

EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN



GUIDELINES FOR *PROSPECTIVE & ACTIVE*
DOCTORAL STUDENTS

GRADUATE TRAINING CENTRE
OF NEUROSCIENCE

INTERNATIONAL MAX PLANCK RESEARCH SCHOOL



Contact

		phone
PD. Dr. Marc Himmelbach	<u>neuro.school@uni-tuebingen.de</u> Office hours: by appointment	77177
Dr. Katja Thieltges	<u>neuro.office@uni-tuebingen.de</u> Office hours: by appointment	77179
Dr. Monika Lam	<u>monika.lam@tuebingen.mpg.de</u> Office hours: by appointment	73659

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Comments & feedback on these guidelines are most welcome! Send to:
marc.himmelbach@uni-tuebingen.de

Dear students,

in this booklet, we have compiled a set of guidelines that are meant to support you in applying and getting admission to the doctoral program of the *Graduate Training Centre of Neuroscience/International Max Planck Research School (GTC/IMPRS)*. Furthermore, you will find information on various issues relevant throughout your doctoral phase and, finally, this booklet will guide you through the process of graduation (what to do when by whom?).

Knowing and adhering to these guidelines will not only ensure that your application and admission procedure will be completed shortly but also, that the doctoral phase until graduation will run smoothly.

In addition to the information compiled in this booklet, you may find answers and explanations and forms to download on the GTCs website. Nevertheless, in case you still have questions – even after reading these guidelines carefully and browsing through our website – don't hesitate to contact the GTCs staff, in particular Dr. Monika Lam, the coordinator of the doctoral program. She is in charge of most of the operational tasks and of counseling both doctoral students and supervisors.

CONTENT

PART 1 The beginnings ...

- The GTCs staff - *Who* is in charge of *what*?
- General timeline – Students' status
- The application procedure – Documents to be submitted
- The Advisory Board – Composition, functions & duties
- The first, initial Advisory Board interview – Key to admission

PART 2 ... during

...

- Recurrent Advisory Board meetings
- Doctoral courses
- No-shows
- Financial support

PART 3 ... the end.

- The doctoral procedure step-by-step – *Who* is in charge of *what*?
- Format of the doctoral thesis – 'Monograph' vs. 'cumulative' thesis
- Application for admission to the doctorate process
- The process of graduation– Examiners, the defense, and more

Appendix

- The GTCs doctoral regulations *in brief*

The complete doctoral regulations, both the legally binding German version and an English translation, can be downloaded from the GTCs website at: <http://www.neuroschool-tuebingen.de/>

Part 1

The guidelines and information contained in Part 1 are most important for new doctoral students who just arrived in Tübingen, kicked-off their project in the lab and now attempt to join the GTCs graduate program. Here you find instructions as to the first steps to be taken and the things to be done and completed within the first 6 months of your stay.

CONTENT

- The GTCs staff - Who is in charge of what?
- General timeline – Students' status
- The application procedure – Documents to be submitted
- The Advisory Board – Composition, functions & duties
- The first, initial Advisory Board interview – Key to admission

FORMS (referred to in Part 1 - download from the GTCs website)

- Application for Admission to the GTCs doctoral program
- Proposal of an Advisory Board
- Structure of doctoral thesis proposal
- Doctoral dissertation agreement (*Promotions-/Betreuungsvereinbarung*)

The GTCs staff –

Who is in charge of what?

Monika Lam	Marc Himmelbach	Katja Thielges
General counseling, 1 st meeting with you <i>and</i> your supervisor	Appointment of advisory board, thesis reviewers, and examination board	Students requests for financial support and accounting
Submission of application materials	Advice regarding the format of a dissertation: monograph <i>vs.</i> ‘cumulative’	Reimbursement of travel costs, fees, language courses, etc.
Support / advice of any kind during the doctorate phase	Approval of the quasi-final draft of the dissertation before submission	
Submission of the final dissertation and the required documents	Appointment of a 3 rd reviewer in case of a <i>summa</i> - procedure	
Issues the doctoral degree- and IMPRS-certificates	Appointment of the examination board for the thesis defense	
Organization of and admission to doctoral courses		

General timeline – Students’ status

- Day 1 Arrival in Tübingen and start with the doctoral project in your new research group.
- Shortly thereafter, you together with your supervisor should show up in the GTC for a first instructive meeting with Dr. Monika Lam (strongly recommended for all supervisors and even compulsory for supervisors who attempt to place their first doctoral student in the GTC’s graduate program).
- In case you are an *international student* and need rapidly a proof of affiliation with the University of Tübingen (in order to secure their visa status and/or a room in the dorm) we may issue a letter confirming that you are currently in the ‘process of application and admission’. This letter allows for matriculation at the University for **1 semester only!** Please be aware that the GTC is very strict with issuing these letters – an early admission interview with your Advisory Board is clearly preferred over preliminary admission. Preliminary admissions do not yet entitle you to the GTCs benefits.
- 0 – 3 months Within the first 3 months, you have to submit - in person - your complete application package at the GTC.
- 3 – 6 months After 3 – 6 months the latest, you must have completed the interview with your Advisory Board. After the successful interview, you will receive a ‘Letter of Admission’ from the GTC, which then allows for matriculation as a ‘doctoral student’ at the University. Matriculation is compulsory since 03/18 (with exceptions); international students are often required to matriculate in order to fulfill their visa requirements.
- After admission to the GTC’s doctoral program, you have the status ‘active student’ and are, henceforth, entitled to the benefits of the GTC (support - training - financial means in case that you are member of the IMPRS ‘The Mechanisms of Mental Function and Dysfunction’).
- 3 ½ years The status of being an active student and, thus, being eligible for benefits expires three years after your initial Advisory Board interview has taken place (= maximally 3 ½ years after the start in the lab). You then become a ‘passive student’ but you are still a member of the GTCs graduate program. However, you are not anymore entitled to financial support and admission-restricted doctoral courses, unless there are vacancies in a particular course.
- In case you enter the GTC belated (i.e., differing from the timeline proposed above) you can become an ‘active student’ only for an accordingly reduced period of time. In general, a belated joining of the GTCs graduate program is highly undesired and only possible under specific conditions (e.g., when a new research group moves to Tübingen and the doctoral students prefer to continue their graduate training in the GTC).

