

# **Handbook for PhD Students**

## **Department of Geological Sciences**

### **Stockholm University**

#### **Welcome to the PhD program at the Department of Geological Sciences!**

This handbook is provided to give you a brief overview of some of the important information you will need to complete a PhD in the Department of Geological Sciences. This handbook points out the regulations that are specific to this Department, but you should refer to the PhD student handbook from the National University Administration and information from the Faculty of Science at Stockholm University for the most up-to-date procedures at the National and University level. Swedish National Handbook: (<http://www.doktorandhandboken.nu/>) - English version available by clicking on the top right side of the web site. The Faculty of Science has information at the following link

<http://www.science.su.se/pub/jsp/polopoly.jsp?d=12060>.

The Department of Geological Sciences has 3 different PhD degree programs: Marine Geology led by Professor Jan Backman; Geochemistry, led by Professor Patrick Crill and Geology, led by Professor Alasdair Skelton. The Director of PhD studies is Dr. Eve Arnold. Contact information for each of these faculty members is found below.

#### **Study Plans for the degree programs**

Each of the three degree programs has a study plan consisting of the requirements for admission, the education plan for students and the course and thesis requirements for both the licentiat and PhD degrees. These various requirements are briefly included in the appropriate sections in the following text. A copy of the study plan is available for your review from either the Professor in charge of the degree program or the Director of PhD studies, or at the following link:

<http://www.science.su.se/pub/jsp/polopoly.jsp?d=3031&a=10704>

#### **Application to the PhD program**

Students interested in PhD research at the Department of Geological Sciences should submit applications in response to open positions posted on the Departmental website

[http://www.geo.su.se/index.php?option=com\\_content&view=category&id=37&Itemid=57](http://www.geo.su.se/index.php?option=com_content&view=category&id=37&Itemid=57). Here you will also find information on when positions will be posted. If you find a position that interests you, and you have the required qualifications, follow the specific directions for the application, and send it in before the posted deadline. Direct any questions to the faculty member identified on the announcement.

Students with external salary financing from other academic institutions (e.g. NRM or a company) may apply to the PhD program at any time during the academic year, after consultation with the Department Chair.

If a promising student contacts a faculty member with financing from a stipend, the faculty member should speak with the Professor in charge of the research program and they should prepare a request to the Department Board to pursue accepting a stipend. The request should include:

- A short (1-page) description of the research project (analogous to the PhD advertisements, but there will be no open call).
- The student's CV and grade records.
- A cover letter written in English from the student describing their previous education and what they would like to achieve during their PhD studies.
- The conditions of the stipend contract in English.
- A salary finance plan equivalent to the take home pay of doktorandtjänst for at least 3 years. The Department can pay the fourth year doktorandtjänst, analogous to our policy for VR financing, which will also provide social/health benefits. In practice, this has been achieved by the Department paying 25% of the student's salary each of the 4 years, so that the students get health and social benefits.
- A research cost finance plan.

If the Board approves the suggestion, the contract is sent to the Science Faculty for approval.

If the Science Faculty accepts the contract conditions, a full study plan is submitted to the Department Board for final approval and admission, as is required for all PhD positions.

The academic requirements for all students applying to the Department of Geological Sciences is a Master's degree or a university education worth at least 240 ECTS, which includes an (3 year, 180 ECTS) undergraduate bachelor's degree and at least one year (60 ECTS) of post-graduate (Master's level and/or 4<sup>th</sup> year undergraduate) studies, or the equivalent from an international university with a 4 year undergraduate program. The most important selection criterion for students is that the student's credentials demonstrate that he or she has the capability of successfully completing a PhD degree. In addition to these basic requirements, the following specific requirements are necessary for admission to the 3 different degree programs:

**Marine Geology:**

At least 90 ECTS points in geology or geoscience

At least 60 ECTS must be advanced (Master's level and/or 4<sup>th</sup> year undergraduate level) geoscience including a minimum 15 ECTS individual project in geoscience.

At least 30 ECTS in math, physics, chemistry and/or biology depending on the research topic planned for the student.

Students who have a degree in a closely related subject such as chemistry, mathematics, biology or physics may also be accepted into this program.

