besides the dean and vice deans, professors as well as representatives of academic staff and students are part of this committee. It decrees the regulations of the faculty.

Institutes are managed by

quite a number of directors, including one “managing director”.

During reforms in the seventies, we students gained a certain amount of power in many decisions. The **AStA**

student committees

(“general students’ committee”, “Allgemeiner Studierendenausschuss”) and the student parliament are responsible for the entire university, while the student councils (**Fachschaften**) are responsible for the individual subjects (teaching units).

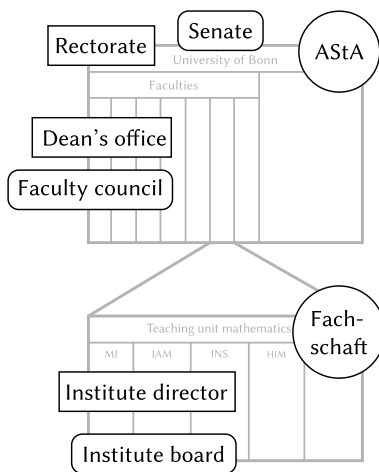


Figure 24: Administration.

Mathematics in Bonn: Partitioned into many Institutes

If you go a little deeper and ask not only about teaching but also about mathematical research in Bonn, the organization gets even more confusing. Today’s structure is best explained by its history.

The **Mathematical Institute (MI)** and the **Institute for Applied Mathematics (IAM)** have existed for more than fifty years. In the Faculty of Law and Economics, Professor Bernhard Korte ran a department called “Operational Research”, which was outsourced in 1988 to form its own institute, the “Research Institute for Discrete Mathematics”. Then, it was largely separated from the Faculty of Law and Economics and now reports directly to the university senate. Professor Korte has donated his private collection of art and calculating machines to the “Arithmeum”, a museum attached to the Research Institute for Discrete Mathematics.

The **Max Planck Institute for Mathematics (MPI)** was established around Professor Friedrich Hirzebruch in 1980, then a professor at the MI. It was first located in Beuel, but is now located in the city centre.

The **Fraunhofer Institute for Algorithms and Scientific Computing (SCAI)** emerged in 1992 from the Institute

for Basic Methodologies in Information Technology of the former Society for Mathematics and Data Processing (GMD). In 2001, the GMD was merged with the **Fraunhofer Society for Applied Research** and the SCAI became an institute of the Fraunhofer Society.

Around the year 2003, the former IAM was divided into the present IAM and the **Institute for Numerical Simulation (INS)**, so that numerical simulation did not dominate all other departments in the IAM. Since 2010, Professor Michael Griebel from the INS is also managing director of the SCAI, and the SCAI operates a branch lab at the INS.

This was the situation before establishing the **Cluster of Excellence**: Three institutes within the Faculty of Mathematics and Natural Sciences (MI, IAM, INS), another one outside the faculty (DM) and yet another two completely independent of the university (MPI, SCAI).

Then in 2006 the Excellence Initiative was founded,¹ and the institutes mentioned above (except the SCAI) brought in the Department of Economics (and thus the Nobel Memorial Prize winner Professor Reinhard Selten). Together they received around 35 million euros in federal funding. In January 2026, the university received the Cluster of Excellence for the fourth time and the University of Bonn continues to be a “University of Excellence”. The **Hausdorff Center for Mathematics (HCM)** was founded to coordinate the cluster. It is responsible for the administration of additional funds, public relations work, etc. Additional research is carried out by additional professors (Bonn Junior Fellows and Hausdorff Chairs) and by the **Hausdorff Research Institute for Mathematics (HIM)**. It is structured similarly to the MPI: There are very few permanent staff members, and most researchers come for a guest stay (three weeks to six months) to be able to research and discuss with other mathematicians far away from the hustle and bustle of their home university.

Bonn is home to the only German winners of the Fields Medal: Professor Gerd Faltings and Professor Peter Scholze. Both are directors of the MPI.

All of this has resulted in a multitude of overlapping structures to this day: Some mathematics institutes belong to the faculty, others do not. The HCM is above all institutes in the teaching unit and also above the MPI, which is not part of the university. We hope you enjoy the cheerful confusion!

¹In 2017, the Excellence Initiative has been reissued under the innovative new name *Excellence Strategy*.

Libraries

There are mainly two libraries of the university relevant to you: The **Library of Mathematics** and the **MNL Branch Library**.

The Library of Mathematics contains all the important books and journals that you need for your mathematical studies.¹ This library is a combination of the libraries of the mathematical institutes and the textbook collection formerly stored in the MNL Branch Library. German students usually refer to it as the “Mathe-Bib” which is short for “Mathematik-Bibliothek”.



Figure 25: Workplaces in the Library of Mathematics.

The textbook collection is mostly relevant for the first few semesters. Here you can find many copies of standard books for the most common lecture courses.

For your master’s studies, the part that originated from the former institute libraries will be more important. There is the borrowing section on the ground floor and the reference section on the first floor. Here you will find virtually all the books you might need throughout your studies. As the name suggests, you can borrow books from the borrowing section and take them home for four weeks (see below for more details). In contrast, the books from the reference section can only be borrowed for at most one day.

For Graduate Seminars and especially for your master’s thesis, the third part of the library will be of use to you as well: In the rear part of the ground floor, you can find the journal archive with more than 300 mathematical journals. Most of these are in English, but there are also

¹Website of the Library of Mathematics: bib.math.uni-bonn.de.

a few in German, Russian or French. This is the place to go to if you want to immerse yourself in cutting-edge mathematical research.



Figure 26: The MNL Branch Library (“Bauernbib”) at the Campus Poppelsdorf.

Once you have found a book you will probably look for a place to read it. One option is to read it at home: in order to borrow a book, you need a library card for the **ULB Bonn**. You can obtain it at the MNL Branch Library at Friedrich-Hirzebruch-Allee 4. Apart from your student ID, you will need your identity card or your passport and a registration certificate.² From then on you can borrow all books with a yellow label (those are located on the ground floor) for four weeks. This period can be renewed on the website of the ULB Bonn.³ The books with white labels and the anthologies with red labels are part of the reference section and can only be borrowed for one day at most. In this case it is best to ask the library supervisor at the front desk. Journals usually cannot be borrowed at all, but you can copy them. You can find out about the current regulations on the website of both the Library of Mathematics and the ULB Bonn.

In the next sections, we will explain the daily life in the library. All over the library, there are quiet workspaces where you can go to research your master’s thesis, work on exercises on your own or to study for exams. Keep in mind that you are supposed to stay quiet in the entire library. If you want to collaborate on an exercise sheet or discuss your lectures together (which is really

²Details on getting a library card are available at www.ulb.uni-bonn.de/en/using-the-library/library-card-and-user-account.

³Website of the ULB Bonn: ulb.uni-bonn.de/en. Details on borrowing conditions can be found at ulb.uni-bonn.de/en/using-the-library/borrowing-and-ordering.

borrowing

quiet workspaces

advisable) you can use the group working space in the foyer of the Library of Mathematics or in the MNL Branch Library. Here you will usually find a couple of free seats and often also fellow students that you can approach if you are completely stuck on a particular exercise. Alternatively, you can meet in the backyard behind the MZ. There are many tables and blackboards that you can use to work together and if the weather is good you will find many other Math students that also try to solve their exercise sheets there. Sidenote: the toilets in the Library of Mathematics are gender-neutral.

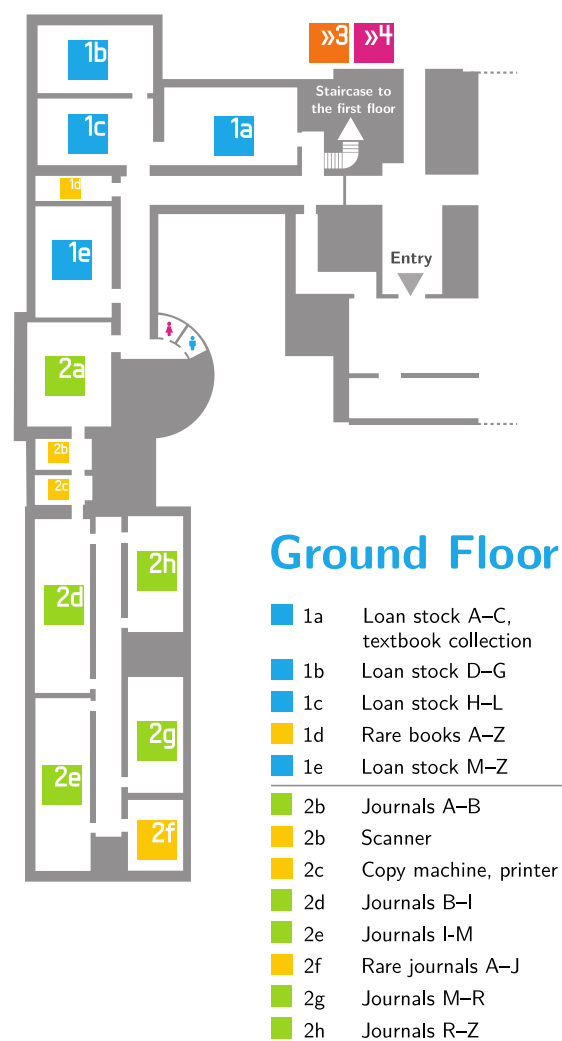


Figure 27: The ground floor of the Library of Mathematics.

The opening hours of the Library of Mathematics are 8:30 AM to 10 PM on weekdays and 10 AM to 7 PM on Saturdays. On Sundays it is closed, but you can go to other libraries like the MNL Branch Library, which is

open every day from 8:00 AM to midnight. If you are just looking for a place to study, or need a change of scenery, you can also go to one of the other many university libraries in Bonn.

Maths students can print, copy and bind lecture scripts here for free (apparently copying is not free, but you should always check the current situation from time to time). Right now, only the copying and binding is in the library, the printing moved to the locker room. Free printing is also possible in the CIP-Pool in the annex at the moment. Make sure to check their opening hours if you want to print something there.

print, copy, bind

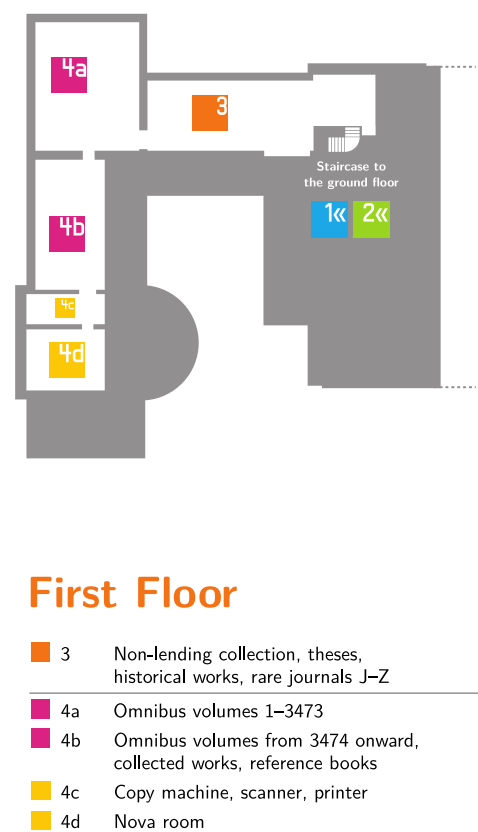


Figure 28: The first floor of the Library of Mathematics.

