



Utrecht University

Faculty of Geosciences

## **Graduate School of Geosciences Profile 2017-2021**

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# 1. Graduate School of Geosciences

## 1.1 Profile

The Faculty of Geosciences is a leading national and international teaching and research institute focusing on processes within the Earth and at the Earth's surface, including man's spatial and material utilisation of the Earth, and with a focus on sustainability and innovation. Research and education in this challenging field is disciplinary and interdisciplinary in nature and varies in scale and scope, for instance:

- From processes which control the structure and properties of the Earth's crust (tectonics) to transport processes of small particles in water.
- From global biodiversity issues to individual travel behaviour of people.
- From the role of global institutions in enhancing sustainable development to business innovations on the local scale.
- From soil subsidence in major delta areas to health-related issues in cities.

We always seek for connections between people and their environment; between socio-economic structures and individual behaviour; between global and local approaches; between short-term and long-term projections and processes; and between science and practice.

Research and education within the Faculty of Geosciences have a strong international scope. We attract students and research staff from all over the world; we stimulate students and early career researchers to gain experiences abroad; we analyse processes and phenomena on all continents; we cooperate with many foreign universities and institutions; and we publish in high-ranked international journals.

The Graduate School of Geosciences (GSG) offers a wide range of challenging Master's and PhD programmes in the fields of Earth Sciences, Physical Geography, Human Geography and Planning, Innovation Studies, Energy Sciences and Environmental Sciences. The Graduate School is especially responsible for:

- The admission of Master's students and PhD candidates.
- The quality of teaching and supervision in the Master's programmes.
- The quality of teaching and supervision in the PhD programmes.

## 1.2 Mission and Strategic Aims

The mission of the GSG is to deliver outstanding independent professionals in the field of Geosciences. These professionals will be familiar with the latest developments in their scientific field, and able to develop this field further, based on scientific and socially relevant knowledge and questions. The GSG offers advanced research-intensive education in which education and research go hand in hand. Education is integrated with state-of-the-art knowledge in such a way that students qualify in a specific field of expertise. An important underlying principle here is that students should benefit optimally from the presence of top researchers and research groups, including a research 'ecosystem' with top research facilities and infrastructures. We encourage the notion that research and education are also relevant for society.

The GSG has three strategic aims:

1. Develop graduate programmes at Master and PhD levels; that are well embedded in the main scientific debates in the scientific fields that are covered by the Faculty of Geosciences; that encourage students to go beyond the state-of-the-art; that are internationally oriented

and competitive; that are flexible in stimulating disciplinary (depth) and interdisciplinary (breadth) orientation; that are related to the strategic themes of Utrecht University (especially *Pathways to Sustainability* and *Institutions for Open Societies*); and that are connected to the main societal challenges at global, national, regional and local levels.

2. Build an excellent and diverse international graduate student population based on a selective, transparent and fair admission procedure; an exciting welcoming approach; challenging community formation activities; and training programmes aimed at scientific excellence.
3. Ensure that graduates can face the competition in a highly demanding and largely international labour market, both within academia and in professional organisations.

To fulfil this mission and to realise these aims, the GSG provides expertise, advice, and information; reviews the design and implementation of training programmes; develops performance standards; monitors and evaluates the quality of the Master's and PhD programmes; supports diversity, equity, fairness, and ethical conduct in graduate education and in research practice; organizes services and assistance to graduate students; and encourages a close and positive relationship between research and graduate instruction.

### **1.3 Governance**

#### *Board of Studies*

The Board of Studies (BoS) of the GSG is responsible for the development, coordination and quality of both the Master's and PhD programmes. The BoS is chaired by the Dean of the Faculty of Geosciences and is co-chaired by the Vice-Dean for Research and Vice-Dean for Education. Other members of the BoS are the directors of research and directors of education of the four departments and associated three teaching institutes: Earth Sciences, Physical Geography, Human Geography and Planning, and Sustainable Development. MSc students and PhD candidates are also represented in the BoS (one member each). The BoS is assisted by two secretaries.