**Geology:**

At least 90 ECTS in geoscience

At least 60 ECTS must be advanced (Master's level and/or 4<sup>th</sup> year undergraduate level) geoscience including a minimum 15 ECTS individual project in geoscience. At least 30 ECTS in math, physics, chemistry or biology depending on the research topic planned for the student.

Students who have a degree in a closely related subject such as chemistry, mathematics, biology or physics may also be accepted into this program.

### **Geochemistry:**

At least 90 ECTS in natural science.

At least 60 ECTS in advanced (Master's level and/or 4<sup>th</sup> year undergraduate) geology, geochemistry, biochemistry or other chemistry intensive natural science courses, including a 15 ECTS individual research project.

At least 30 p in chemistry.

The Department Board may make exceptions to the above requirements for individual students.

### **Your individual study plan**

In order to be admitted to any of the degree programs in the Department, you must take contact with a researcher or lecturer who can serve as your main supervisor during your PhD studies. You must also select at least 1 co-supervisor for the research project at this time. Together with your main supervisor, you must write a description of the research project for your PhD studies that you will complete within 48 months of full time study. The individual study plan also includes a list of your planned courses and research activities, the estimated dates of your licenciatur and PhD exams as well as a salary financing plan. You should think of the individual study plan as a "contract" between yourself and your supervisor.

The complete list of required application materials are appended at the end of this document. It is recommended that you contact the professor in charge of the degree program before applying.

### **Once you are accepted**

The Department and your supervisors are here to help you complete your PhD studies, but ultimately your success in achieving a PhD degree is dependent upon your own efforts. Once you have been accepted to the Department, your supervisor is responsible for providing you with all the resources that you need for your studies. He or she will see to it that you are assigned office space and provided with a computer and the appropriate lab facilities for your research. The Director of PhD Studies keeps a copy of your study plan on file in the Department. The study plan should be reviewed and updated at least once a year, and any changes in your research or academic training should be submitted in writing to the Director of PhD Studies.

The first step towards achieving your PhD is completing the Licenciatur Degree. This degree requires the completion of 37.5 ECTS course points, a written licenciatur thesis and a public presentation of the thesis that is evaluated by two examiners. All students are required by the Department to take the Licenciatur degree during their PhD

training and it should be completed after about 2 years of full-time study. The complete regulations for the Licentiat degree are appended at the end of this document.

The second step is completing the PhD thesis itself. The PhD degree requires the completion of 60 ECTS course points, a written PhD thesis, and a public defense of the thesis between the student and the thesis opponent, and a passing grade from the thesis evaluation committee. The PhD thesis should be completed after 4 years of full time study.

Of course the two big steps listed above are comprised of several smaller steps that are detailed below.

### **Courses**

PhD students must complete 60 ECTS points of course work, which includes the 37.5 ECTS points required for the Lic. degree, during their post-graduate education. This course work should be completed as early as possible during your studies, in order for your research to benefit from the course content. It is ultimately up to your supervisor to approve the course points for your PhD degree, so you should consult with your supervisor for course recommendations as well as approval for any courses you would like to take. You may take PhD courses from any university, professional society, NorFa, etc. as part of this requirement. The Department also allows up to 7.5 course points for non-classroom activities (see appended regulations below) and some course points for undergraduate courses (see appended regulations below) to be applied toward the PhD course requirements.

All PhD course points must be entered into the student's PhD LADOK record. LADOK is the national university registration system that is used to keep track of all university student records in Sweden. If you take a PhD course within this Department, your course points are automatically registered in LADOK once you have completed the course. If you take courses outside of this Department, you must provide the Director of PhD Studies with documentation from the course instructor that indicates the course title, number of points, academic level of the course and signed certification that you have fulfilled all of the requirements for the course. If you are transferring courses from the undergraduate program, you must obtain a LADOK print out which lists the course, as well as a letter from your supervisor indicating how many points may be applied to the PhD record and submit this to the Director of PhD Studies. Note that Master's courses are registered in undergraduate LADOK system even though they are at the advanced level, so you must submit them to the Director of PhD students to be transferred to your PhD record.

### **Supervision**

The Department is required to provide "appropriate supervision" for each PhD project. Supervision is a two way communication and both the supervisors and the student have responsibilities, listed below, in this interaction.