Mathematical Buildings in Bonn

This chapter aims to inform you about important buildings that are used by mathematical institutions.

History

The **Mathematical Institute (MI)** and the **Institute for Applied Mathematics (IAM)** used to be on Wegelerstraße for more than 50 years. In 2003, the **Institute for Numerical Simulation (INS)** was separated from the IAM; both stayed in the building at Wegelerstraße 6.

The **Max Planck Institute for Mathematics (MPI)** was founded in 1980 by Friedrich Hirzebruch, and it was first located in Beuel. It moved to Münsterplatz in the city centre of Bonn in 1999, into the upper floors of the building complex that was previously used by the post office (“Postamt”). The entrance to the institute is in a side street (Vivatsgasse).

The **Research Institute for Discrete Mathematics (DM)** was founded by Professor Korte in 1988. Its original location was on Nassestraße, around the corner from the present location. The new building was finished in 1997 on Lennéstraße. It includes a museum of historical calculating machines (“Arithmeum”); the construction of the building was financially supported by the Federal Government after Professor Korte’s private collection of calculating machines had been donated to the state.

The **Fraunhofer Institute for Algorithms and Scientific Computing (SCAI)** is located in Schloss Birlinghoven in Sankt Augustin, which is next to Bonn. This location is shared with other institutes of the **Fraunhofer Society**. The SCAI also started operating a branch lab at the INS in 2010.

In the year 2009, the MI and the IAM moved into their current home at Endenicher Allee 60, while the INS stayed on Wegelerstraße. This imposing baroque-style building was used by the **Landwirtschaftskammer Rheinland** until 2004. The building was completed in 1916, when it was one of the largest building complexes in the city of Bonn. There is also a smaller new building (**annex**) from the 1970s in the backyard; it is used by the mathematical institutes and also by the **Fachschaft**.

The new campus area in Poppelsdorf between the **MNL Branch Library** and the **Mensa** was largely completed in 2018, when the INS (as well as the Department of Computer Science) moved into its new home.

Current Situation

In the following, we will list all buildings you definitely have to know about, either because your modules will take place there, or because they are home to some institution. Occasionally some lectures—and often exams—take place in other buildings.

The short labels in brackets are the ones you will find on **BASIS**.

Mathematikzentrum (MZ) This is the largest and most important building for mathematics in Bonn; its address is Endenicher Allee 60 (EA60/MATH). The bus stop *Kaufmannstraße* is directly in front of it; but depending on when the bus is coming, walking from the central station may be faster (15 minutes). There are also bicycle racks on the backyard (accessible through the small gate to the left). Home to the **Bachelor–Master Office (BaMa)**, the MI, IAM and the **Library of Mathematics**. This is also where most seminar rooms are; their label is SR x where x is the room number. Finally, there is the *Lipschitzsaal* (named after the German mathematician Rudolf Lipschitz), which is occasionally used for special events.



Figure 29: The Mathematikzentrum (MZ).

Annex to the MZ Small building behind the MZ, accessible through the backyard. It is home to the Fachschaft and the recreation room. There are also a CIP-Pool and a few more seminar rooms with the label N y , where y is the room number.



Figure 30: The annex to the MZ.

Wegelerstraße 10 (We10) This building is a walk of six minutes away from the MZ. The closest bus stop is *Haydnstraße* (coming from the central station). There are also a few bicycle racks in front of the building. This is the building where most large lectures (like foundation modules) take place. There are three lecture halls in this building, listed in descending capacity:

- » *Großer Hörsaal* (Gr. HS): “large lecture hall”;
- » *Kleiner Hörsaal* (Kl. HS): “small lecture hall”;
- » *Zeichensaal* (ZS): “drafting room”.



Figure 31: Wegelerstraße 10 (We10).

Arithmeum This building is home to the Research Institute for Discrete Mathematics (DM). Its address is Lennéstraße 2 (Le2). This is where all modules (lectures

and seminars) of Area C (discrete mathematics) take place. This place is a bit annoying to commute to from the MZ because it lies on the other side of the railway. The quickest way would be to ride a bicycle, using the pedestrian subway at Poppelsdorfer Allee; alternatively, you can go by bus to Central Station and then continue walking for nine minutes. The rooms in this building are:

- » *Gerhard-Konow-Hörsaal* (G-K HS): “Gerhard Konow lecture hall” (named after a German politician who promoted research in discrete mathematics);
- » *Seminarraum* (SR DM): “seminar room”.

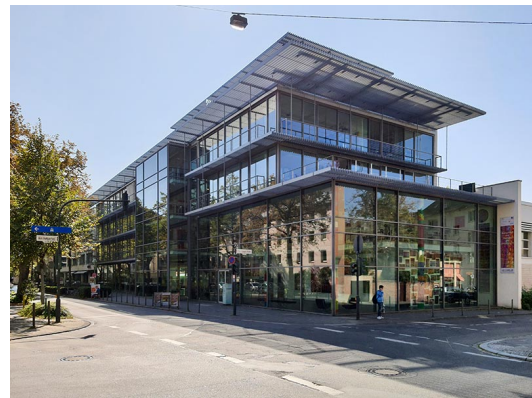


Figure 32: The Arithmeum.

Villa Maria This building is direct to the left of the MZ (Endenicher Allee 62). It is home to the Hausdorff Center for Mathematics (HCM) and the Bonn International Graduate School (BIGS).



Figure 33: The Villa Maria.

Friedrich-Hirzebruch-Allee 8 This building is on the newly named Friedrich-Hirzebruch-Allee, opposite of the building of Computer Science (*Informatikzentrum*). It is located on the newly built campus area south of the MZ. It is home to the Institute for Numerical Simulation (INS) and a branch lab of the SCAI.



Figure 34: Friedrich-Hirzebruch-Allee 8.

Nine circles of algebraic geometry This structure north of the MZ is where the algebraic geometers gather. During an otherwise quiet night, one can hear students' screams howling through the air.

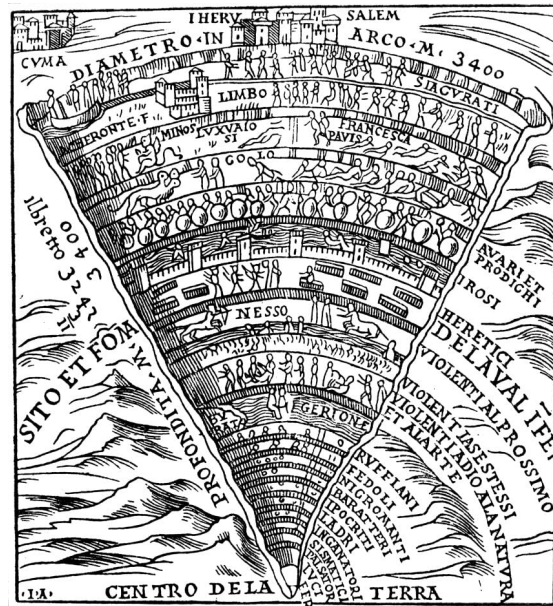


Figure 36: The nine circles of algebraic geometry.

Vivatsgasse 7 Hidden but large building complex in the city centre next to the Münsterplatz—you wouldn't notice it if you didn't know about it because only the entrance is at ground level. Home to the Max Planck Institute for Mathematics (MPI). This building is not open to the public, but it is very cool to visit if you have an appointment there.



Figure 35: Vivatsgasse 7.

All about Money

Financing your studies and the funding of the university, while not the most exciting topics, are nevertheless very important topics in the everyday life of students. At this point, we would like to give you some tips on financing your studies and on scholarships and then give a brief insight into the funding of the university and especially of Mathematics in Bonn.

Financing Your Studies

There are five major funding options for your studies: parents, financial aid, loans, scholarships and personal income. In this text, we want to give a brief introduction into each option and link to further resources.

Parents In Germany, parents are legally obligated to finance their (adult) children's education up to a first vocational qualification. As such, parents are generally obliged to pay maintenance until the end of their children's studies.

BAföG If your parents—as well as your spouses/partners—are unable to support you due to low income, the German state provides a need-based financial aid: **BAföG** (German abbreviation for Federal Training Assistance Act). Half of the BAföG financial support is usually a grant, the remaining half an interest-free loan.

As a rule, every student who

- » has
 - › German citizenship
 - › or prospects of remaining in Germany and is already integrated into society
 - › or a partner/parent that fulfils one of the said criteria
- » starts their studies before the age of 35
- » and can prove "suitability"

is entitled to BAföG. As the legal regulations are very complex, it is advisable to contact the BAföG office at an early stage to find out whether you are entitled. Visit studierendenwerk-bonn.de/en/financing for further information.



Figure 37: A student filling out their BAföG application.

Student Loans If you are not entitled to BAföG, student loans might be an option for you. These are loans with a zero or low interest rate directed at students. Be aware that loans are generally unsuitable as a long-term main source of funding due to the high danger of overborrowing. However, in individual cases with short-term financial needs (e.g. additional requirements during the examination period), a student loan can be useful, as opposed to extensive jobbing, as well as for top-up requirements to cover a comparatively small financing gap.

loans: only short-term funding

There are various student loans offered. Many are directed at a specific group, e.g. at students who need a loan to finish their degree. The non-profit organisation CHE offers a yearly report testing different student loans.¹

In case of a short-term financial emergency the **AStA** and the student assistance fund each offer an interest-free loan.²

emergency loans

Scholarships Besides BAföG and loans, you can also finance your studies with scholarships that you do not have to pay back at all. A common misconception is that only the best students have a chance to do so. But this has not been the case for a long time now.

¹CHE student loan test (in German): www.che-studienkredit-test.de.

²Student aid fund: asta-bonn.de/en/services/consultations-and-services/student-assistance-fund.

Who can claim BAföG?

The selection criteria are very diverse. For example, commitment to an honorary position can be the deciding factor. Or you might be looking for a scholarship for a special target group, such as mothers studying or working towards a doctorate. Don't be afraid to apply for a scholarship! On average, more than a third of scholarship applicants receive the funding for which they have applied.

Some various organizations and foundations offer scholarships, many directed specifically at international students. Depending on the scholarship, these include monthly financial support and/or non-material support. The largest group of providers for scholarships are the 13 "Begabtenförderungswerke" supported by the Federal Ministry of Education and Research. They represent important societal groups and have, for example, a political, religious or economic background. There are also many other scholarship providers in Germany: Smaller foundations often focus on particular subjects or cities. The University of Bonn itself (besides other institutions) offers the so-called "Deutschlandstipendium".³ The German Academic Exchange Service (DAAD) runs a comprehensive database of numerous scholarships and offers further information.⁴

Personal Income Almost two-thirds of all students have part-time jobs. For half of them, their job is necessary to finance their living.