The application procedure –

Documents to be submitted

Before applying to the GTC, it is strongly recommended that you together with your supervisor have a first meeting with Dr. Monika Lam in order to discuss the general requirements for becoming a doctoral student at the GTC, to get informed about the timeline of the application and admission process, and to clarify the very next steps to be taken.

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First of all, you have to submit a written application including a couple of essential documents and credentials (in case you will not be able or not required to submit a certain document, please state why).

- Form ‘Application for Admission’ (download from website)
- Curriculum vitae
- Certified copy of (Master) degree certificate (*Urkunde*)
- Certified copy of transcript of records (*Zeugnis*)
- English language proficiency test (waived under certain conditions)
- Two letters of recommendation (one from past, one from future supervisor)
- Proposal of an Advisory Board (the final appointment of the AB is with the doctorate board)
- Doctoral thesis proposal, including timeline (min. 3-5 pages / structure see below)
- Doctoral dissertation agreement

Structure of doctoral thesis proposal

The doctoral thesis should be outlined on 3-5 pages and address the following points:

1. Introduction to the scientific topic
2. Status quo of the scientific topic – own preliminary work
3. Goals and methods applied – work schedule and timeline
4. Statement that the necessary funds, the infrastructure and the set-ups are available
5. Bibliography

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PLEASE, do not hand-in your application materials step-by-step in little bits and pieces but show up in the GTC after you have collected all the required papers and your **application is complete!**

Once your application has been accepted and your suggested advisory board has been approved, you need to get in contact with the members of your Advisory Board in order to arrange your first advisory board interview. **The successful interview is the mandatory requirement for your admission to the GTCs doctoral program.**

The Advisory Board –

Composition, functions & duties

The GTC's doctoral regulation stipulates in § 3 that doctoral students are guided and supervised by an Advisory Board – AB (also termed 'Doctorate Committee'). In the following, we will provide you with the essentials on the composition, functions, and duties of an AB.

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Composition of an AB: The AB consists of your supervisor and two additional members. They are recruited from the circle of professors, junior professors, 'Privatdozenten' or junior research group leaders (MPI, CIN, DZNE, BCCN). Furthermore, one of the AB members should have the same scientific background as you (e.g., if you are a psychologist, he/she has to be one as well), and at least one AB member must be a natural scientist (i.e., hold a Dr. rer. nat.-degree).

The AB members should ideally come from different departments, be independent of each other, have diverse scientific and methodological backgrounds and, thus, in a way complement each other. Moreover, we strongly recommend that you, if possible, opt for scientists you already know and have faith in.

Since the exact requirements for becoming an AB member are quite complicated (see § 3, clause 1–3), we strongly recommend to discuss this issue with Drs. Lam or Himmelbach during one of your first meetings in the GTC.

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The **functions & duties of an AB** are stipulated in § 3, clause 4. The AB shall test your competency regarding the aspired project, decide on the scope and content of the doctoral studies and possibly additional work to be provided ('*Eignungsfeststellungsverfahren*', especially if you graduated from a University of Applied Sciences/ Fachhochschule or you attempt to enter the doctoral program with a B.Sc.-degree). The AB will discuss with you your doctoral concept and comment on your progress reports. Finally, two of the AB members will be asked to review and grade your doctoral thesis and the three AB members, together with a fourth scientist, will form the examination board for your thesis defense.

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First Meeting (Admission Interview): In the beginning, the AB has the most crucial task to check your overall competency and qualification for the aspired doctoral project. While your formal eligibility for admission as a doctoral student (degree, years of study, etc.) is checked by the GTC, the AB members shall focus on your 'fit' with the aspired project: i.e., does your previous training qualify you to handle the sought project successfully, both professionally and methodologically?

Another major duty of the AB is to critically evaluate your thesis proposal, based on a written thesis outline and the presentation of the project in your first AB meeting (is the suggested timeline realistic, can the aspired project be concluded in this time period, are the proposed methods adequate to study the scientific questions, etc.).

Depending on your previous training in and knowledge of ‘neuroscientific topics’, the AB members may recommend that you take specific courses from the curricula of our three masters programs. This may help to compensate for potential insufficiencies in your education and, thus, to better prepare you for tackling a demanding doctoral project.

After successful completion of the first AB and submission of the signed form you will be provided with a **‘Letter of Admission’** which allows for matriculation as a doctoral student at the University. Admitted and therefore ,active’ doctoral students are entitled to participate in the course program of the GTC.