Supervisor's responsibilities:

- Schedule student – supervisor meetings on a regular basis (on average, 1/month), in order provide direction during the scientific development of the PhD project.
- Ensure timely completion of all degree requirements by developing a work plan with specific goals (courses, literature reviews, field and laboratory work, manuscript preparation) to be completed each term.
- Provide appropriate financial and technical resources to complete the project as outlined in the student's program of studies.
- Encourage the student to participate in Departmental activities/tasks such as seminars, popular science and teaching.
- Ensure that the student presents their research at national and international conferences.
- Help the student develop a contact network with other researchers in the field for collaboration and future employment opportunities.
- Provide the student with training on all aspects of working as a researcher; proposal writing, preparing and reviewing manuscripts, planning and executing science research.
- Ensure that the student is not burdened with excessive non-thesis responsibilities and stays focused on the task at hand – completing a PhD.

Student's responsibilities

- Be well prepared for student-supervisors meetings. Provide summaries of progress since the last meeting (data, abstracts, drafts of manuscripts, new literature, etc.). Consult with your supervisor about courses, research expenditures, and conference attendance. Update work plan and prepare a list of questions/problems that you need help solving.
- Complete the goals agreed upon in the time plan for each term. If there is a major setback, let your supervisor know as soon as possible.
- Participate in Departmental activities/tasks such as seminars, popular science and teaching.
- Present research at national and international conferences.
- Discuss research with faculty members and other researchers in the field.
- Assist supervisor with proposal writing, preparing and reviewing manuscripts, and planning future science projects in order to learn how to work in the research world.
- The main objective is to complete a PhD – do not spend excessive time (>20%) working on other tasks. If students are required to spend too many hours doing other jobs, they should speak to their supervisor, the head of the Department or the Director of PhD Studies.

In addition to your supervisor, you may also seek advice and assistance from other researchers both within and external to the Department. The professor in charge of your degree program should be kept apprised of your progress, as well as informed of any major difficulties with your research work. The Director of PhD Studies is also available to assist you with any problems or questions you may encounter. Students

have the right to change supervisors at any time during their PhD studies. If you are having difficulty, find someone on the faculty who can help you to solve the problem as soon as possible. Note that the Department does not tolerate discrimination, harassment, or other forms of disrespectful and demeaning behavior towards groups or individuals. If you experience any form of this type of behavior, tell somebody and ask him or her to help you. Do not suffer in silence – we will strive to solve the problem in a way that respects your wishes with regards to how the problem is investigated and eliminated.

### **Departmental annual review**

According to University regulation, the Department is responsible for reviewing the progress of each student on an annual basis. This control is conducted in the late autumn or early spring by the student and main supervisor completing a report on the student's progress, and returning it to the Professor in charge of the degree program. The review is a simple assessment of courses completed, field and laboratory work progress, and number of manuscripts prepared. The annual review also includes an assessment of hours spent doing "non-thesis" work – managing equipment, performing analyses, clerical work, etc. The Professor of the PhD degree program will call a meeting with the PhD student, supervisor and co-supervisors, and Director of PhD studies for the purpose of reviewing and updating the individual study plan. Copies of the annual review and updated study plan will be forwarded to all participants.

If serious deficiencies are discovered during this review, a plan for getting the student back on course (redirection of the project, additional co-supervisors, change of main supervisor, etc) will be devised to ensure the student's eventual success. The group will meet again at least once each term to evaluate progress, and again recommend corrective action if required. If after one year there is no significant progress (specifically, the student has not made satisfactory progress on their program of studies, and there is little likelihood for a successful completion of the PhD degree), the Department Board may be asked to withdraw departmental resources from the student (supervision, office/lab space, financing).

Note: If the Department Board decides to withdraw resources, the student may appeal this decision. Furthermore, the student will remain officially registered (unless the student decides to withdraw from the PhD program), and may continue to work on the thesis independent of the Department.

### **Financing**

All students accepted into the PhD program must have a full salary financing plan for the duration of their studies (48 months full time study). The Department of Geological Sciences employs all PhD students with a PhD position (Doktorandtjänst), or the equivalent, from the start of their PhD education; we do not begin with a stipend (utbildningsbidrag). At the end of 48 months of full time study, the Department's salary obligation towards your PhD research is finished, and you will receive no further research salary from the Department. At this point, your academic

status does not change; you may still continue with your PhD studies, but you will have to find another salary source. Note that you are not eligible for unemployment compensation if you are registered in a PhD program.