The university and research institutes offer jobs as academic assistants. For master's students these positions are called "wissenschaftliche Hilfskraft" (WHF) although in everyday language the abbreviation "SHK"—which technically only describes academic assistants without a Bachelor's degree—is used more frequently. Typical assignments of a research assistant are assisting in software development (e.g. at the **Research Institute for Discrete Mathematics (DM)** or the **Fraunhofer Society**), leading a tutorial at a mathematical institute or supervising the **Library of Mathematics**. Job offers are usually posted on the website of the institution you apply to or on the central database of the university.⁵

³University of Bonn Deutschlandstipendium: uni-bonn.de/en/studying/consultation-and-service/financing-and-support/the-deutschlandstipendium/deutschlandstipendium.

⁴DAAD scholarship database: www2.daad.de/deutschland/stipendium/datenbank/en/21148-scholarship-database.

⁵Student job offers of the university (in German): uni-bonn.de/de/universitaet/arbeiten-an-der-uni/stellenangebote/stellenangebote-fuer-studierende-promovierende-und-praktikant-innen.

Outside the university, typical student jobs are working in gastronomy or pubs, as a cashier in a supermarket or helping out at fairs or Christmas markets. More mathematics-related student jobs can be found for example in consulting, or software development firms. The **StwB** runs a job exchange for student jobs.⁶

Be aware that there are many regulations regarding work that you have to pay close attention to, especially as an international student. In the following paragraphs, we give a short overview of this complex topic, but we are, of course, not lawyers, so you have to do further research on your own. We have linked to further information in the footnotes.^{7,8}

regulations

Insurances Having health insurance as a student is mandatory in Germany. Most of you will have already dealt with this as you have to show proof of your health insurance coverage no later than at registration in the Studierendensekretariat of the university. The website of the university on this matter covers this topic (and many other topics) quite well.⁹

Further compulsory insurances that you generally have to pay are unemployment insurance and pension insurance. Usually, paying for these compulsory insurances is mandatory and your contribution is based on your salary. However, there are employment relations in which you are exempt from paying some or all of these social insurances.

In addition to these mandatory social insurances, you can choose to take out further insurances. Liability insurance is strongly recommended. If you are not already covered through your parent's household insurance, taking out your own is advisable. Further insurances such as a bicycle theft insurance might make sense in individual cases, but be aware of overinsuring!

Mini job Most students work in an employment relationship called marginal employment or mini job which is characterised by either short duration (e.g. you work only outside of the **lecture period**) or low absolute level of earnings, i.e. you

short-term jobs

⁶StwB job exchange: jobben.studierendenwerk-bonn.de.

⁷Information from the Federal Ministry of Education and Research: study-in-germany.de/en/plan-your-stay/working-while-studying/part-time-job_71027.php.

⁸Information from the DAAD: daad.de/en/studying-in-germany/work-career/side-jobs/.

⁹Website on Organizational Matters Related to Your Stay at the University of Bonn: uni-bonn.de/en/studying/international-students/planning/planning.

low income jobs

earn at most €603 a month with all of your mini jobs combined. You can also be employed in a mini job by private households, e.g. for cleaning or gardening.¹⁰

Generally, while working on a mini job, you do not contribute to social insurances besides the obligatory membership in health insurance and a reduced contribution to pension insurance and you do not pay any income tax.

minimum wage

Note that Germany introduced a minimum wage in 2015. As of January 2026 it stands at €13.90 per hour and will be increased to €14.60 in 2027. Working as a student at the university, you will get €15.15 per hour if you have a Bachelor's degree.

Working student If a job does not classify as a mini job, you might be classified as a working student ("Werkstudent"). This is the case if the job is only a minor matter and you spend your time mainly studying which is decided by the "20 hours rule": During the lecture period you may only work 20 hours or less a week besides your university studies; there is no restriction outside of the lecture period.

If you count as a working student, you do not have to pay any additional contributions to health or unemployment insurance. But you have to pay the full contribution to pension insurance and—in theory—income taxes, although most working students do not earn enough and are therefore tax-exempt.

Regulations for International Students There are legal regulations¹¹ covering the number of hours international students are allowed to work. These regulations are very strict. It is important to be aware of them: you may even be deported if you infringe them!

If you are from a member country of the European Single Market,¹² you are entitled to work as many hours as you want, without needing a special permit.

If you are from another country, then you are allowed to work 120 full days or 240 half days per year and you are not allowed to undertake self-employment. Anyone who wants to work more than this must seek permission from the Agentur für Arbeit¹³ (federal employment agency) and the Ausländeramt¹⁴ (immigration office). It will depend on the level of unemployment in a federal state. However, this rule does not apply to academic assistants. There are no restrictions on these jobs at the university. Nevertheless, you must inform the immigration office if you want to work more hours.

Semester Fees

Every student¹⁵ has to pay fees each semester. These fees are paid to the StwB—which runs the Mensa and dormitories—and the student body. The amount of fees the student body receives is decided by the student parliament (SP) on a semesterly basis. In Table 14 we compiled a list of which causes are benefiting from your fees. As you can see, none of the fees are paid to the university; this really means that your fees are no "tuition fees", which is a common misconception, because tuition is covered by the state (see next section). An updated version of this table can be found on the AStA webpage¹⁶.

Most of your fees to the student body are used for the semester ticket, which is basically a Deutschlandticket¹⁷ (Germany ticket) which allows you to use regional public transport in all of Germany. University sports and social services such as daycare for students with children are also supported by semester fees. Last but not least, semester fees are the main source of income for the Fachschaft. Thank you very much for your support!

semester ticket

¹⁰Job exchange for mini jobs from private households: haushaltsjobboerse.de/englisch.

¹¹Regulations for international students (from DAAD): static.daad.de/media/daad_de/pdfs_nicht_barrierefrei/in-deutschland-studieren-forschen-lehren/employment_january_2017.pdf.

¹²The European Single Market comprises the 27 member states of the European Union and (with exceptions in aspects other than labour) Iceland, Liechtenstein, Norway and Switzerland.

¹³Agentur für Arbeit: arbeitsagentur.de/en/home.

¹⁴Immigration Office Bonn: www.bonn.de/vv/oe/_/Dez._I/33/33-6/Auslaenderamt.php?loc=en.

¹⁵Actually, one can be exempted from some parts of the semester fee in case of social hardship, severe illness or having a holiday semester.

¹⁶asta-bonn.de/en/departments/finance-department-and-accounting

¹⁷Deutschlandticket: int.bahn.de/en/offers/regional/deutschland-ticket

Semester fee in €	
StwB	115.00
student body	
to the AStA	14.00
to the Fachschaft	2.25
to social services	0.50
to the student aid fund	0.01
to the semester ticket	226.80
to the transit ticket refund	0.01
to university sports	1.50
to the culture ticket	3.00
total	363.07

Table 14: Semester fees winter semester 2026/27.

University Funding

Most of the university’s funds are distributed by the rectorate and the dean’s offices without student influence. However, quality improvement funds (“QVM”) are a special exception. These were introduced by the state as compensatory payments for the abolition of tuition fees in the winter semester 2011/12. The amount of funding is based on the former income from tuition fees. The purpose of the quality improvement funds is the improvement of teaching and study conditions. To do this justice, a committee discusses the use of the funds. It consists of four students and four non-student members.

The committee discusses proposals on how to spend the funds. These proposals are passed on to an allocation committee, responsible for all proposals within the faculty, which then decides on their implementation. This allocation committee examines whether the individual expenditures are actually used to improve teaching or the learning situation.

In mathematics, the following projects, among others, are currently being financed from quality improvement funds:

The number of tutors employed by the institutes to lead exercise groups has been increased by approximately one third. Also, tutors for the Help Desk for the basic lectures of the bachelor’s degree programme and additional student assistants helping with the preparation of lecture notes are financed from the quality improvement funds. The opening hours of the CIP-Pool and the Library of Mathematics could also be extended by additional student assistants.

During the lecture-free period, various events take place which are financed with quality improvement funds: Revision courses for the beginners’ lectures (“Repetitorien”) to prepare students for (re-)taking exams, programming courses to prepare students for programming exercises in the first two semesters, $\LaTeX$ courses, which could be interesting for everyone attending a seminar, or those who want to write a thesis, as well as tutors’ training to improve the quality of the exercise groups.

Students who are writing a bachelor’s or master’s thesis can apply for a (partial) reimbursement of their printing and binding costs at the Bachelor–Master Office (BaMa).

If you have further ideas to improve your studies, please write to info@fsmath-bonn.de.

courses and
tutors’ training

thesis: printing
cost
reimbursement

Living in Bonn

Most of you have probably thought about where to reside in Bonn before. It can be very difficult to find a decent flat in Bonn; it might seem like either you have to pay a lot of money or move to the outskirts. In this text, we want to show you some possibilities and strategies on how to find accommodation in Bonn.

Living outside of Bonn

First off: If you *already* live in the vicinity of Bonn, staying at home is probably the easiest way to go. Should you have trouble finding anything inside the city itself in a timely manner, the outlying smaller communities tend to have much cheaper housing and less demand. Should you choose this option, it is recommended to look for something with clear and easy public transit to Bonn (most regional public transport is free for students).

Pro: If you can use your semester ticket for your commutes, this will probably be the cheapest option.

Con: Transit means a loss of time.

Do not forget that this option means that you still have to get up quite early if you have a lecture in the morning. You also lose a bit of flexibility because you cannot go on adventures with your fellow students spontaneously, and you might have to leave early due to the transport schedule. So making new friends will be a lot easier if you actually move to Bonn.



Figure 38: Before renting a flat, try to have a look at it to prevent unwanted surprises.

Dormitories

The golden rule: Apply as early as possible! It is also better if you introduce yourself in person to the respective offices. The employees can get a much better impression of you in a personal conversation.

Pro: The dorms are cheap, and some of them are quite big—a rarity in Bonn! A few of them are located very close to the university, there is one right next to the **Mensa CAMPO** for example.

Con: The quality of the dorms can be rather modest, which is however usually sufficient for students.

So considering price-performance ratio, this is probably the best solution - of course there is only a limited number of slots.

Private Housing

The same thing as before applies here: Start searching early—there are a lot of other people looking for flats, too! It tends to be easier to find a flat *during* the semester.

Pro: There are very good and different flats which may offer just what you are looking for.

Con: Sometimes way too expensive, make sure you are not getting ripped off! Some landlords will not accept students because most of them do not have a stable income.

Important: If you have good contacts, it will be a lot easier to find something. You can profit from asking in your circle of acquaintances if somebody knows about flats becoming vacant.

Shared Flats

Again you can find a lot of offers on the internet.¹ If you don't speak German, you should know that the German word for shared flats is "Wohngemeinschaft", often abbreviated to "WG". Of course, it is even more

¹For example at www.wg-gesucht.de.



Figure 39: Private housing can be quite expensive.

difficult to find a flat if you want to move in with friends or a partner. The first step is to think about what you are looking for: Do you just want a crash pad or do you want to be friends with your new roommates?

Pro: The more, the merrier—bigger flats are often cheaper.

Con: You should agree on financial matters early on before moving in. Also, make sure to clarify the ownership of shared items with your roommates. The legal relationships specified in the rental contract are worth a detailed look. Subtleties can have an enormous impact! It is very helpful to work with a guidebook on the internet.

Fraternities

You might see suspiciously cheap housing offers while searching for a place to live, often emphasising a “sense of community” or looking for male applicants only. These offers are often from so-called “Studentenverbindungen”, a type of student association that might be best compared to fraternities in the US.