The enrolment at the Student Administration (Studierendensekretariat) is obligatory for doctoral candidates accepted after March 29th 2018. Doctoral candidates whose main employer is the University of Tübingen (with a position of at least 50%) can be exempted from the compulsory enrolment.

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Please keep in mind that your Advisory Board is not a sort of bureaucratic hurdle that you will have to overcome to accomplish the thesis requirements. The function of the AB is to give advice to both (student and supervisor) concerning issues and problems of scientific, strategic and personal nature.

To summarize,

- call your first AB meeting in the very beginning of your project. You do not need data for that!
- incorporate diverse scientific competencies in your AB that might be beneficial for your thesis work
- do not include AB members from your supervisor’s lab or department to ensure diversity and independency
- do not substitute your AB meetings with private visits to single AB members with the aim of collecting the required signatures

If you encounter any problems, please call an AB meeting at any time and beyond the minimum of three meetings!

Part 2

The guidelines and information contained in Part 2 become relevant after you have successfully passed your first Advisory Board interview and are by now fully engaged in your doctoral research project. Here you find information on your rights & duties as an ‘active doctoral student’, on the supplementary training offered and other benefits the GTC has to offer.

CONTENT

- Recurrent Advisory Board meetings
- Doctoral courses
- No-shows
- Financial support

FORMS (referred to in Part 2 - download from the GTCs website)

- Documentation of Advisory Board meetings
- Application for financial support (restricted to members of the IMPRS ‘The Mechanisms of Mental Function and Dysfunction’)

Recurrent Advisory Board meetings

Doctoral students are obliged to have annual meetings with their Advisory Board (AB). It is required by the GTC that (i) **all AB-members are present for the meetings**, (ii) that after the first AB-meeting at least another two meetings take place, and (iii) that the meetings are documented with date and signatures on a form provided by the GTC. It is your responsibility to organize the meetings in time.

The AB has a crucial steering function. By ‘mentoring you and monitoring your work progress’, the AB not only ensures the generation of genuine scientific data that meet the requirements for a doctoral thesis but also ensures the completion of your doctorate within a reasonable period of time. In a last AB meeting, you should get the ‘go-ahead’ for completion and submission of your thesis.

The issues covered during an AB-meeting include, amongst others:

- presentation of a progress report of your doctoral project, in order to check that the project is still on the right track,
- information of the AB about the status of your supplementary doctoral training and future courses/training you aim at,
- considerations on how the project will be continued,
- discussions of problems in the project and of potential solutions,
- information on scientific meetings you attended and of posters / talks presented.

In case your doctoral project doesn’t run well and/or you face problems with getting data etc., you may call an additional meeting with your AB in order to discuss and, ideally, solve the problems. Before an additional AB meeting is organized and called in, counseling with a GTC staff member might also be an option.

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In general, AB members will also be appointed as 1st and 2nd reviewers/readers for your dissertation and as examiners for the thesis defense. In case a 3rd review is required, i.e., when grade ‘*summa cum laude*’ is considered, the GTC will appoint a reviewer from outside of Tübingen.

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To summarize, the AB members resume a responsible function in supervision and guidance of doctoral students at the GTC and, thus, shall contribute to the successful realization and completion of high quality-doctoral studies. The AB members have to meet with you **altogether at least 3x** during your doctoral phase (begin – midterm – end) and the meetings have to be documented with date and signature on a form (provided by the GTC). **In the end, you are required to submit this form along with the ‘Application for Admission to the Doctorate Process’.** Please note, that this is a compulsory document.

Doctoral courses

As a doctoral student of the GTC's graduate program you will be offered a wide spectrum of specialized training courses across the years. In addition, you can choose from several courses running in the three master's programs every winter and summer semester. You are required to earn in total 18 ECTS-credit points in order to fulfill the doctoral graduation requirements. Courses are to be chosen from different categories according to the '**Core Curriculum**' (see below), which was developed jointly by doctoral students and lecturers and approved by the Boards of the Graduate Schools.

All **doctoral courses** organized and offered by the GTC are posted on the GTC's website. In parallel, we will inform you by e-mail about new doctoral courses in order to prevent missing out on courses of interest. If you want to participate in a particular course, you will have to register for this course on-line through the GTC's website. In case there are more applications than places on a course, 'active' doctoral students of the GTC are preferred over students who are still in the process of admission. The latter will be considered in case of vacant places on a particular course.

Furthermore, an education program for doctoral candidates (in English and German) is offered by the Universities Central Graduate Academy (*Graduiertenakademie*). To enroll for a course, you have to login in a special ILIAS system following the link: https://vitruv.uni-tuebingen.de/ilias3/goto.php?target=root_1&client_id=graduier (enter 'Neuroschool' when asked for your faculty).

In case you had not been trained in neurosciences before, you may also attend **courses from our three master's programs**. Likewise, you will have to register online for these courses. Very few of these courses have admission restrictions, though, and are for master students only.

You may also participate in **national or international workshops and summer/fall schools**. However, it is your responsibility 'to spring into action' and to apply and compete for one of the often-limited places.

Please be aware that **attending scientific meetings**, even with a poster or a talk, **does not earn credits**. Analyzing and preparing research data for presentation on a scientific meeting is an inherent part of a doctoral research project and, therefore, not considered 'supplementary training'.

Sometimes, courses have not been assigned ECTS-credit points. In these cases, we recommend that you contact the GTC staff and ask for assistance in calculating the respective course credits (calculations is based on the complete workload required to successfully complete a course).