Students may have the opportunity to perform some extra non-thesis work for the Department or an individual researcher, such as teaching, managing some laboratory facilities or assisting with a research project which is not directly part of their PhD research. Students are not obligated to perform such work, but it can be beneficial to have some additional experience to enhance your employment opportunities in the future. A student is limited to a maximum of 20% time (1 day a week; for a total of 2.4 months a year) to perform such duties, and is free to choose a lesser assignment (10%, 4%, etc) if desired. Likewise, you may decide to take on a 20% teaching assignment for only 1 year of your 4 years of study. Note that some teaching experience and pedagogy training are important skills to have on your curriculum vitae if you plan to continue in academia. You should request a contract from the Director of PhD studies that details the amount of time and the types of activities you will perform prior to beginning a teaching exercise. Note that you must have pedagogy training in order to participate in lab/classroom instruction. This training is provided by the pedagogy unit at Stockholm University (<http://www.su.se/medarbetare/personal/kompetens-ledarutveckling/pedagogisk-utbildning/kurser-i-universitetspedagogik>). If you have doktorandtjänst, your position is automatically extended for the amount of time that you work. If you plan to do this extra non-thesis work during your time as a PhD student, you should indicate this on your individual study plan.

Extension of your position can also be offered for participation in various University and Department committees and boards. The amount of time you are allowed for various positions is governed by the University Rector's rule on this issue. This ruling and other regulations pertinent to PhD students can be found in the university rule book (in Swedish) at: (<http://www.regelboken.su.se/pub/jsp/polopoly.jsp?d=1032&a=3065>)

Many students have the idea that they get “extra time” for their PhD studies by accepting these jobs. This is not true. What you do get is some experience and training in laboratory, management or teaching skills, which can make your curriculum vitae more attractive to future employers. A student who performs the maximum extra work (20%) can receive salary support for up to 5 years (48 months of support for your PhD studies and 12 months of support for doing something else). You clearly can not be working on your PhD research while you are teaching a class or performing analyses for another researcher. The amount of support you receive from the Department for your own PhD research will not exceed 48 months, so plan accordingly. This issue is often a strong source of confusion and frustration for PhD students; you are encouraged to discuss this with the Director of PhD Studies when you are considering such a job assignment.

In addition to salary financing, you will need money for attending conferences and courses, analytical and field costs, etc. Your supervisor should be able to supply you with some funding for these needs, but PhD students are also eligible to apply for many different types of research stipends to cover these costs. The Department will generally inform all PhD students of the most common stipends when they are announced, but you can also search Stockholm University's database for stipends at: <http://www.su.se/forskning/stipendier>

Students on doktorandtjänst are employed as staff members at Stockholm University and are included in a collective bargaining agreement with the University. This means that your minimum salary level, numbers of vacation days, health care etc. are fixed by union negotiation. You can see the latest salary agreement at: "<http://www.su.se/medarbetare/personal/personaladministration/lon-och-ersattning/lonestege-for-doktorander-fr-o-m-2011-05-01-1.15939>" and receive a copy of the <http://www.su.se/medarbetare/personal/anstallningsvillkor/anstallningsvillkor-information-till-dig-som-anstalld-1.19859> by clicking on the Du och din arbetsplats or You and Your Workplace PDF files at the bottom of the page. Lots of detailed information for university staff members can be found on the SU website <http://www.su.se/english/staff-info> (English) or <http://www.su.se/medarbetare/> (Swedish).

PhD students on doktorandtjänst receive a specified amount of vacation time each year. You are encouraged to take out your full vacation time each year, preferably during periods when the University is not in session. You must fill in a form to inform the Department of your vacation, maternity or military service leaves prior to your departure.

### **Standards for salary promotions based on % of PhD program completed**

Students receive salary increases based on their actual research progress in their PhD studies. There are three salary levels: <50%, 50 – 80% and >80% completed, which the Department has defined as follows.

All students admitted after spring 2002 must take the licentiat degree between 2 and 3 years after their admission to the PhD program. Students will be promoted to 50% completion level once the licentiat exam has been taken.