If you don’t know what a “Verbindung” is exactly, you should inform yourself thoroughly, as many of them share a conservative or even right-wing ideology. Unfortunately, there is not much information in English available, but the Wikipedia article² is a good starting point. Looking up the address to find out whether it is the location of a “Verbindungshaus”, the equivalent of a frat house, can also help identify fraudulent advertisements.

²Wikipedia article “Studentenverbindung”: en.wikipedia.org/wiki/Studentenverbindung.

Finding the right place to live is exhausting and filled with setbacks. Don’t lose heart! The more persistence you show, the earlier you will find a place.

Stay persistent!



Figure 40: A student of analysis hearing the shape of their neighbour’s drums.

Leisure Activities

University Sports

Most of you have probably chosen Bonn because you have heard that our mathematics department has an excellent reputation. However, university sports in Bonn are outstanding, too.

University sports are characterised by a very diverse range of activities from aerobics to Zumba. A semester ticket costs €10. For some sports, you will have to pay an additional fee. The variety of sports offered guarantees that there is something for everyone. University sports include ball games, aquatic sports, martial arts, fitness and weight training, health sports and dancing; each split into sub-sports.

The fitness studio “Halle 5”, which is part of the university sports facilities, is also very popular. There you can enjoy guided endurance and strength training with the aid of modern fitness equipment. They offer different options which you can find on their website.¹

Almost all sports courses take place in the sports facilities of the university. Most of them are located behind the former Faculty of Education (Römerstraße 164) and on the Venusberg (Nachtigallenweg 86). Both sports facilities are easily accessible by public transport.

In addition to what is offered during the semester, university sports also offer a variety of activities during the semester breaks as well as the opportunity to participate in sports trips offered by universities all over North Rhine-Westphalia.

Should you decide to take part in one or more sports courses, it is recommended that you check the university sports website early enough.² As some sports are very popular and the number of participants is limited, it is necessary to register online in advance. This should be done on the first day of registration at the earliest possible time because many popular courses are fully booked within minutes.

If you would like to participate in a sport for which you would need a partner but you haven't found one yet, don't be put off: On its website, the university sports

offer a so-called sports partner exchange where you can search for the right sports partner for each sport.

For many students, university sports are a much-needed break from their usually stressful and physically inactive studies and a good opportunity to get to know many nice people.



Figure 41: A student taking part in a socially distanced game of flamingo croquet.

Culture

However, sports is not the only way to spice up your daily routine. Now and then you should put aside your maths books and have a look at what else Bonn has to offer.

The **culture ticket** (“Kulturticket”) is a project of the AStA that aims to make it easier for students of the University of Bonn to access cultural institutions in Bonn and the surrounding area. It does so by giving

¹You can learn more about this here: sport.uni-bonn.de/en/sports-offers/fitness-studio-halle-5.

²University sports website: sport.uni-bonn.de.

them, for example, free admission to museums or reduced tickets at the box office of various theaters for only three euros! The latter is only possible if there are remaining tickets.

The availability of remaining tickets can be checked online or via an app (downloadable from the App Store/Play Store).³ At the moment, both the website and the app are only available in German. All events are listed and the number of remaining tickets is indicated by a traffic light system, including those for which the cultural ticket does not entitle you to reduced admission, but which may still be of interest to students.

color	meaning
blue	admission is free
green	many tickets are left
yellow	few tickets are left
red	no ticket are left
gray	no reduced admission

Table 15: Color of dots in the culture ticket app.

If the dot is missing, nothing is known yet about the availability of tickets. This will be announced one week before the event at the earliest and then updated daily afterwards.

Since the culture ticket only allows you to get tickets at the box office and not to pre-order tickets, it is, unfortunately, possible that you will appear at a theatre and there will be no tickets left. In this case, you might be able to find other events nearby via the app. A list of participating museums can be found on asta-bonn.de/de/service/beratungen/kulturticket. **Important:** Do not forget to bring your student ID!

The following is a list of suggestions for cultural activities. As the opening hours may change, make sure to check them again online.

Bonn Minster Since the 11th century, the Bonn Minster has been the landmark of the city of Bonn. An important example of medieval church architecture in the Rhineland.

Beethovenhalle The *Beethovenhalle* ("Beethoven hall") is the concert and congress hall of the city of Bonn. It also hosts the regular Beethoven festivals and is home to the Beethoven Orchestra.

» Wachsbleiche 16, 53111 Bonn

³Website of the culture ticket: kulturticket-bonn.de.



Figure 42: Artistic students of discrete mathematics meeting up to colour a tree.

» www.beethovenhalle.de

Beethoven House Beethoven's birthplace houses the largest private Beethoven collection in the world. In addition to portraits and instruments, original manuscripts of the composer can also be viewed there. Free admission thanks to the culture ticket.

» Wed – Mon 10 AM–6 PM
 » Closed on Tuesdays
 » Bonngasse 20, 53111 Bonn
 » www.beethoven.de

Brotfabrik The *Brotfabrik* ("bread factory"): theatre, music, dance... From performances to movies and workshops, you can find everything in this cultural centre.

» Kreuzstraße 16, 53225 Bonn
 » www.brotfabrik-bonn.de

Opera and theatre Constantly changing performances of opera, drama and dance. Also, concerts and readings.

Opera: Am Boeselagerhof 1, 53111 Bonn

Theatre: Am Michaelshof 9, 53177 Bonn



Figure 43: Poppelsdorf Palace. Commenced in 1715, today used by institutes of biology and geology (e.g. Mineralogical Museum).

Studio theatre: Rheingasse 1, 53111 Bonn

» Shared Website: www.theater-bonn.de

Young Theatre Bonn: Hermannstraße 50, 53225 Bonn, www.jt-bonn.de

Poppelsdorf Palace & Botanical Garden The Poppelsdorf Palace (German: “Poppelsdorfer Schloss”, “Popp’Schloss”) houses the Mineralogical Museum and the natural science collections of the University of Bonn. In summer, open-air concerts of the Bonn Classical Philharmonic Orchestra take place there. Behind the Poppelsdorf Palace lies the Botanical Garden. Admission is free on all days. The meadow in front of the Poppelsdorf Palace is a popular meeting place for students in the summer.

Opening hours in summer (April to October):

Garden: daily 10 AM–6 PM

Greenhouse: daily 10 AM–5:30 PM

Opening hours in winter (November to March):

Garden and greenhouse: Mon–Fri 10 AM–4 PM

» www.botgart.uni-bonn.de

Museums

Haus der Geschichte The *Haus der Geschichte* (“house of history”) exhibits the history of the Federal Republic of Germany from 1945 to the present. Additional temporary and travelling exhibitions. Free admission.

- » Tue–Fri 9 AM–6 PM
- » Sat and Sun 10 AM–6 PM
- » Willy-Brandt-Allee 14, 53113 Bonn

» www.hdg.de/en/haus-der-geschichte

Bundeskunsthalle “Federal art hall”—one of the most visited museums in Germany. Changing exhibitions from the visual arts and cultural history to science and technology. Next door is the *Kunstmuseum Bonn* (Bonn Museum of Modern Art). Admission is free up to and including 18 years of age, otherwise at most €10.

- » Mon closed
- » Tue 10 AM–6 PM
- » Wed 10 AM–9 PM
- » Thu–Sun 10 AM–6 PM (and all public holidays, even if it is Monday)
- » Friedrich-Ebert-Allee 4, 53113 Bonn
- » www.bundeskunsthalle.de

Rheinisches Landesmuseum Bonn The “Rhenish State Museum Bonn” is a museum of the history, art and culture of the Rhineland with a permanent exhibition from the Neanderthals to the present day. There are also changing exhibitions. Additionally, there is a public library with a focus on archaeology and art history. Thanks to the culture ticket, admission is free.

- » Tue–Sun 11 AM–6 PM
- » Colmantstraße 14–16, 53115 Bonn
- » landesmuseum-bonn.lvr.de

Deutsches Museum Bonn Museum of contemporary research and technology, branch of the *Deutsches Museum* in Munich. Free admission thanks to the culture ticket.

- » Tue–Fri and Sun 10 AM–5 PM
- » Sat 12 PM–5 PM
- » Ahrstraße 45, 53175 Bonn
- » www.deutsches-museum.de/bonn

Museum Alexander Koenig This “Zoological Research Museum” is one of the most important research institutes and natural history museums in Germany. Admission €3.

- » Tue–Sun 10 AM–6 PM
- » Wed 10 AM–9 PM
- » Mon only on public holidays
- » Adenauerallee 160, 53113 Bonn
- » bonn.leibniz-lib.de

Cinemas

WOKI The cinema in Bonn. Of special interest are the Sneak Previews on Wednesday and the English

Sneak Preview on Monday. The latter features English versions with German subtitles. Both are very popular, so be sure to reserve tickets!

- » Bertha-von-Suttner-Platz 1–7, 53111 Bonn
- » www.woki.de
- » Prices: from €5.99.

Rexkino & Filmbühne Cultural cinema... Something different from Hollywood.

Rex: Frongasse 9, 53121 Bonn (next to Fiddler's)

Filmbühne: Friedrich-Breuer-Straße 68–70, 53225 Bonn

- » www.rex-filmbuehne.de
- » Prices: from €9.

Stern Kino/CineStar So to speak the neglected sibling of the WOKI. Moderately cosy and somewhat old-fashioned. Thursdays sneak preview for €4.

- » Markt 8–10, 53111 Bonn
- » www.cinestar.de (choose “Bonn”)
- » Prices: from €8.

Kinopolis Large capacity cinema in Bad Godesberg. You could go there, but you wouldn't miss anything if you didn't.

- » Moltkestraße 7–9, 53173 Bonn
- » www.kinopolis.de (choose “Bad Godesberg”)
- » Prices: from €6.90 (Thu to Sun €8.40).

Places to Visit

Rheinaue The *Rheinaue* (“Rhine meadow”) is a large park that was created at the time for the Federal Horticultural Show and is located on both sides of the Rhine. It is regularly the venue for festivals. Events such as flea markets (every third Saturday in the summer months), *Kunst!Rasen* and *Rhine in Flames* take place there, and it is also a popular place for barbecues in summer. There is also a skate park, a baseball field, a soccer field and small play tables. There are also some cultural attractions like the garden for the blind, the Japanese garden and the Roman road.

Drachenfels The *Drachenfels* (“Dragon's Rock”) is a mountain in the Siebengebirge, made famous by the Nibelungen saga, and a beautiful destination for a day trip. The villa *Drachenburg* (“Dragon's Castle”) is also located there.



Figure 44: A Sunday afternoon at the Rheinaue.

Opening hours of the palace may vary between seasons.

- » www.schloss-drachenburg.de

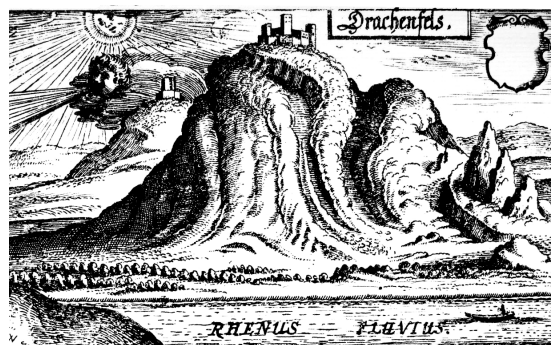


Figure 45: The Drachenfels.