You are required to keep track of your successfully completed courses and, ideally, update your course list continuously to ensure of having the up-to-date status at any time. The listed courses will be checked and discussed during the interims AB meetings and can also be inspected and approved by the doctoral course coordinator Dr. Lam. In the end, you need to submit the final course list as a compulsory graduation requirement, along with the Application for Admission to the Doctorate Process.

After successful graduation, you will receive a doctoral degree certificate (*Promotionsurkunde*). Please note that IMPRS students will automatically receive an

additional transcript that lists all the courses that have been taken during the doctoral phase. All other doctoral graduates may get a confirmed course list on request.

Core Curriculum of the Doctoral Program

Course Category	Fraction %	ECTS* CPs	Examples
Hard-skills general	~ 40 %	min. 7 CPs	<ul style="list-style-type: none"> • Lectures, courses, seminars offered by the masters and doctoral program of the GTC (e.g., neuroscience-, methods-, statistics-, programming courses). • Lectures and courses offered by other faculties at the University (advanced programming or maths courses). • ... or equivalent.
Hard-skills specific	~ 30%	min. 5 CPs	<ul style="list-style-type: none"> • National / international workshops. • National / international summer / fall schools. • Supplementary lab training (in Tübingen or elsewhere). • NeNa-participation, doctoral students retreats. • ... or equivalent.
Soft-skills	~ 25%	2-4 CPs	<ul style="list-style-type: none"> • Scientific writing, project/time management, etc. • Active participation in teaching (lecture, practical course, tutorial, lab visits, etc.). • Active participation in organizing events (1 CP max.). • German language courses for int. students (3 CPs max.). • ... or equivalent.
NeuroColloquium	~ 15%	2-3 CPs	<ul style="list-style-type: none"> • Biweekly, compulsory for doctoral students, 80% rate of attendance as proven by attendance lists, 0.5 CPs per term (3 CPs max.).

*ECTS (European Credit Transfer System): 1 credit point (CP) = workload of 25 to 30 hours

No-shows

The GTC organizes every year various courses exclusively for YOU, the doctoral students. In general, these courses are highly appreciated as they offer a wide spectrum of supplementary education – besides your scientific training – in order to better prepare you for your future career.

Organizing these courses is time consuming and, importantly, the courses itself are **very costly!** For many of the courses we hire specialists who ask for remunerations of up to 2.000 € per day. Furthermore, these trainers demand that the number of participants is limited, often to as few as 10-16 students per course to ensure better interaction of students and trainers. And this is the reason why not everyone interested in a particular course can participate and that we generally have waiting lists.

For these reasons, it is **very disappointing** to observe that now and then students, who have registered for and been admitted to such an admission restricted course, do **not show up**. This is a highly non-professional and reckless behavior and cannot be tolerated by the GTC. What's even more regrettable is the fact that we are often not able to fill the vacant places with students from the waiting list when we learn about no-shows only on short notice or even on the morning the course starts. This is a waste of training resources and of money (every student who does not show up wastes 150-200 €).

The least we expect from students who registered for a course is that they let us know **clearly in advance** by phone or by e-mail that they can't make it for the course. This practice will enable us to then admit students from the waiting list. **Only very good reasons** (such as sickness proven by a medical certificate) can be accredited as an excuse for not showing up.

No-shows will be strictly excluded from participation in place-limited doctoral courses (those with restrictions on admission) for 9 months and, furthermore, they will not receive any financial support from the GTC for this same period of time.

**Thank you for your understanding in this matter
and for your cooperation!**

Financial support –

Restricted to members of the IMPRS ‘The Mechanisms of Mental Function and Dysfunction’

Members of the IMPRS ‘The Mechanisms of Mental Function and Dysfunction’ are entitled to apply for financial support to cover expenses, such as travel costs, fees, etc. This will enable students to travel, regardless of the financial endowment of their work group. Certainly, funding will only be available as long as you are an ‘active’ doctoral student and only over a period of 3 years. Please be aware that the total amount of funding available to the GTC *per year* can be subject to fluctuations, which might result in a more or less restricted funding policy from year to year (*the funding is provided by the Max Planck Society*).

The funds are mainly geared towards doctoral candidates whose work group cannot afford expenses for meetings or other events (see below). Nevertheless, every applicant and/or supervisor will be asked to contribute own funds in addition since the GTC will in general not be able to cover the complete costs arising, for example, the costs for an international meeting. IMPRS doctoral students may receive financial means in the amount of **maximally 800 € per year over a period of 3 years**.

The designated use of the money includes the following categories:

- Attendance of **national and international scientific meetings**. This will be granted under the conditions that your work group cannot or not completely afford the arising expenses, and, most importantly, you present a **poster** or a **talk** on your doctoral studies at this meeting.
- Attendance of **summer schools** or **neuroscientific/methods workshops**. This will be funded under the conditions that the topic of the summer school/workshop is in line with your research topic, and that you provide a proof of fulfillment of course requirements and successful participation from the course organizers.
- **Laboratory visits** with the aim to acquire new methods and/or improve technical skills might also be supported financially. However, these lab visits have to be well justified both by yourself and your supervisor, they should be an asset for the ongoing thesis project, and they need to be co-funded, e.g., by your work group or any other third party.
- For international doctoral students, 50% of the costs for **German language courses** will be resumed by the GTC under the condition that, after completion of the course, you provide a proof of ‘successful participation’ from the course organizers.