The BoS meets at least twice a year and discusses strategic matters such as the quality of the MSc and PhD programmes, the process of quality assurance and future developments in research and education that are relevant for the training and degree programmes.

The BoS delegates most of its authority on daily and operational matters to the Executive Board of Studies for Research and the Executive Board of Studies for Education. The Executive Board of Studies for Research is chaired by the Vice-Dean for Research. Other members are the directors of research of the four departments and a representative of the PhD candidates within the Faculty. The Executive Board of Studies for Education is chaired by the Vice-Dean for Education. Other members are the directors of education of the three teaching institutes and a representative of the MSc students. Both Executives Boards meet at least four times a year.

#### *Board of Admission*

The BoS is responsible for a careful and fair selection of MSc students. The Board of Studies is the Board of Admissions. In practice, the BoS delegates this tasks to the Programme Leaders of the Master's programmes in the Faculty of Geosciences. The Programme Leaders have an advisory role.

#### *Board of Examiners*

The Board of Examiners is responsible for the examination of Master's students. The Board of Examiners will issue a diploma certificate as soon as the student has submitted sufficient proof that

all the required tests have been taken. This Board also decides on deviations (e.g. exemptions) in the programme and the approval of elective courses, and takes final decisions in cases of fraud and plagiarism. The Board of Examiners has installed an advisory committee on the quality of assessments, named the Committee of Assessments (*Toetscommissie*), which independently evaluates the quality of a selected subset of examinations.

#### *Master Education Committee*

This is a joint committee at the programme level consisting of chosen students and lecturers appointed by the Dean to advise on the rules on teaching and examination and their implementation, and about other matters concerning the programmes of study, such as course evaluations and quality assurance.

#### *PhD Council for Geosciences*

This is a platform consisting of PhD representatives from the four departments within the Faculty of Geosciences, which discusses all issues regarding PhD training and instruction as well as the processes of quality assurance. They organize PhD community building activities and workshops. One of the representatives is also member of the BoS.

## **2. Master's Programmes**

### **2.1 Introduction**

The Master's programmes aim to:

- equip students with specialist and/or interdisciplinary knowledge, skills and understanding in the field of Geosciences, and help them achieve the learning outcomes referred to in section 2.2;
- prepare students for a career in one or more sub-fields of Geosciences;
- prepare students to undertake a research training programme in the field of Geosciences.

We offer an inspiring and high-quality environment for study and aim to work together with the students to maximise the transfer of knowledge. The instructors and support staff involved in the programmes feel that they can offer the greatest possible guarantee that students will pass all their individual courses and reach the intended learning outcomes, as long as they are fully dedicated to their studies and perform to the best of their abilities.

All rules and regulations for Master's programmes are laid down in the 'Education and Examination Regulations for the Master Degree Programmes'. These regulations can be revised once a year and are published on the website of the Faculty of Geosciences. All content-wise and practical information about Master's programmes are published on the student website and are laid down in course catalogues.

### **2.2 Learning Outcomes for MSc Students**

The following learning outcomes apply to all programmes.

The graduate:

- has a deep knowledge and understanding of a particular subject matter in the field of Geosciences;
- has the skills to identify, formulate, analyse and suggest possible solutions to problems

- independently in the field of Geosciences;
- has the skills to conduct research in the field of Geosciences and to report on this research in a manner that meets the customary standards of the discipline;
- possesses professional and academic skills, particularly in relation to the field of Geosciences;
- can apply knowledge and understanding in a way that demonstrates a professional approach to his/her work or profession;
- can elaborate on the methodological foundations of the research and critically use scientific methods and techniques;
- can communicate conclusions, as well as the underlying knowledge, grounds and considerations, to an audience composed of experts and non-experts.

The (digital) course catalogues of the Master's programmes set out the subject-specific learning outcomes for the different programmes.