Places to Eat

There are many good **takeaways** in Bonn. You should have visited these places at least once.

mm...food

Kichererbse	city centre	#bestFalafel
Tibet Imbiss	Poppelsdorf	#bestSnackBar
Mykonos	Poppelsdorf	#bestGyros
Calador	city centre	#bestDrunkPizza
City Express	old town	#bestKebab
Tasty Sumo	South City	#bestTakeawaySushi
Da Sasà	Poppelsdorf	#bestTakeawayPizza

Table 16: Our favourite takeaways.

There are even more good **restaurants** in Bonn, here is our crème de la crème.

Schnitzel	Anno Tubac	€€
Sushi	Makiman, Ichiban	€€
Pizza	Tuscolo, Nennillo	€€
Italian	Giaccomo	€
Spanish	Der Spanier	€€
Burger	Burgermanufaktur	€€
Chinese	Dim Sum	€€€
Steak	El Tarascon	€€€€
Persian/Vegetarian	Von&Zu	€€
Breakfast	C'est la Vie	€
Indian	Taj India	€€
Greek	Restaurant Olive	€€€
Turkish	Divan Restaurant	€

Table 17: Our crème de la crème of restaurants.

And lastly, some recommendations for the starving students among us.

Schnitzel	Bönnsch	each Sunday
Sushi	Kugelfisch	Mon–Fri, 12 PM–5 PM
Spareribs/Prawns	Shaker's	Wed and Sun

Table 18: All you can eat offers.

Pubs & Bars

The pub is the natural habitat of a student—here is a selection. The pubs marked with an asterisk are highly recommended.

Fiddler's* Irish pub close to the campus with an excellent pub quiz every Monday and regular events.

Harmonie Decent pub close to the campus with a great kitchen and a larger beer garden. Hosts live concerts and events very regularly. A bit fancier but still affordable.

Spleen* After it was reopened, it used to be *the* regular pub. Nowadays it is missing a bit of its character, but it has the best nachos in town and a beer garden.

The pubs on Clemens-August-Straße are a bit *fancier*, and are not necessarily aimed primarily at students. You should be warned about the Gesindehaus: The seats are uncomfortable and the beer is bad.

BarRoom Chic corner pub/restaurant that you can also visit during the day.

South City

Mausefalle 33 1/3* Corner pub with cult status for smaller groups. In summer the beer garden stays open until 10 PM and on weekends there are usually small concerts.

Studikneipe A cosy pub with regular pub quizzes, cosy furnishings and reasonable prices.

Alter Zoll* Large beer garden directly next to the Rhine. A little expensive, but the ideal place to sit outside in summer.

City Centre

James Joyce* The first one to come to mind when it comes to Irish pubs in Bonn. Both large and cosy, but often very crowded.

Cartoon & Pendel Two very similar cocktail bars that actually share the owner and the kitchen.

Caspian Cocktail bar directly opposite the Carpe Diem.



Figure 46: Students of combinatorics trying to solve problems with the help of pubs and bars.

Tacos Half TexMex restaurant, half cocktail bar. Not bad, if you can stand the interior decoration. You should avoid the burgers.

Bönnsch This brewhouse serves beer in special glasses of funny shapes.

Blow Up The city centre alternative to Die Wache. When nothing is open anymore, the Blow Up is still open.

Limes Rather alternative, with a large selection of mainly Eastern European beers. Ideal for a post-WOKI nightcap.

Café Blau Café/pub in the Viktoriakarree. The seats in the front are comfortable, in the back not so much. Great for large groups in particular.

The Dubliner Chic Irish pub, but just as old-fashioned as all of the others. Located in a large cellar, but not uncomfortable. The beer pong tournament is highly recommended.

Die Zone The best whiskey selection in town. The landlord is, let's say, a bit of a character and doesn't like whiskey posers—watch out!

Billabonn Pub with an Australian theme.

Pinte Just another pub—not bad, but nothing special.

Lichtblick* A nice, bright, friendly pub with Pfeffi (peppermint liqueur) for €1. Better for smaller groups.

Musiktruhe & Stachel Typical old town pubs. Both are certainly worth a visit.

UnfassBar After a Flimm (woodruff liqueur) for €1.50 you may as well leave.

Café Pavlov* Equal parts café and pub, so it's just the right place for a morning vodka. You can get pizza across the street.

Die Wache** Dark, filthy, with loud music and a stripper mannequin hanging from the ceiling: the place where every good evening ends. Open every day until 5 AM. Table football is free of charge here.

Nyx Located in the street parallel to Die Wache. Regular Karaoke night. Every 4th Sunday of the month the "War of the Roses" (Poetry Slam) takes place here.

Flynn's Inn Small pub with amazing (and expensive) craft-beer selection. The pub quiz on Tuesdays is not bad, but the execution is a bit unusual.

Tresor Metal pub with an excellent CD collection.

Babel* Small, cosy, somewhat shabby old town pub opposite the leftist book store "Le Sabot".

Maya Lies opposite of the Babel, and is its antithesis, so to speak: Large, restaurant-like, and somewhat too well lit.

Namenlos A large room with metal chairs and tables. Less a place to spend an evening and more a stopover on the way to the N8schicht. Table football is free of charge here.

Bla Strategically located between N8schicht and Frittebud. The Gin&Tonic is not bad.

Kult41* Actually a cultural centre with a gallery and the highest stage in Bonn, but there are regular pub nights. The right place to meet some interesting people over a Pinkus beer.

Nightlife

Is there any nightlife in Bonn? Well, maybe a little. Bonn has a lot to offer as far as pubs are concerned, but if you're looking for a club, it's a bit more difficult. Here is a summary of Bonn's nightlife.

The N8schicht/N8lounge A simple club with rather bad music, if no special parties are announced. Now and then there are interesting Goa parties in the N8lounge. With the right people, it's still quite amusing here.

The Pearl Formerly Aprtmnt. A chic club with several floors, chart heavy music and a very young clientele. But if you want to fall into a cosy bed while partying, you can do so here.



Figure 47: A group of students meeting for a night out.

Carpe Noctem A pleasant club near the central station opposite Calador. Here you should wait for parties with an interesting motto, too—otherwise, it's rather empty and a 30+ party.

Gleis8 Formerly Das Sofa, has the same owners as the Carpe Noctem. A club with a dance floor you should definitely try.

Jazz-Galerie When something is going on here, it's really fun! Every Thursday there is a salsa party with a dance course in advance—highly recommended.

What else? For a better experience, it's recommended to go to Cologne. On weekends, the trains are going the entire night. On Wednesdays there is the 50-Cent-Party in the Klappsmühle—you should have been there at least once.

Cafés

Of course, you can have fun without alcohol. For a short break in between, to relax and switch off with a delicious cup of coffee or hot chocolate, or for a change of scenery during the study period, the following cafés are suitable.

Café Kurt

Clemens-August-Straße 55
#Roastery, #GoodCake, #OwnEspresso

Jaz Boutique Café Art

Breite Straße 69
#France, #GoodCake, #Delicatessen

Die Bonner Kaffeeschule

Obere Wilhelmstraße 27
#Roastery, #Calm, #Reading, #Design.



Figure 48: A quartet of students enjoying a quiet afternoon at their favourite café.

Black Coffee Pharmacy

Bonner Talweg 46B
#OwnEspresso, #BestCheeseCake, #OnlyLove

Cafe Lieblich

Bonner Talweg 115
#Art, #Sofa, #Reading, #RestTheMind

FRIEDRICHS Coffeeshop

Nassestraße 1
#Juridicum, #Students, #GoodAndCheap

Café Roller

Hofgarten
#CoffeeToGo, #FairTrade, #GoodAndCheap

Kessel's Espresso Studio

Friedrichstraße 54
#AfterLunchEspresso, #EspressoOfTheWeek

Café Orange

Fritz-Tillman-Straße 6
#Shabby-Chic, #GoodCake

Tips, Tricks and Further Advice

This chapter is a compilation of various practical tips for living in Bonn that do not really fit into any of the previous chapters.

Student Mentoring

There is a support programme by students for students. It is a strictly voluntary mentoring programme where you will get a personal mentor, a student in the 2nd or higher master semester, who has a maximum of two mentees. Then you can meet up at the beginning of the semester and ask questions about living and studying in Bonn and also ask for personal advice.

Registrations are made via email by sending your name to hcm.mentorinnen@ins.uni-bonn.de.



Figure 49: A student and their mentor meeting for the first time.

Bicycles

Many students agree that a bicycle is *the* best way of transportation for students in Bonn. In fact, the AStA has set up a **bicycle repair shop**, where you can get

cheap parts and repair your bike under expert supervision.

We have compiled some links to sift through below, in case you are looking to buy a second-hand bike.

1. The German Bike Club (ADFC)¹ and the AStA² regularly organise second-hand markets for bicycles. The next one should take place this October³.
2. There is a store run by a charity selling used bikes, refurbished with a one-year warranty, at reasonable prices.⁴
3. There are websites for private ads of all varieties—including bikes. The most commonly used one is eBay Kleinanzeigen.⁵

In case you don't own a bicycle or don't want to take yours with you, bike-sharing is a useful alternative. You simply rent a bike for the duration of your trip and leave it at your destination for the next person to use. The main bike-sharing provider in Bonn is welo (used to be Nextbike), which offers students 30 minutes per lease free of charge.⁶

foodsharing

“foodsharing” is an organisation that works against food waste by saving food that would otherwise end up in the trash. To find out how you can become a “Food-saver” yourself or how to contribute without being actively involved, visit the website www.foodsharing.de (in German). Information in English can be found in the English Wikipedia article⁷.

¹ADFC (in German): touren-terme.adfc.de.

²AStA bicycle market (in German): asta-bonn.de/en/services/consultations-and-services/bike-market.

³look here for further information: asta-bonn.de/en/services/consultations-and-services/bike-market

⁴Bike House Bonn: www.bike-house-bonn.de.

⁵eBay Kleinanzeigen: www.kleinanzeigen.de.

⁶Nextbike Bonn: www.welo-bike.de/en/.

⁷Wikipedia article “Foodsharing.de”: en.wikipedia.org/wiki/Foodsharing.de.

PDF Editing Tools

We have compiled a few recommendations of programs with which you can create PDF files. The following (incomplete) list includes smartphone apps for scanning documents and programs for merging PDF and image files into a coherent document. These tools are particularly useful for handing in exercise sheets.

Scanning Documents

- » iOS (Apple):
 - › As of iOS 11 via the pre-installed app Notes.⁸
 - › As of iOS 13 alternatively via the pre-installed app Files.⁹
 - › Via the free app CamScanner by Intsig (creates watermark).¹⁰
 - › Via the paid app Scanner Pro by Readdle (€4.49 on the App Store).¹¹
- » Android:
 - › Via the free app CamScanner by Intsig (creates watermark).¹²

Merging Documents

- » Linux:
 - › PDF Arranger.¹³
 - › pdfunite.¹⁴
- » Mac:
 - › As of macOS 10.14 directly via the Finder.¹⁵
- » Windows:
 - › PDFgear.¹⁶
- » Online:
 - › Xodo (also available for iOS and Android).¹⁷

- › iLovePDF (also available for Mac and Windows).¹⁸
- › PDF24 (also available for Windows).¹⁹

Public Holidays

There are a few holidays in Germany and North Rhine-Westphalia where university is closed as well as all shops (except for those at the train station). Some of the holidays (marked with the year) depend on when Easter is, next year they are probably on different days.