Funding for events others than those listed above might be provided as well. However, to be on the safe side whether the GTC will incur any expenses, it is strongly recommended to inquire with the IMPRS coordinator **before** pursuing a particular endeavor.

How to apply for and receive financial support?

In order to receive financial support, you will have to fill in the form 'Application for Financial Support' (download from the GTCs website) in which the **designated use of the money is to be specified** and which has been **approved and signed by your supervisor**. The application form is to be submitted to the IMPRS coordinator, who will also advise you on a possibly required 'Travel Application' (*Dienstreiseantrag*).

- Please note that you have to **'hand in'** the application **'in person'**. Only after the IMPRS coordinator has approved your request and given the 'okay' you may go ahead and start organizing your trip and booking your flight, etc.
- Please note that expenses for trips will **not be reimbursed retroactively** but only when an application was submitted and approved well in advance!

After approval of your application by the GTC, you may start to organize the aspired trip. In general, you will have to pay the arising expenses in advance and be reimbursed later by the GTC (exceptions are to be discussed with the IMPRS coordinator). Once the event is over, you have to promptly submit the **original receipts/ vouchers** at the GTC, along with the proof of successful participation in the event.

The types of costs covered by the GTC generally include registration fees, flight or train costs and accommodation. You are required to keep the costs as low as possible; otherwise the GTC can cover expenses only partially.

Part 3

The guidelines and information contained in Part 3 become relevant once you are about to complete your doctoral project and aim at graduation. Here you find information on the required paperwork to be done and documents to hand in, on the different formats of a doctoral thesis, the complete thesis review and defense procedure until the submission of depositary copies of your thesis and reception of the doctoral degree certificate.

CONTENT

- The doctoral procedure step-by-step – *Who* is in charge of *what*?
- Format of the doctoral thesis – ‘Monograph’ vs. ‘cumulative’
- Application for admission to the doctorate process
- The process of graduation– Examiners, the defense, and more ...

FORMS (referred to in Part 3)

- Template of cover letter for the ‘Application for admission to the doctorate process’ including the required ‘declarations’
- Template of the cover page and the following pages of the doctoral thesis, including the required ‘declarations’

The doctoral procedure step-by-step –

Who is in charge of what ?

In this section, the basic, last steps in a doctoral procedure – from submission of the thesis until graduation and issuing of the doctoral degree certificate – are briefly outlined. Furthermore, it points out which steps are in **your** sole responsibility and which steps are taken care of by the **GTC**.

- **You:** Accomplishment of a last AB meeting and getting the ‘**okay**’ of the AB for wrapping up the doctoral project and submitting the dissertation shortly.
- **You:** Compiling a ‘quasi-final draft’ of the dissertation and showing up in the GTC in order to clarify last questions regarding formal requirements of the dissertation and the application materials to be submitted.
- **You:** Handing in the ‘Application for Admission to the Doctorate Process’, including 5 copies of the finalized dissertation.
- **GTC:** Sending out the dissertation to the two pre-assigned reviewers/readers along with requests for evaluation and grading.
- **GTC:** Display of the dissertation and the reviewers report in the GTC and, at the same time, informing you that the reports are in and request you to schedule the defense.
- **You:** Getting in touch with the four pre-assigned examiners, organize day, time and location of the defense and inform the GTC immediately about it.
- **GTC:** Sending out the official invitations for the thesis defense to the examiners, along with copies of the dissertation.
- **You & GTC:** Thesis defense at the GTC (30 min presentation + 30-60 min questioning and discussion).
- **GTC:** Issuing of a ‘Letter of Confirmation’ stating that you have completed the doctoral procedure successfully and that you have been conferred a Dr. rer. nat.-degree.
- **You:** Handing in the required number of depositary copies of your dissertation to the GTC.
- **GTC:** Issuing of the doctoral degree certificate and the IMPRS-certificate and transcript of records.
- **You & GTC:** Handing over the degree certificate and/or the IMPRS-certificate/transcript to you. Once you have received your documents, the doctoral procedure is completed!

Additional and more detailed information on some of the issues addressed above will be given in the sections below.

Format of the doctoral thesis – ‘Monograph’ vs. ‘cumulative’ thesis

The format of a dissertation is elaborated in § 9 of the GTCs doctoral regulations. Instead of a classical ‘monograph’, a dissertation may also consist of individual publications.

The **monograph** is the typical, standard-style of dissertations and generally structured by the following, well-known chapter headings:

- Abstract/Summary
- Introduction
- Materials & Methods
- Results
- Discussion
- References
- Acknowledgements

It is stated in § 9 that scientific publications or manuscripts in press / accepted for publication can be included (of course, all these papers have to deal with a common scientific theme). We then speak of a ‘cumulative thesis’. The cumulative thesis is exclusively publication-based.

The suggested structure of a **cumulative thesis** looks like this:

- Abstract/Summary
- **Synopsis** (see below), including references
- List of papers/manuscripts appended
- **Statement of contributions** (see below)
- Appended papers/manuscripts
- Acknowledgements

A question often asked by students concerns the number of papers/manuscripts needed in order to compile and be eligible to submit a cumulative thesis. Unfortunately, there is no clear-cut answer to this question. As a rule of thumb: **you should have at least two 1st author and one co-author publication** (and, once again, all these papers have to deal with a common scientific theme). This has proven to be realistic for an ambitious candidate and a 3-4 years doctoral phase. However, the number of papers that can be achieved depends to some extent also on the field of research you are working in.