The 80% completion level requires that the PhD student will defend their thesis with 1 year or less, not that you have used up 3 years of full time salary. All 60 ECTS course points must be completed. In all cases, the student's supervisor must certify on the student's annual review that they are ready for promotion to the next level. In addition, the students will receive a form (bilaga till anställningsbeslut för doktorand) to complete when the Department completes their doktorandtjänst salary contract for the upcoming year. Here you can indicate that you have achieved the next salary level. Note that if you and your supervisor can certify that you will attain the requirements for the 80% salary level within 6 months of the beginning of the new contract, you may indicate that you are eligible for the 80% level on the upcoming contract.

## **Registration**

Once every term (twice a year), you will receive a form (Doktorands aktivitet och försörjning) to fill in from the Director of PhD Studies. There are two pieces of information that you must complete. Your activity is the percentage of your time that you are working on your own PhD studies. This will be 100% minus the percent of time that you are working on any non-thesis extra work, sick leave, parental leave, etc. The second piece of information is how you are financed. Here you will indicate what percent of your salary comes from utbildningsbidrag, doktorandtjänst, assistanttjänst (e.g. teaching) etc. The salary information must sum to 100%. This form must be returned to the Director of PhD Studies, otherwise your LADOK records will indicate that you are not registered as a PhD student for the term.

## **Completing your degrees**

### **Licentiat**

The detailed licentiat degree regulations are set by the Department, and are as follows:

**Regulations for Licentiat Exam**  
**Adopted 25 September 2002**  
**Department of Geological Sciences**  
**Stockholm University**  
**With update from the Science Faculty 2011**  
<http://www.science.su.se/pub/jsp/polopoly.jsp?d=2728&a=41629>

### **Regulations:**

1. Student must have at least 37.5 ECTS points of PhD courses, a Licentiat thesis (consisting of publication quality research), and a public presentation of the research, to take out this exam.
2. The student's main supervisor must inform the Professor of the degree program (Geology, Geochemistry or Marine Geology) who will review the thesis or appoint another expert to assess whether the thesis is suitable for defense. The Professor of the degree program will send a request including the thesis title, date and time of the defense, as well as 2 potential examiners to the Department Board for approval. The two examiners should comprise an internal and external member. The examiners must have a PhD and at least one examiner should have Docent competence (or the equivalent), and both males and females should be included. Supervisors can not be examiners, but can chair the proceedings. Conflict of interest regulations regarding examiners and supervisors are the same as for the PhD exam.
3. The student is responsible for informing the Director of PhD Studies about the date and time of the Licentiat presentation as soon as possible. The Director of PhD Studies will review the student's course record and send the supervisor a

copy of the course record, requesting that the supervisor formally accept these courses for the licentiat exam.

4. The two examiners must receive a copy of the Licentiat thesis 1 month in advance of the planned presentation. The Department is responsible for sending out the thesis to the examiners. If the examiners determine that the thesis is not suitable for presentation, they should inform the supervisor prior to the publication of the Licentiat thesis, which occurs 3 weeks prior to the Licentiat presentation.
5. Thirty bound copies of the thesis must be available 3 weeks before the presentation, and 10 of these copies must be turned in to the Director of PhD Studies at this time. These copies will be distributed to the library, Departmental archives and be available for distribution to those interested prior to and during the licentiat presentation. The announcement (title, abstract, date, time and location) of the licentiat presentation must also be posted, and the introductory summary of the Licentiate must be posted in DiVA at this time.
6. The professor of the degree program normally chairs the licentiat presentation. The student presentation is typically 20 –30 minutes long, followed by questions from the two examiners. The presentation and subsequent questioning together typically last approximately 1 hour, and the chairperson must stop the exam at the 2 hours time maximum if it proceeds this long. The two examiners notify the Director of PhD Studies, in writing, of the result of the exam (pass or fail).