3 Oct	Day of German Unity
1 Nov	All Saints' Day
25 Dec	Christmas Day
26 Dec	2nd Day of Christmas
1 Jan	New Year's Day
26 Mar 2027	Good Friday
29 Mar 2027	Easter Monday
1 May	Labour Day
6 May 2027	Ascension Day
17 May 2027	Whit Monday
27 May 2027	Corpus Christi

Besides that, carnival is a very big thing in Bonn and its surrounding, that's why many stores and other places have different opening hours between Fat Thursday and Shrove Tuesday (4 - 10 Feb 2027) or are even closed.

In addition to the public holidays, the university has one holiday and one Dies Academicus²⁰ (where there are no classes from 10 a.m. on) per semester. You can find the dates for the current and the next semesters on the website of the university: uni-bonn.de/en/studying/during-your-studies/key-semester-dates

⁸Support page about scanning documents via Notes: support.apple.com/en-us/HT210336.

⁹Tutorial about scanning documents via Files: www.macrumors.com/how-to/scan-documents-ios-files-app.

¹⁰CamScanner on the App Store: apps.apple.com/de/app/camscanner-free-pdf-document/id388627783.

¹¹Scanner Pro on the App Store: apps.apple.com/de/app/scanner-pro-by-readdle/id333710667.

¹²CamScanner on the Play Store: play.google.com/store/apps/details?id=com.intsig.camscanner.

¹³The package is called pdfarranger on APT and DNF.

¹⁴Part of the package poppler, or poppler-utils. Details at github.com/mtgrosser/pdfunite.

¹⁵Support page about combining files via Finder: support.apple.com/guide/mac-help/combine-files-into-a-pdf-mchl21ac2368/mac.

¹⁶URL: www.pdfgear.com.

¹⁷URL: www.xodo.com/app.

¹⁸URL: www.ilovepdf.com.

¹⁹URL: tools.pdf24.org/en.

²⁰uni-bonn.de/en/studying/degree-programs/special-study-opportunities/life-long-learning-university

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- » “Beer” by Zach Harris, US.^b
- » “Knife and fork icon” by Lorc.^c
- » “book vector png”.^d

Please address comments, remarks, praise or criticism regarding this booklet to master@fsmath-bonn.de.

^acreativecommons.org/licenses/by/3.0/

^bthenounproject.com/term/beer/11385/

^cgame-icons.net/1x1/lorc/knife-fork.html

^dwebstockreview.net

List of Figures

1	An oral exam at the end of an Advanced Topics course on game theory.	4	29	The Mathematikzentrum (MZ).	32
2	A proposed Practical Training Course on algebraic geometry: students harvesting fresh stalks from local fields. . .	4	30	The annex to the MZ.	33
3	The introduction of sign conventions. .	7	31	Wegelerstraße 10 (We10).	33
4	A student new to topology struggling to understand the hairy ball theorem. .	8	32	The Arithmeum.	33
5	Don't be that guy.	15	33	The Villa Maria.	33
6	An artistic rendition of the sciebo logo. .	16	34	Friedrich-Hirzebruch-Allee 8.	34
7	Going to the front page.	17	35	Vivatsgasse 7.	34
8	The section "Courses".	17	36	The nine circles of algebraic geometry. .	34
9	The section "Courses".	18	37	A student filling out their BAFöG application.	35
10	Searching for "Mathematik".	18	38	Before renting a flat, try to have a look at it to prevent unwanted surprises. . .	39
11	"Master Studies" on eCampus.	18	39	Private housing can be quite expensive. .	40
12	Joining a lecture course on eCampus. .	19	40	A student of analysis hearing the shape of their neighbour's drums.	40
13	A course not yet open for enrollment. .	19	41	A student taking part in a socially distanced game of flamingo croquet. . . .	41
14	A course not yet available on eCampus. .	19	42	Artistic students of discrete mathematics meeting up to colour a tree.	42
15	Virtual exercise groups on eCampus. .	19	43	Poppelsdorf Palace.	43
16	A desperate student summoning help for an upcoming exam.	20	44	A Sunday afternoon at the Rheinaue. .	44
17	The starting page of the "Studienservice".	20	45	The Drachenfels.	44
18	Finding "Mathematik" in the "Course catalog".	20	46	Students of combinatorics trying to solve problems with the help of pubs and bars.	45
19	Navigating to your desired module. . .	20	47	Groups of students meeting for a night out.	46
20	A filled-out application for an "Additional Advanced Topics", without signatures.	21	48	A quartet of students enjoying a quiet afternoon at their favourite café.	47
21	The summer dance ball.	25	49	A student and their mentor meeting for the first time.	48
22	One of the weekly meetings of the FSR. .	26	50	Humpty Dumpty, the patron saint of mathematicians.	54
23	Faculties of the university and the teaching unit of mathematics (excluding the DM).	28	51	Now it's up to you.	60
24	Administration.	29			
25	Workplaces in the Library of Mathematics.	30			
26	The MNL Branch Library ("Bauernbib") at the Campus Poppelsdorf.	30			
27	The ground floor of the Library of Mathematics.	31			
28	First floor of the Library of Mathematics. .	31			

List of Tables

1	An overview of our events	2
2	The areas of mathematics in Bonn.	3
3	All modules in area D.	5
4	A study plan focusing on algebra, starting in a winter semester.	9
5	A study plan focusing on representation theory, starting in a winter semester.	10
6	A study plan focusing on algebraic geometry, starting in a winter semester.	10
7	A study plan focusing on topology, starting in a winter semester.	11
8	A study plan focusing on discrete mathematics, starting in a winter semester.	11
9	Another study plan focusing on discrete mathematics, starting in a winter semester.	12
10	A study plan focusing on numerical mathematics, starting in a winter semester.	13
11	Another study plan focusing on numerical mathematics, starting in a winter semester.	13
12	A study plan focusing on stochastics, starting in a summer semester.	14
13	Another study plan focusing on stochastics, starting in a summer semester.	14
14	Semester fees winter semester 2026/27.	38
15	Color of dots in the culture ticket app.	42
16	Our favourite takeaways.	44
17	Our crème de la crème of restaurants.	45
18	All you can eat offers.	45

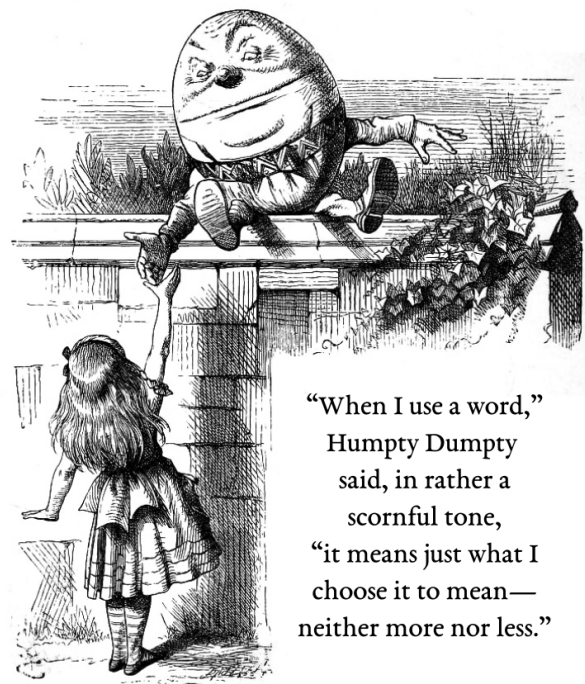


Figure 50: Humpty Dumpty, the patron saint of mathematicians.

Glossary

annex (German *Nebengebäude*) is a small building behind the **MZ**. It is home to the **Fachschaft** and the **recreation room** and also includes a few seminar rooms.

AStA (*Allgemeiner Studierendenausschuss*, meaning “General Students’ Committee”) is the body that legally represents all students at the university. More information is available at asta-bonn.de/en/about-asta.

AStA Store is a store run by the **AStA** where you can get inexpensive stationery. Location and business hours are available at asta-bonn.de/en/services/consultations-and-services/asta-store-1.

Aufenthaltsraum is German for 🚪 **recreation room**.

AWD (*Anwesenheitsdienst*, meaning “attendance service”) is the regular advisory service of the **Fachschaft Mathematik**. It usually takes place in the **Fachschaft** office in the **annex**.

Phone number: +49 228 735382.

Bachelor–Master Office (BaMa) handles all matters of the Examination Office of the bachelor’s and master’s programmes of mathematics. They will also advise you on questions of study organisation. Contact information is available at mathematics.uni-bonn.de/studium/en/contact/examination-office-bama.

BAföG (*Bundesausbildungsförderungsgesetz*, meaning “Federal Training Assistance Act”) is a need-based financial aid provided by the German state. Half of the BAföG financial support is usually a grant, the remaining half an interest-free loan. More information on BAföG can be found in chapter “**All about Money**”, page 35.

BaMa is short for 🚪 **Bachelor–Master Office**.

BASIS is the web service hosting the digital course catalogue of the university. Here you also have to register for examinations.

Address: basis.uni-bonn.de.

bicycle repair shop (German *Fahrradwerkstatt*) is a DIY workshop run by the **AStA**. It is located right under the **annex**. You yourself repair your bicycle, but you will get help from an expert free of charge and you can buy cheap spare parts.

Info: asta-bonn.de/en/services/consultations-and-services/bike-workshop.

BigBlueButton is a video conferencing software.

BIGS is short for 🚪 **Bonn International Graduate School of Mathematics**.

Bologna Process is a series of agreements between European countries to seek coherence in the field of higher education. It is named after the Italian city of Bologna. As part of the Bologna Process, all participating countries agreed to introduce a three-cycle higher education system consisting of bachelor’s, master’s and doctoral studies. The Bologna Process is also the reason why you will receive a *Diploma Supplement* with your degree.

Bonn International Graduate School of Mathematics (BIGS) recruits and supports doctoral students of mathematics in Bonn. It is part of the **Hausdorff Center for Mathematics (HCM)**.

c.t. is short for the Latin term *cum tempore*, meaning “with time”. If these letters appear next to a time specification, it means that you have to add 15 minutes. For example, “10 c.t.” means “10:15”. This is when most courses start, and it is usually understood without explicitly mentioning it. The contrary is *sine tempore* (*s.t.*)

CIP-Pool (a.k.a. PC-Pool) is the name of the computer workspaces at the university. There are two CIP-Pools used by students of mathematics; one in the **annex** and one in the **HRZ**. The name is a remnant of the so-called Computer Investment Programme, a support programme for universities from 1984.

Cluster of Excellence is an association of research institutions from different disciplines working together on research projects. They receive project-related funding for internationally competitive fields of research as part of the German federal funding programme *Excellence Initiative* (called *Excellence Strategy* since 2017).