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After thesis submission and successful completion of your thesis defense, you have to clear a last hurdle in order to complete graduation and receive the doctoral degree certificate: the dissertation needs to be ‘published’ (see § 21).

- In case you submitted a monograph, you will be required to print and hand in **3 copies** of your dissertation (= depositary copies in A5) and to publish your

dissertation ‘electronically’ (details can be found elsewhere: <http://tobias-lib.uni-tuebingen.de>).

- In case you have submitted a cumulative thesis, (compiled of publications and/or manuscripts **in press** and/or manuscripts **accepted** for publication) you are required to print and hand in **5 copies** of your dissertation (= depositary copies in A5). In this case, the dissertation has already been published by the journals and, therefore, you will not have to publish your dissertation at the online Publication System of the University of Tübingen.

One of your submitted copies will be kept in the archive of the GTC.

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The two thesis formats described above (monograph = not yet published vs. cumulative thesis = already published) are clear-cut cases with respect to the number of required depositary copies (3 vs. 5). However, in many cases doctoral students have not yet published their complete dissertation project but may have a mixture of ‘published papers’ and yet ‘unpublished manuscripts’ at various stages of completion (e.g., manuscript submitted, under review, under revision and/or manuscripts still in preparation and to be submitted shortly, etc.).

How should you handle these cases? Can the papers/manuscripts be combined in a thesis or not and is a mixture of published papers and unpublished manuscripts when lumped together actually a ‘cumulative’ thesis? And, importantly, what are the consequences regarding the numbers of depositary copies required? Here are the answers:

- YES, ‘published papers’ and ‘unpublished manuscripts’ can be combined and submitted as a thesis. This concession is meant to encourage students to write papers (!) and, at the same time, frees them from the burden of preparing a classic monograph dissertation in addition.
- NO, this mixture of papers and manuscripts is not a ‘cumulative thesis’ and, by definition, not yet published. We call this format ‘Monography extended’.
- Consequently, in cases like this, the doctoral candidate is required to submit 3 depositary copies of the thesis and publish an electronic version online.

In any case, a compiled thesis of this kind must also be preceded by a ‘synopsis’ and must contain a ‘statement of contributions’ by the doctoral candidate, as required by § 9 (see below).

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If you publish your dissertation as a monograph and want to publish later also chapters of it as individual papers in journals, you enter a grey zone. It very much depends on your audience and the publisher of your monograph. Here you might have to seek permission to publish the same or similar content again. However, through the peer-review process it is quite likely that in the end your text to be published differs a lot from the original. If you want to be on the safe side: Submit the required minimum number of copies of your dissertation and publish the content later in journals.

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A thesis compiled of individual papers and/or manuscripts must be preceded by a synopsis (of at least 15 pages), which has two major functions:

1. The synopsis represents a mini-review of your work. It unites the major findings presented in the individual papers/manuscripts and, thus, brings out the overall picture of the story. Of course, the synopsis has to also include and discuss thoughtfully other **major studies** in the field and relate own findings to previous reports in the literature. In the end, the synopsis should provide an outlook as to new scientific questions arising and potential experiments to be done.
2. The synopsis has to demonstrate (and convince the reader) that the papers/ manuscripts pooled in the dissertation are all part of a coherent, overall concept aiming at answering a common scientific question (as it is expressed in the title of the thesis). Consequently, papers/manuscripts that only marginally touch this particular scientific topic shall not be included in the thesis!

A synopsis is by no means a text generated by cut-and-paste from the papers/ manuscripts contained in the dissertation. Rather, it is a unique, genuine text with completely new wording. It should not contain detailed descriptions of materials & methods employed and no individual data sets, graphs or figures (you may refer to the papers/manuscripts appended, where this information can be found). In general, the synopsis should have a completely new ‘quality’: it’s a condensation of the candidate’s work, uncoupled from details but focused on the overall picture of this field of neuroscience (*‘zoom out’ – forget about the picky details – shed light on the general picture*).

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Statement of contributions (according to § 9, clause 2): A thesis compiled of individual papers and/or manuscripts is in general based on joint projects, which is quite common in science. In this case, you must have independently drawn up your contributions on your own responsibility. Your individual work must be clearly recognizable and your contributions must correspond to the scope and requirements of an ambitious doctoral thesis. For every single paper/manuscript contained in the thesis, you must provide a statement of contributions. You have to ...

- ... briefly outline the framework of the particular joint project,
- ... give the **names of colleagues** and **their share** in this joint project,
 - who designed the study?
 - who did the experiments?
 - who did the data analysis?
 - who contributed additional data and which?
 - who wrote the manuscript?
 - etc.
- ... show the significance of your own contributions for this joint project,
- ... produce a declaration by your colleagues, as far as they are accessible.

We urge you to take this **‘statement of contributions’** seriously and unravel YOUR contributions and those of your co-workers to the best of your knowledge! This statement must be contained in your thesis (preceding the appended papers/ manuscripts) and it must also be submitted along with your ‘application for admission to the doctorate process’ (see below).

Application for admission to the doctorate process

Once you have finalized your dissertation and now attempt to graduate, you need to apply for Admission to the Doctorate Process (according to § 7 of the doctoral regulations). The application is to be directed in writing to the chairman of the doctorate board and must include:

A cover letter (template available) including:

- the title of the thesis,
- your academic- and home address, including e-mail address,
- the names of the *desired* evaluators,
- the names of the *desired* examiners for the oral examination.