### 2.3 Overview of Master's (Degree) Programmes

The GSG offers the following Master's (degree) programmes (as of September 2017):

Master's degree programmes	Master's Programmes
Earth Sciences	<ul style="list-style-type: none"> <li>• Earth Structure and Dynamics</li> <li>• Earth Surface and Water</li> <li>• Earth, Life and climate</li> <li>• Marine Sciences</li> <li>• Water Science and Management</li> </ul>
Environmental Sciences	<ul style="list-style-type: none"> <li>• Sustainable Development</li> <li>• Water Science and Management</li> </ul>
Geographical Sciences	<ul style="list-style-type: none"> <li>• Geographical Information Management and Applications (GIMA)</li> </ul>
Human Geography and Planning	<ul style="list-style-type: none"> <li>• Urban and Economic Geography</li> </ul>
Science and Innovation	<ul style="list-style-type: none"> <li>• Innovation Sciences</li> <li>• Energy Sciences</li> <li>• Sustainable Business and Innovation</li> </ul>
Development Studies	<ul style="list-style-type: none"> <li>• International Development Studies</li> </ul>
Spatial Planning	<ul style="list-style-type: none"> <li>• Spatial Planning</li> </ul>
Human Geography	<ul style="list-style-type: none"> <li>• Human Geography</li> </ul>

The degree programmes within the GSG are taught in English.

The degree programmes in Earth Sciences, Environmental Sciences, Geographical Sciences, Human Geography and Planning (research oriented programmes) and Science and Innovation have a total study load of 120 credits (2-year programme). The degree programmes in Development Studies, Spatial Planning and Human Geography have a total study load of 60 credits (1-year programme).

### 2.4 Content and Structure of the Master's Programmes

#### 2.4.1 General requirements

The Master's programmes consist of four main mandatory elements:

- Theoretical orientation
- Research methods
- MSc thesis
- Electives

Some programmes also offer the possibility for an internship at a company, NGO or governmental agency. Because the total study load of the above-mentioned Master's programmes differs (60 or 120 credits), the time to be spent on the mandatory elements also differs between the programmes.

All Master's programmes start with an introductory course on the disciplinary field or theme, in which a topical overview of the main body of knowledge is presented, including critical reflections. Students also become acquainted with the most important research topics, research questions and research methods in this disciplinary field. It is mandatory that they link the topic of their Master's thesis to this field of investigation, and they are encouraged to substantially contribute to this body of knowledge.

#### **2.4.2 Scientific Integrity**

Scientific integrity is an integral part of the lectures and assignments that form part of the teaching, and is explicitly discussed in the mandatory courses or during the orientation in September. Students are taught to critically use scientific methods, to be responsible regarding methodological foundation and the use of methods and techniques, and to be aware of the risk of plagiarism.

For the Graduate School's 1-year programmes, students are trained to be aware of and reflect upon:

- The role of the researcher's position
- Replicability as an important criterion
- The non-exploitative relationship with research objects;
- Obtaining informed consent and avoiding deception.

This also goes for the 2-year programmes, with the addition that students use the learned principles of scientific integrity throughout their research projects in the second year.

Scientific integrity is also part of the rubric to grade Master's thesis proposals and the final thesis. The thesis should meet the criteria for ethics with regard to: informed consent; privacy; plagiarism; harm to participants; and fraud.

#### **2.4.3 Transferable Skills and Competences**

In addition to gaining scientific knowledge, students need skills that help them to collaborate in multidisciplinary groups, to present their research results and to present themselves, as well as to reflect critically on their own and others' results and to position their research activities in a scientific and social context.

#### **2.4.4 Structured Mobility for MSc Students**

Students are encouraged to undertake part of their training programme abroad. Studying abroad means broadening one's horizon, meeting new people, exploring different cultures, and expanding the field of study. After consulting the study advisor, The International Office of Geosciences is there to guide students through the process of selecting the most appropriate university or institute, to assist with applications (for instance for an ERASMUS grant), and to advise on all other practical matters.