There are currently eight Clusters of Excellence in Bonn, one of which is the **Hausdorff Center for Mathematics (HCM)** with the alternative long title “Hausdorff Center for Mathematics: Foundations, Models, Applications”.

Corona is the name of a Mexican beer brand. It is available in most supermarkets.

Ah, yes, there is also a virus with the same name...

CP is short for  *credit point*.

credit point is a unit of measurement defined by the **European Credit Transfer and Accumulation System (ECTS)**; one credit point corresponds to a workload of 30 hours. To obtain your master’s degree, you need to acquire at least 120 credit points. Further requirements are regulated by the **PO**.

culture ticket is a project by the **AStA** which gives free admission to certain museums and discounted tickets for various theatres.

Dies academicus is an event happening once every semester. There will be no regular courses on that day but many multidisciplinary and cultural events. The programme will be published at www.uni-bonn.de/en/studying/degree-programs/more/life-long-learning-university.

Discord is a proprietary online service. It offers chats, (video) calls and server management architecture. Discord has proved to be a valuable (unofficial) communication tool during times of the coronavirus lockdown.

Discord is available to download for free at discord.com.

DM is short for  *Research Institute for Discrete Mathematics*.

eCampus is an official web service that can be used by lecturers to host course materials and communication interfaces. Its use has increased massively since the beginning of the coronavirus lockdown. You have to register for your courses at the beginning of the semester (in addition to your registration on **BASIS**). If a course is password protected, the login data will (hopefully) be communicated by the **Bachelor–Master Office (BaMa)**.

Address: ecampus.uni-bonn.de.

ECTS is short for  *European Credit Transfer and Accumulation System*.

eduroam is a service that allows you to use free Wi-Fi in the vicinity of university buildings. The eduroam network in Bonn is operated by the **HRZ**.

European Credit Transfer and Accumulation System (ECTS) is a system designed to make academic achievements in European countries more comparable. It specifies that grades are weighted by **credit points**. Problem: **credits points** are a purely quantitative measure. The introduction of the ECTS in Germany is part of the **Bologna Process**.

Fachschaft [**faxfaft**] is a vague term that can mean different things in different contexts. By law, the Fachschaft Mathematik is the collection of all enrolled students in the bachelor’s, master’s and doctoral programmes of mathematics. In everyday usage, a “member of the Fachschaft” usually refers to a student who is involved in organising or executing Fachschaft-related tasks.

The Fachschaft is run by the **FSR** and the **FSV**. Some people translate Fachschaft as “student council”, but we like to reserve this term for the **FSR**.

Website of the Fachschaft Mathematik: fsmath.uni-bonn.de.

Fahrradwerkstatt is German for  *bicycle repair shop*.

File-Service-Infrastructure is an online storage service provided by the **HRZ**.

Fraunhofer Society is a German research organisation with 72 institutes spread throughout Germany, each focusing on different fields of applied science. There are multiple Fraunhofer institutes in Bonn and its surroundings, but mainly three of them are of interest for mathematicians:

- » **Fraunhofer Institute for Algorithms and Scientific Computing (SCAI)**,
- » **Fraunhofer Institute for Intelligent Analysis and Information Systems (IAIS)**,
- » **Fraunhofer Institute for Communication, Information Processing and Ergonomics (FKIE)**.

Fraunhofer Institute for Algorithms and Scientific Computing (SCAI) is a research institute independent from the university and part of the **Fraunhofer Society**. It is associated with the **Institute for Numerical Simulation (INS)**. Website: www.scai.fraunhofer.de/en.html

FS is short for  *Fachschaft*.

FSR (*Fachschaftratsrat*, meaning “student council”) is one of the two committees of the **Fachschaft**—alongside the **FSV**. Tasks of the FSR include day-to-day business, the organisation of events and the **AWD**. The FSR holds regular meetings where everybody (not just its elected members) is invited to speak.

FSV (*Fachschäftsvertretung*, meaning “student representation”) is one of the two committees of the **Fach-schaft**—alongside the **FSR**. It is elected yearly by all matriculated students. Tasks of the FSV include deciding on the budget of the **Fachschaft**.

GOsa is the digital identity management system of the university. Here you can change your residential address and manage email aliases.

Address: gosa.gosa.uni-bonn.de.

Hausdorff School for Advanced Studies in Mathematics (HSM) supports postdoctoral researchers beginning a career in academia or beyond the university, including training in academic teaching. It is part of the **Hausdorff Center for Mathematics (HCM)**.

Hausdorff Research Institute for Mathematics (HIM) organises international long-term research programmes devoted to topics in mathematics and mathematical economics. It is part of the **Hausdorff Center for Mathematics (HCM)**.

Hausdorff Center for Mathematics (HCM) is the **Cluster of Excellence** in the subject of mathematics. It includes all five institutes of mathematics (**MI**, **IAM**, **INS**, **DM**, **MPI**) as well as the Department of Economics.

HCM is short for  **Hausdorff Center for Mathematics**.

HG (*Hochschulgesetz*, meaning “Higher Education Act”) is a law that all universities in North Rhine-Westphalia must comply with.

HIM is short for  **Hausdorff Research Institute for Mathematics**.

HRZ (*Hochschulrechenzentrum*, meaning “University Computing Centre”) is a central institution operating the university’s IT services. They also provide support and instructions for setting up Wi-Fi and email. Website: www.hrz.uni-bonn.de.

HSM is short for  **Hausdorff School for Advanced Studies in Mathematics**.

IAM is short for  **Institute for Applied Mathematics**.

INS is short for  **Institute for Numerical Simulation**.

Institute for Numerical Simulation (INS) is one of three mathematical institutes of the Faculty of Mathematics and Natural Sciences. Website: ins.uni-bonn.de.

Institute for Applied Mathematics (IAM) is one of three mathematical institutes of the Faculty of Mathematics and Natural Sciences. Website: www.iam.uni-bonn.de.

Jitsi is a video conferencing software.

Landwirtschaftskammer Rheinland means “Chamber of Agriculture Rhineland”. This self-regulatory organisation was housed in the building of the **MZ** until 2004, when it merged with the former chamber of Westphalia-Lippe to form the new Landwirtschaftskammer Nordrhein-Westfalen.

lecture period is the period within the semester in which courses take place. It is usually around 14 weeks long (not including holiday breaks). Exams are usually scheduled in the lecture-free period. Start and end dates are different each semester. They can be found at mathematics.uni-bonn.de/studium/en/study-organization/calendar.

Library of Mathematics is located in the **MZ**. It is run co-operatively by the **ULB Bonn** and the mathematical institutes. To borrow books you need an account at the **ULB Bonn** which you can get for example from the **MNL Branch Library**. Website: bib.math.uni-bonn.de.

main building (“Hauptgebäude”) is the palace next to the Hofgarten. It is mainly used by the Faculty of Arts and the theological faculties. Not to be confused with the **MZ**.

Math Center (*Mathematikzentrum*, meaning “Mathematics Centre”) Refers to the same building as the later entry **MZ**.

Mathematical Institute (MI) is one of three mathematical institutes of the Faculty of Mathematics and Natural Sciences. Website: www.math.uni-bonn.de.

Max Planck Institute for Mathematics (MPI) is a mathematical institute independent from the university but part of the **Hausdorff Center for Mathematics (HCM)**. Website: www.mpim-bonn.mpg.de.

Mensa is the name of the canteen run by the **StwB**. There are two relevant sites: CAMPO (next to the **MZ**) and Mensa am Hofgarten (interim tent near the **main building**). Depending on the site, a **Mensa Card** might be required to buy a meal.

Info: www.studierendenwerk-bonn.de/en/food-drink.

Mensa Card can be used for cashless payment in every café and **Mensa** run by the **StwB**. It is available for a deposit of €5 at every Mensa and has to be renewed at the start of each semester. If you are a resident of a dormitory, you will also need the Mensa Card to operate the washing machines and dryers.

MI is short for **Mathematical Institute**.

MNL Branch Library is a branch of the **ULB Bonn**. “MNL” stands for medicine, natural sciences and agriculture (German “Landbau”).

module is the building block of your studies. These are courses (e.g. lectures or seminars), which usually span one semester and are concluded by an exam.

Module Handbook is a document containing information on all **modules** offered in the mathematics master’s degree programme. It can be found at mathematics.uni-bonn.de/studium/medienordner-studium-1/dateien/po-modulhandbuch/mscmath-modulhandbuch.pdf.

MPI is short for **Max Planck Institute for Mathematics**.

MZ (**Mathematikzentrum**, meaning “Mathematics Centre”) is home to the **Bachelor–Master Office (BaMa)**, the **Mathematical Institute (MI)**, the **Institute for Applied Mathematics (IAM)** and the **Library of Mathematics**. This building has previously been used by the **Landwirtschaftskammer Rheinland** (and because of monument protection you can still see its lettering above the entrance).

Some people will call this the “main building” to distinguish it from the **annex**, but make sure not to confuse it with the actual **main building**.

Nebengebäude is German for **annex**.

PO (**Prüfungsordnung**, meaning “examination regulations”) dictates how your *entire* study program is structured. This is a very important document that you should read carefully at least once. It can be found here: mathematics.uni-bonn.de/studium/medienordner-studium-1/dateien/po-modulhandbuch/mpo-mathematics_20200311_en.pdf

recreation room (German *Aufenthaltsraum*) is located in the **annex**. Here you can relax, make some coffee or tea or work on your homework. It also has a microwave and a fridge.

Regelstudienzeit is German for **standard period of study**.

registration period is the time in which you’ll be able to register for exams. It usually takes place from 1st December to 20th December for the winter semesters and 1st June to 20th June for the summer semesters.

Research Institute for Discrete Mathematics (DM) is a mathematical institute outside of the Faculty of Mathematics and Natural Sciences. Website: www.or.uni-bonn.de.

s.t. is short for the Latin term *sine tempore*, meaning “without time”. If these letters appear next to a time specification, it means that time is exact, i.e. “10 s.t.” means “10:00”.

The contrary is **cum tempore (c.t.)**

SCAI is short for **Fraunhofer Institute for Algorithms and Scientific Computing**.

schiebo is a cloud storage service offered by the university. More information can be found in the chapter “**Digital Services of the University**”, page 15.

SP is short for **student parliament**.

Stadthaus is the city hall of Bonn. It is the largest and probably the ugliest building in the city centre. Among other things, it houses the residents’ registration office. Don’t forget to register! You have to reserve an appointment; expect eternally long waiting times.

standard period of study (German *Regelstudienzeit*) is the number of semesters finishing your studies is planned to take, i.e. four in case of the master studies. You won’t have to fear any consequences by the university if you cannot finish your studies in the standard period of study, but some financial aids are only paid during this period, e.g. **BAföG**.

student parliament (SP) is the highest institution of the student body. It is elected by all students, usually in January.

Studienservice is an official web service where you can download official certificates of enrolment and view your payment status of the semester fees. Now part of [BASIS](#).

StwB (*Studierendenwerk Bonn*, meaning “Student Services Organisation Bonn”) is a public non-profit organisation for student affairs in Bonn and its surroundings. In particular it runs every [Mensa](#), the dormitories and the day care for students with children and it handles all [BAföG](#) applications.

summer semester is the period of the year from 1st April to 30th September. Within the summer semester lies a [lecture period](#) with varying start and end dates and the Pentecost break.