The application is to be accompanied by:

- 5 copies of the dissertation (A4-format, ring-bound, printed double-sided),
- a presentation of professional and scientific career (CV),
- proof of the successfully completed doctoral studies,
- proof of the annual meetings with your AB,
- in the case of a cumulative thesis, a **statement of contributions** (see above) for all publications, where several authors have collaborated (to be approved by the candidates AB),
- a set of declarations (template available as download),
- an explanation of any previous, aborted or completed doctoral process or equivalent examination process which you have undergone (if appropriate),
- a police clearance certificate not older than six months (to be requested by you from the 'Bürgeramt' – will be send directly to the GTC).

Once you have compiled all the required papers, make an appointment with Dr. Lam and hand in the application materials 'in person'. She will then check that everything is complete and, thus, ensures that the procedure will not be delayed.

The process of graduation –

Examiners, the defense, and more ...

In this last section, you will learn about the course of events and the timeline of the graduation process *after* you have handed-in the ‘Application for Admission to the Doctorate Process’, including 5 copies of your final dissertation.

1. Immediately after submission of your application materials and your dissertation, the GTC will send out copies of the dissertation to the two pre-assigned reviewers/readers (generally your supervisor and another member of the AB) along with a letter from the Doctorate Board requesting the evaluation and grading of the dissertation at hand. Moreover, in this letter it is stated that the reviewers have to submit their report to the GTC within **two months**. Shortly before the deadline, the GTC will send out reminders to belated reviewers and, thus, ensures that unnecessary delay in the process will not occur.

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2. After both reports have been received, the dissertation and the reports are displayed for **2 to max. 4 weeks** in the GTC for inspection by the GTC faculty. The exact time period of the thesis display will be communicated to you, which allows you to start with organizing **day, time and location** of the thesis defense (the 1st day possible for the defense is the day after the display period has expired). We emphatically discourage you from scheduling a defense date without the ‘*go-ahead*’ from the GTC.

From the time periods given above, one can easily infer that the shortest possible time from ‘thesis submission’ to ‘thesis defense’ is 2 ½ to 3 months. Realistically, the time ranges between 3 and 4 months. In a ‘*summa cum laude*’-procedure, it even takes 5 to 6 months because a 3rd evaluation of the dissertation by an external reviewer is required and this evaluation can only be requested **after** the 1st and 2nd report has been received by the GTC. These time-considerations might be important for some candidates to better plan the next career steps, such as job applications etc.

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3. It is your responsibility to organizing the defense with the pre-assigned examiners. Yet, before you do so, please consult the GTCs staff in order to figure out suitable time slots at which rooms for the defense would be available. Whenever possible, defenses should take place in the rooms of the GTC. However, during the term the availability of rooms is often restricted. By decision of the Doctorate Board, defenses can then also take place at three other locations:

- the seminar room in the Hertie Institute for Clinical Brain Research,
- the meeting room on the third floor of the biology building, and
- the seminar room in the MR-building of the MPI for Biological Cybernetics.

Other locations than the ones mentioned above are excluded for GTC thesis defenses.

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4. After day, time and location for the defense has been fixed in agreement with the examiners, you are required to inform the GTC immediately about it. The GTC will then send out the official invitations for the thesis defense to the examiners, along with copies of the dissertation to prepare for the defense.

The thesis defense itself consists basically of three parts:

- The defense begins with a 30 minutes oral presentation in which you report on the central and most important findings of your doctoral project. The 30 minutes time frame has to be adhered to strictly – very few minutes less or more will be okay.
- After your presentation, further 30 to maximally 60 minutes will be devoted for questions and discussion. Only the examiners are allowed to ask questions and/or contribute to the discussion. Guests at the defense, if tolerated by you, are just passive observers.
- After the actual thesis defense, you and the guests will be asked to leave the room and the examiners deliberate on the grade for the performance of the defense and then calculate the final grade of the doctorate. Thereafter, the candidate will be asked in again and will inform you about the final grade achieved in the doctoral procedure.

Right after the defense, you will receive a letter from the GTC confirming that the doctoral procedure has been successfully concluded, which degree was earned with which grade, and that the doctoral degree certificate will be issued shortly. This confirmation is usually sufficient as a temporary proof that the doctoral degree has been earned and it allows, for example, to get hired as a postdoc or with a company.

You should be aware, however, that this confirmation is only a ‘preliminary proof’ for your doctorate degree, which does not yet allow the bearing of the academic title Dr. rer. nat. Bearing the doctorate title is only authorized *after* the doctoral degree certificate has been handed over the candidate.

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5. After thesis submission and successful completion of the thesis defense, you will have to clear a last hurdle in order to complete graduation and receive the doctoral degree certificate, i.e., the dissertation needs to be ‘published’ or, with other words, you have to submit to the GTC the required number of depositary copies of your dissertation. Upon receipt of the depositary copies and forwarding them to the Universities library, the dissertation is considered ‘published’ and the GTC can issue the doctoral degree certificate.

After the degree certificate has been furnished with the seal of the University of Tübingen and signed by the rector and the deans, you will be informed that the document is ready for pick-up at the GTC. Under certain conditions, the document can also be sent to you by ‘registered mail’. However, for security reasons this way of delivery is less preferred (depending on the destination).