All Master's programmes try to arrange collaborations with one or more foreign universities and actively promote and support opportunities for more structured mobility.

## **2.5 Quality Assurance**

The internal quality culture of the Graduate and Undergraduate School of Geosciences is laid down in the Quality Assurance Handbook Geosciences. The handbook indicates how the safeguarding of the quality of teaching is implemented within the faculty of Geosciences. It deals with subjects such as the quality assurance system, the key elements and instruments, the organisation structure, the planning and control cycle, policy frameworks, employee participation and document management.

### **2.5.1 Admission Procedures and Requirements**

The responsibility for admission to the degree programmes of the Graduate School and the various Master's programmes lies with the Board of Studies of the Graduate School. To determine eligibility for admission to the degree programme, the Board of Admissions will consider and evaluate the knowledge, understanding and skills of the applicant. The Board may request experts within or outside the University to assess the applicant's knowledge, understanding and skills in particular areas, in addition to a review of written documents of qualifications gained. To determine eligibility for admission to a programme within the Master's degree programme, the Board of Admissions will examine whether the applicant meets the admission requirements (see below) or will meet them in time. In its review, the Board will include a personal statement in which the applicant explains why he/she wishes to study at the GSG and why he/she wants to follow the particular programme of his/her choice, the applicant's core competences as well as the applicant's knowledge of the programme's language of instruction. On this basis the Board of Admissions will assess whether the candidate would be able to achieve the exit qualifications of the Master's degree programme with sufficient effort within the nominal duration of the programme.

Requests for admission to one of the degree programmes and to a specific Master's programme should be submitted to the Board of Admissions before 1 April for students who obtained their degree at a non-Dutch university and before 1 June for students who obtained their degree at a Dutch university. In special cases, the Board of Admissions may consider requests submitted after these closing dates. The applicant will receive written notification stating whether or not he/she has been admitted to the degree programme and to a specific Master's programme.

### **2.5.2 Mentoring and Counselling**

The GSG is responsible for mentoring and counselling to students registered for the Master's programmes. Student counselling encompasses:

- encouraging students to feel part of the community;
- supervising programme choices;
- an introductory programme in the first week of the first year of study;
- referring and assisting students who encounter difficulties during their studies.

In the first week of the academic year the GSG organises a joint orientation for all new Master's students. This event brings together new students from the wide range of disciplines within our Graduate School and is marked by the theme 'interdisciplinary collaboration'.

In addition, in each programme, an introduction for new Master's students will be organised in the first week of the first semester, in cooperation with student organisations. Both social issues and general information will be presented during this introduction. Its objective is to help new students feel at home as soon as possible. The focus will be on meeting fellow students, getting to know the programme itself, its professors, the main research themes, mutual rights and obligations, information desks and the buildings where students will spend much of their time in the next couple of years.



The programme leader and/or track coordinators will advise the students on the programme they will be taking and the choices that can be made within that programme. These choices apply to elective courses and options for internships and thesis research, for instance.

Students can turn to the study advisor for confidential meetings about everything that might hold them back from a sound study progress, or for mediation in a dispute with one of the professors. Students can also turn to the study advisor for any questions about study planning; for instance if they wish to follow part of the programme abroad or when they want to engage in a side activity that might affect their study progress. The study advisor has access to the student's registration and study results and he/she occasionally receives feedback from professors. He/she can take the initiative to invite students for a meeting, when he/she comes across something worrying or unclear. The purpose is to find out if there is a (potential) problem and if so, what can be done to solve it. Most students will be able to resolve the matter with the study advisor, but he/she can also advise a student to consult a student counsellor, student psychologist, or contact the university's Centre for Study Choice. When students encounter difficult personal circumstances, such as long-term illness or extraordinary family affairs that might affect study performance, it is often mandatory to consult the study advisor in order to receive special concessions.

The Student Affairs Office Geosciences is the primary point of contact for students in the faculty of Geosciences. It provides students with general information and answers questions about registration for courses, course timetables, examination dates, grades and credits, etc.