ULB Bonn (*Universitäts- und Landesbibliothek Bonn*, meaning “Bonn University and State Library”) is the central library of the university. It consists of a main site and the [MNL Branch Library](#). Students can get a free account to borrow books. Website: www.ulb.uni-bonn.de.

Uni-ID is your username to access all digital central services such as [GOsa](#), [BASIS](#), [eCampus](#) and [sciebo](#). It is also part of your email address.

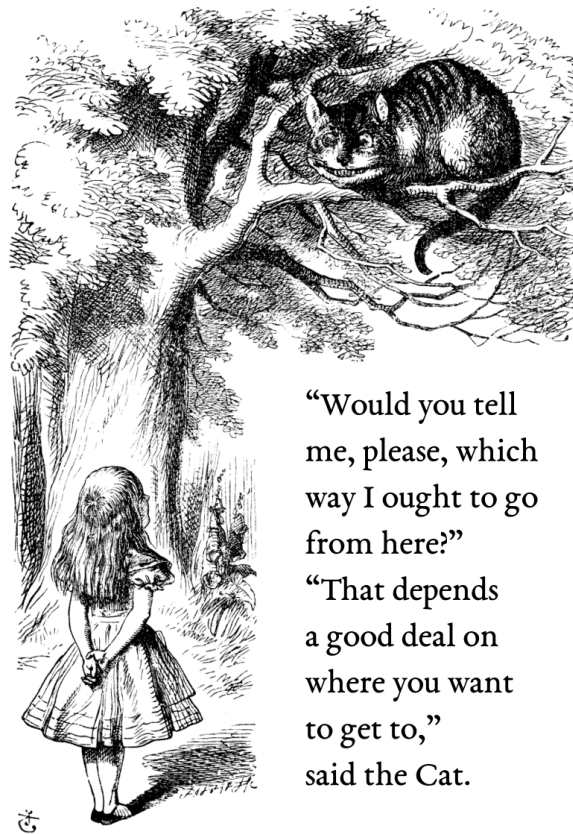
WaCE (German *WuKA*) is short for **W**ine and **C**heese **E**vening, an event organised by the [Fachschaft](#).

winter semester is the period of the year from 1st October to 31st March. Within the winter semester lies a [lecture period](#) with varying start and end dates and the Christmas break.

WuKA is German for 🍷 [WaCE](#).

Zoom is a proprietary online service. It offers video calls with screen sharing capabilities. Zoom has been used by most lecturers for online lectures during times of the coronavirus lockdown.

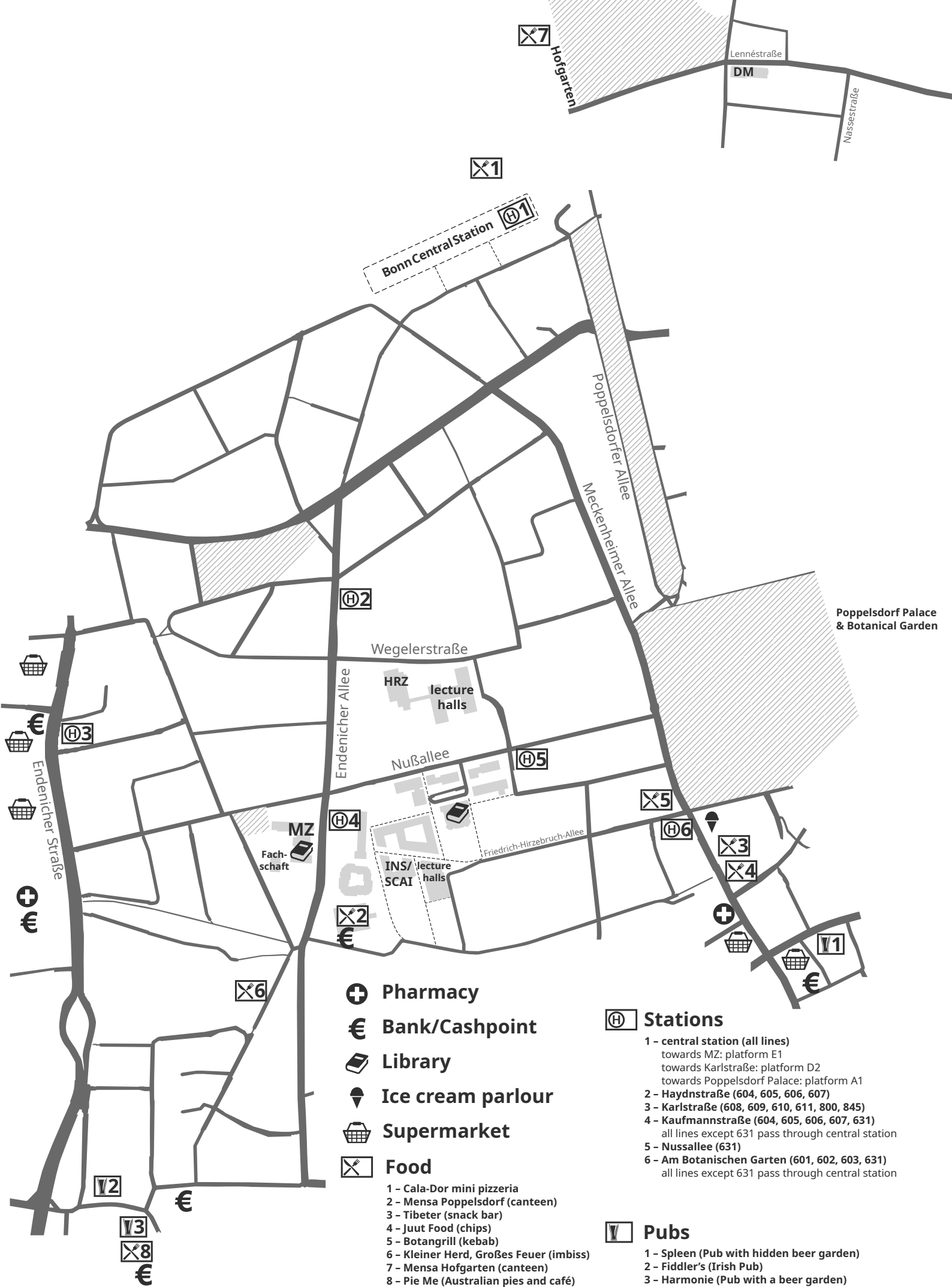
Zoom can be accessed via the university’s zoom page at uni-bonn.zoom.us. A standalone client is available to download for free at zoom.us.

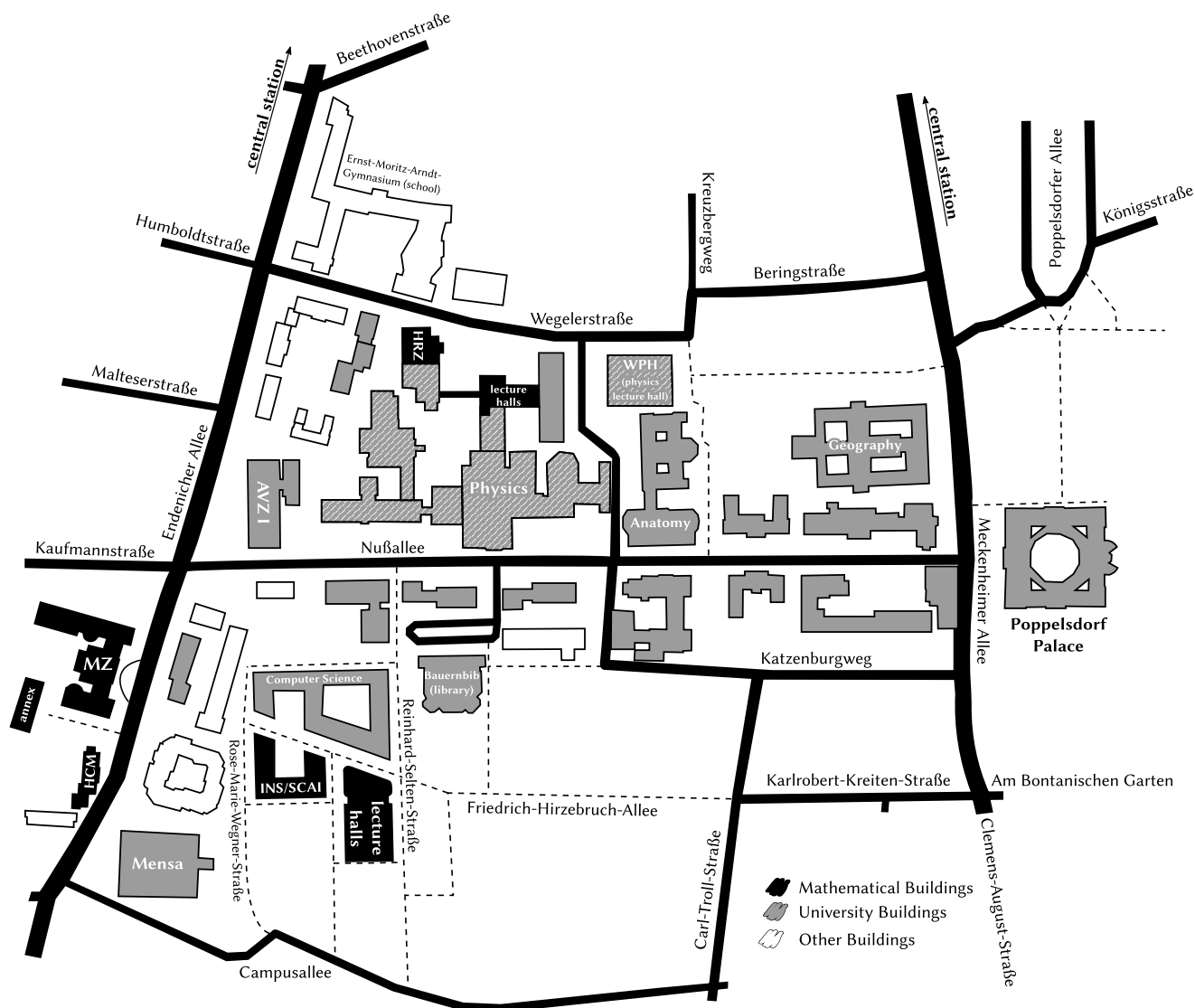


“Would you tell me, please, which way I ought to go from here?”

“That depends a good deal on where you want to get to,” said the Cat.

Figure 51: Now it's up to you.





Winter Semester 26/27		Summer Semester 2027	
3.10	German Unity Day	26.3	Good Friday
10.10	Tutors' training	29.3	Easter Monday
12.10	Start of the lecture period	5.4	Start of the lecture period
1.10-30.10	Registration period for seminars and practical courses	1.5	Labour Day
1.11	All Saints' Day	7.5	Ascension Day
1.12	Deadline for transfer of credits	17.5	Pentecost Monday
1.12	Start registration period for exams	27.5	Corpus Christi
2.12	Dies Academicus	16.7	End of the lecture period
24.12-6.1	University Christmas break		
4.2-10.2	Carnival		
5.2	End of the lecture period		