**Good to know (information for the students/supervisors):**

1. There is no prescribed length for the licentiat thesis (this determined by the main and co-supervisors), but it typically consists of a ~10 – 15 page introduction/overview, followed by 1 or 2 manuscripts. The Licentiat thesis may be either a monograph or a compilation of journal-style manuscript(s) and may be written in Swedish or English. The abstract must be written in both Swedish and English.
2. The student presentation is typically ~20-30 minutes long.
3. The external thesis examiner does not need to be external from the University.
4. The copy distributed to the examiners 1 month in advance does not need to be bound, but must be a complete and legible copy of the thesis, requiring only final formatting before reproduction. A bound copy of the thesis should be sent to the examiners once it is available.
5. The student is responsible for:

- Reproducing and binding the thesis (1. Student contacts Otto Hermelin, who will assist with the production of the cover page. 2. Student prepares 30 copies of the thesis. 3. Student contacts Dan Zetterberg, who will help you to bind the prepared copies).
- Booking the room for the presentation. Send an e-mail request to: [lokaler@natgeo.su.se](mailto:lokaler@natgeo.su.se)
- Posting the announcements in the Department, as well as the institution where they performed the work, if outside of the Department.
- Taking out the completed exam after the presentation. (Download the university PDF form <http://www.su.se/forskning/utbildning-pa-forskarniva/disputera-vid-universitetet/forskarexamen-1.10132> at the bottom of the page to your computer and follow the instructions.

### **PhD degree procedures**

The procedures for defending PhD degree are dictated by Department, University and National regulations. You should begin organizing your thesis defense well in advance (the term before!) of your planned thesis defense date, as there are many formal regulations and deadlines that you must comply with. Visit the Science Faculty's <http://www.science.su.se/pub/jsp/polopoly.jsp?d=12249> and University's <http://www.su.se/medarbetare/studieadministration/disputationsprocess>. Disputation Websites for the latest information for the various tasks that must be performed. Note that small changes in procedures can occur at any time, so always check the information on the websites above to have the most updated details.

### **Notifying the University of a pending thesis defense**

When you are approaching the completion of your thesis, you, your main and co-supervisors, as well as the Professor in charge of your PhD degree program should meet and determine if the thesis is ready for defense; the Professor in charge of your PhD degree program must agree that your PhD research is sufficient for the defense to go forward, and can ask someone else to review the thesis before he or she makes the decision. At the same time, your supervisor and professor in charge of the degree program should discuss possible candidates for the opponent and examining committee and set a date for the thesis defense. There is a special form for requesting the opponent and the examining committee that can be obtained on the <http://www.science.su.se/>: Click on *disputationsanmälan* to the right. **FOLLOW THE DIRECTIONS ON THE FORM CAREFULLY TO SELECT AN ACCEPTABLE COMMITTEE.** The opponent must be from outside the university.

Once the opponent and examining committee have been selected, and your supervisor has contacted them about their willingness to participate and availability on the planned defense date, your supervisor together with the head of the PhD degree program must notify the Department Board stating that you are prepared to defend your thesis, and formally request that the defense chairperson, opponent and examining committee be approved for your defense by sending in the completed application for the defense. The Department Board will decide on this matter, and if approved, the suggestion will be forwarded to the Faculty of Science for formal

approval. The Faculty then sends a written decision back to the Department, and the planning for the defense may proceed.

The thesis defense must take place during the academic school year. The President of the University (Rektor) may make exceptions to this in extraordinary circumstances. Note: You must spike your thesis 3 weeks before the end of the term even if you have approval for a defense after the end of the term. A request for late spiking and distribution of the thesis requires separate approval from the University President.

### **Persons participating in the thesis defense**

**Defense chairperson.** This is generally the professor in charge of the PhD degree program, but may be another Department faculty member. The main supervisor can not be the chairperson. The defense chairperson opens and closes the defense, ensures that all regulations are followed during the defense, and sees to it that the necessary paperwork is filled in following the defense.

**Thesis opponent.** This is a researcher who can critically evaluate your PhD research, and who will engage you in a challenging discussion of your thesis work during the defense. The opponent should have Docent or higher academic standing (or equivalent competence if from outside the Swedish system), and must not have any conflict of interest (co-publication, research grants, etc.) with you or your supervisors.

**Examining committee.** This board is comprised of either 3 or 5 persons who will ask you questions and then vote on the result of the PhD exam (pass or fail). All members of this board must also be free of any conflicts of interest with you or your supervisors, and should be Docent competent. One person, generally a representative from the student's Department, is indicated as the examining committee co-coordinator.