Appendix

The GTCs doctoral regulations in brief

In July 2015, the University has published the revised doctoral regulations of the Graduate Training Centre of Neuroscience, which is now legally binding for all doctoral students of the GTC (Amtliche Bekanntmachungen 2015, Nr. 12, S. 431-445). Both, a German version and an English translation of the regulations are available and can be downloaded from our website. In the following, **key elements of the regulations** that are important to know for you and your supervisor are briefly summarized.

1. The GTC's doctoral regulation apply to all doctoral students of the three Graduate Schools (§ 1). The degree awarded is "Dr. rer. nat. in Neuroscience".
2. Doctoral students are guided/supervised by a doctorate committee, also known as Advisory Board (AB), consisting of the supervisor and two additional scientists of the field. Please pay attention to the required composition and the duties of the AB (detailed in § 3, clause 3, 4, respectively).
3. Potential candidates must apply for acceptance as doctoral students and submit an application package including several documents (§ 4, clause 1 a-f). The general (minimal) requirements for admission as a doctoral student, such as subject studied, degree needed, years of study, etc. are detailed in § 4, clause 2-4 (please read § 4 carefully, as the issues addressed here are often decisive whether or not an applicant is eligible for the doctoral program and, if yes, under which conditions). In any case, the final admission of an applicant is based on a 'positive recommendation' of the AB (§ 4, clause 5, 6) following an initial/first AB-interview of the candidate (which should take place within the first 3-6 months of the doctorate, the latest).
4. Doctoral students are required to earn 18 ECTS-credit points (§ 5, clause 2). Courses are to be taken according to the "Core Curriculum" (see below), which was developed jointly by doctoral students and lecturers and approved by the Doctorate Board of the Graduate Training Ctr.
5. Doctoral students are required to meet with their Advisory Board annually and present a progress report (§ 5, clause 5). These meetings have to be documented – with date and signatures – on a form provided by the GTC. The forms need to be submitted – along with several other compulsory documents (§ 7, clause 2) – by the end of the doctoral program ('application for admission to the doctoral process').
6. The doctoral thesis can be submitted as a 'monograph' or as a 'cumulative thesis' compiled from 'publications', 'manuscripts in press' or 'manuscripts accepted for publication'. Importantly, the individual papers have to deal with a common scientific topic (§ 9, clause 1). The publications must be preceded by a synopsis (15 pages minimum), which convincingly reasons the 'common theme' of the publications and the major new findings reported, discusses them in the light of the most recent literature in the field, and provides an outlook on future experiments. With cumulative theses – generally consisting of multi-author publications – students are required to include a statement in which they elaborate on their 'own contributions' to the individual studies as well as the share of the co-authors (§ 9, clause 2).
7. The period of time granted to the reviewers for writing the thesis evaluation is 2 months (§ 11, clause 1). The period of time the dissertation and the thesis evaluations have to be displayed in the GTC is 2–4 weeks (during terms vs. between terms, § 13, clause 2).

8. The grading options both for the dissertation and the defense are quite sophisticated as grades can be differentiated by ± 0.3 (§ 11, clause 2).

The rules for awarding the best grade possible (excellent/summa cum laude) is quite strict: grade ‘excellent’ will only be awarded in cases when 3 reviewers rate the dissertation ‘excellent’ and, in addition, when the oral performance during the defense is rated ‘excellent’ by at least 2 of the 4 examiners (§§ 11, 13, 18). The 3rd reviewer in summa-cases will always be an expert from outside of Tübingen (usually appointed by the head of the GTCs doctorate board).

9. For the defense, 4 examiners need to be appointed (§ 15, clause 1). The candidate has to give a 30 minutes presentation, followed by 30 to 60 minutes of discussion and questioning (§ 15, clause 3). The defense is public, unless the examinee is opposed to it. Only the examiners are allowed to ask questions.
10. In addition to ‘Professors’ or ‘Privatdozenten’, ‘Junior Research Group Leaders’ are also eligible to supervise doctoral candidates independently and function as evaluators of dissertations and examiners in defenses (§ 3, clause 2). However, before doing so, ‘Junior Research Group Leaders’ (those at the CIN, HIH, BCCN, MPI) have to apply for this capacity with the Doctorate Board (guidelines describing the exact requirements and procedure are available at the GTC).

Core Curriculum of the Doctoral Program

Course Category	Fraction %	ECTS* CPs	Examples
Hard-skills general	~ 40 %	min. 7 CPs	<ul style="list-style-type: none"> • Lectures, courses, seminars offered by the masters and doctoral program of the GTC (e.g., neuroscience-, methods-, statistics-, programming courses). • Lectures and courses offered by other faculties at the University (advanced programming or maths courses). • ... or equivalent.
Hard-skills specific	~ 30%	min. 5 CPs	<ul style="list-style-type: none"> • National / international workshops. • National / international summer / fall schools. • Supplementary lab training (in Tübingen or elsewhere). • NeNa-participation, doctoral students retreats. • ... or equivalent.
Soft-skills	~ 25%	2-4 CPs	<ul style="list-style-type: none"> • Scientific writing, project/time management, etc. • Active participation in teaching (lecture, practical course, tutorial, lab visits, etc.). • Active participation in organizing events (1 CP max.). • German language courses for int. students (3 CPs max.). • ... or equivalent.
NeuroColloquium	~ 15%	2-3 CPs	<ul style="list-style-type: none"> • Biweekly, compulsory for doctoral students, 80% rate of attendance as proven by attendance lists, 0.5 CPs per term (3 CPs max.).

*ECTS (European Credit Transfer System): 1 credit point (CP) = 25 to 30 hours workload.