### **Deadlines**

At least seven weeks before your defense, the Faculty must approve your thesis defense chairperson, opponent and examining committee. This requires that the Department of Geological Sciences Board has already approved these members. Therefore, it is critical that you check the Department Board meeting schedule and submit your request to the Department Board in good time – there are usually only 4 board meetings each term. Note there is no penalty for doing this early – the deadlines listed here are the last chance – give yourself an extra week at least in case something goes wrong!

At least 7 weeks before the defense, the opponent must receive a copy of your thesis (note that it does not have to be “published” at this point, but it must be complete, with only minor formatting changes to be made). After one week, the student's supervisor will ask the opponent if the thesis is acceptable for defense. If the opponent agrees the thesis is defensible, the process goes forward.

Six weeks before your defense, the examining committee must receive a copy of your thesis (note that it does not have to be “published” at this point, but it must be complete, with only minor formatting changes to be made). About 2 weeks after receiving this thesis (before the thesis is sent to the publisher), the examining committee co-coordinator will query the committee members as to whether or not the thesis is acceptable for defense.

Four weeks before the defense the thesis should go to the publisher.

Three weeks before your defense, the defense must be “spiked”. This is done electronically as described in the University’s/Faculty’s dissertation website. The thesis and “spikblad” (PhD defense advertisement) must be available in final published format in sufficient quantity for distribution to the opponent, examining committee, interested individuals, University libraries within Sweden, University archives, etc. and announcements of the thesis defense must be publicly posted. The minimum requirement of copies is found on the Science faculty website.

### **The thesis**

A PhD thesis is not a life’s work; it is a document that demonstrates that a PhD student is capable of carrying out independent research. The thesis may be written in either Swedish or English, and may be either a monograph or a collection of publication quality manuscripts and a summary overview of your research. It is up to your supervisors and the Professor of your PhD degree program to determine when the work is sufficient for a complete PhD thesis, and the thesis format and estimated number of manuscripts should follow that indicated in your individual study plan. There is no set length or number of manuscripts, but generally the thesis will contain from 3 to 5 research papers plus the summary. There is no requirement that any of the papers are already published in the open peer reviewed literature prior to the defense, but they must be of equivalent quality. You should circulate the papers for critical review by all of your supervisors as well as other collaborators and researchers during the period you are writing them.

The thesis must be published in a specified format. Contact Docent Otto Hermelin who will provide you with the appropriate advice for formatting and printing the thesis manuscript. Since the final thesis must be submitted in electronic format to the publications department, and since not all software programs work with the publisher’s software, you will make a great deal of extra work for yourself if you do not consult with Otto first.

### **The thesis defense**

The thesis defense is the final examination for all PhD students. This defense is open to the public and governed by National and University Regulations. The chairperson will open the defense, introducing the PhD student, the student’s main and co-supervisors, the title of the thesis, the opponent and examining committee members. The chairperson will also give the schedule for the defense (as follows).

The PhD student will speak first, giving a 20 –30 minute presentation of their research and pointing out any errors in the published thesis. The floor is then given to the opponent, who will generally give a short overview of the broader research field relevant to the student's thesis work, followed by an in depth critical discussion of the thesis with the PhD student. The opponent's discussion generally takes about 1 hour, but this time is not fixed. When the opponent is satisfied, the floor is given to the examining committee who will ask additional questions. Finally, the floor is open to the attending public to ask questions.

The defense chairperson must close the exam after 3 hours have passed, but the defense commonly takes less time. When the defense is closed, the defense chairperson will complete and sign a faculty document stating that the thesis defense has properly taken place, and hand it over to the examining committee co-coordinator. The examining committee will then retire to a meeting room to vote on the student's PhD exam (pass or fail). The student's main supervisor and the opponent may participate in this meeting for the discussions prior to the vote, but they must leave the room before the examining committee votes. The examining committee will report their decision on the faculty document, sign it and return it to the defense chairperson who will send it to the registrar.

### **Other Information**

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**Recruitment of PhD students - procedures**

Application to the PhD program is only possible in response to open advertisements for PhD research positions in the Department. There can be some exceptions: Students who will carry out their research studies with an employer outside of the Department and students who have already started their PhD education at another University and wish to transfer to the Department. Situations with similar circumstances, such as externally financed stipends that meet Science Faculty contract conditions and Departmental salary requirements, can also be considered.

A Departmental supervisor with three years of externally financed PhD salary can request permission from the Board to recruit a PhD student to the Department at any time. The Department will finance the 4th year in the case that the supervisor cannot secure further financing. A 4<sup>th</sup> year of salary financing from the Department for approved stipends can also be approved by the Board.

Departmental financing of PhD students is a multi-step process. The Department Board will determine when and how many PhD positions will be advertised each year, based on the Department's projected economy. Individuals or groups with research financing for suitable PhD thesis topics will be notified by the Board as to when and where to submit brief descriptions of proposed PhD research topics for consideration and ranking. The professors in charge of the three PhD degree programs will propose a comprehensive proposal ranking to the Board. The Department Board makes the final selection of the projects to be supported.

Both externally and departmentally financed PhD positions must be openly advertised in compliance with Stockholm University's recruiting regulations, which can be obtained from the Head Administrator. The advertisement must be approved by the Board before being publicly released.

Once the deadline for PhD students to apply to the position(s) has passed, the applications are reviewed by the Director of PhD Studies for compliance with admission requirements, and then reviewed and ranked by the project supervisor(s) and the professor in charge of the degree program. The Department will provide financing for interviews of the top candidates if required. The ranking will be based upon the student's educational and working background, letters of reference and their potential ability to successfully complete the specified research project. The top student will complete a full PhD study plan together with the supervisors, and the PhD study plan will be submitted to the Board for admission into the PhD program. The Board's decision is final.

An external (museum, college or industry) supervisor must guarantee 4 years of salary financing in order to register a PhD student in the Department. The external supervisor should contact the Department Chair to discuss the suitability of admitting the PhD student into the Department. There must be at least one Departmental co-

supervisor who can make a meaningful contribution to the thesis research assigned to the external PhD student. External employers recruit students according to their own regulations, but must submit a complete study plan to the PhD program to the Department Board for admission to the program. The Board's decision is final.

**PhD Application materials**

A complete application for acceptance to the PhD program will include:

- Individual study plan (Department form) including the following attachments:
  - a) salary financing plan
  - b) time plan for courses and research activities
  - c) research project description: project title, main goals, background, scientific hypotheses to be tested, description of how the work will be carried out, availability of resources, and references
- Two personal letters of reference.
- A resume including, name, address, telephone number, email address, education (degrees), work experience, abstracts/publications, and description of any research skills or experience.
- Transcript of all university courses and degrees.

**Regulations for non-classroom activities towards course points  
Adopted 15 January 2002  
Department of Geological Sciences  
Stockholm University**

University regulations allow Ph.D. students to obtain course points for non-classroom activities at the discretion of the main supervisor. In order to provide some consistency in how these activities are documented, the Department of Geological Sciences has adopted the following regulations:

1. Ph.D. students may receive 1.5 ECTS points for documented attendance at 20 university seminars. Each student is restricted to a maximum of 3 points (40 seminars) in their course record for this activity.
2. Ph.D. students may receive 1.5 ECTS points for a poster or talk they present at a national or international meeting. Each student is restricted to a maximum of 1.5 point in his or her course record for this activity.
3. Ph.D. students may receive points for participation in national or international field programs, where the students interact with other scientists in a scholarly manner during and after the field campaign. Each student is restricted to a maximum of 3.0 ECTS points in their course record for this activity.

Ph.D. students may not receive course points for literature reviews.

Thus, Ph.D. students may not take more than 7.5 ECTS course points total for these "non-classroom" activities, and all points must be approved by the student's main supervisor.

**Regulations for undergraduate course points transferred to PhD course records  
Adopted 21 September 2000  
Department of Geological Sciences  
Stockholm University**

No more than a total of 15 ECTS points of undergraduate courses are recommended to be applied to the PhD requirements.

Undergraduate courses in excess of 180 ECTS points taken while the student was an undergraduate can be transferred to the PhD requirements for recommended 50% of the course points if the main supervisor approves the transfer.

Undergraduate courses taken while the student is a PhD student can be transferred to the PhD record, and the student's main supervisor determines the percentage of points that can be transferred.