### **2.5.3 Course and Curriculum Evaluations**

The GSG values the high quality of its programmes and has therefore set up an evaluation system. Evaluation provides information about the quality of individual courses and the programme as a whole, the study climate, and students' progress and performance. Its most important goals are improving education and organisation, and making the quality of the programme more transparent.

Every course is evaluated after completion and the results of this course evaluation are discussed in the Master's Education Committee and the Management team of the programme. It provides important information for the lecturer to improve his/her course. All Geosciences students may view the evaluation results on Blackboard. Students can also use this information when choosing electives.

At the end of each academic year (May/June) a year evaluation is carried out. All GSG students who are graduating are being asked to fill out the Geosciences exit survey. The year evaluation and the outcomes of the exit survey are not about an individual course but about issues that transcend the course, such as coherence/set-up of the programme, electives, workload and effort, level, thesis supervision, challenge, atmosphere and lecturers. The results of the year and exit evaluation will be discussed in panel meetings with the director of education, programme leaders and a student delegation.

## **2.6 Career Services**

The GSG offers career services in order to improve the employability of the graduates within the Graduate School. The GSG recognises the important contributions that the study associations offer in this aspect, either in collaboration with the GSG or complementary to the GSG's services, often financially supported by the departments. The Graduate School's career services consist of three elements:

- The teaching of academic skills within the programmes, including guest lectures, practical assignments and internships that help students to make the connection between the theory

and skills they have learned and the practical application of that knowledge. This includes academic, personal and ethical reflection.

- Recognizing and presenting students' talents: training students to reflect on their abilities and to translate those into traits and skills that employers like to see in new employees.
- Policy and communication: developing advisory boards of companies strategically to improve programmes and career services, growing the alumni network and inviting alumni to help our students, support and advice the study associations to enable them to deliver the same good quality in their career activities every year, making the career services within the master's programmes more visible for students and growing their interest in joining career activities.

The Master's programmes will prepare students for the labour market in the way of professional knowledge and skills. Career Services will support students in discovering which possible future is right for them. During the Master's programme, students will discover their talents, interests and motivation by following workshops and special training programmes, meeting with a career officer and attending career days organised by Career Services. An internship will let students familiarise themselves with a company or organisation and will give them a first opportunity to enter the labour market.

### **3. PhD Programmes**

#### **3.1 Introduction**

The objective of the PhD programme is to train PhD candidates to become independent academic researchers. PhD candidates undertake a programme of study in addition to conducting supervised PhD research. Other duties may include contributing to teaching activities. The time to be spent on training depends on the PhD candidates' prior learning and experiences.

PhD candidates undertake a programme of study that is geared towards their research project, their future career, and their prior knowledge and skills. This means that there is no one-size-fits-all programme. The GSG offers a variety of PhD courses, some of which are run in collaboration with local research institutes and/or national and international research schools and networks.

#### **3.2 Learning Outcomes for PhD Candidates**

On successful completion of the PhD programme, PhD candidates of the GSG should meet at least the requirements formulated in the Doctoral Degree Regulations of Utrecht University<sup>1</sup>. More specifically, within the GSG they should demonstrate their achievement of the following learning outcomes. These learning outcomes are in line with the 'Dublin' descriptors third cycle awards<sup>2</sup>.

- The candidate is able to make a contribution through original research that extends the frontier of knowledge in one of the fields covered by the Faculty of Geosciences, by developing a substantial body of work meriting international publication that can withstand the scrutiny of national and international peer review.

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<sup>1</sup> 'Doctoral Degree Regulations Utrecht', Utrecht University, 2020, via <https://www.uu.nl/en/organisation/phd-programmes/practical-matters/regulations-and-forms> (2020.02.25).

<sup>2</sup> 'Shared 'Dublin' descriptors for Short Cycle, First Cycle, Second Cycle and Third Cycle Awards', report from a Joint Quality Initiative informal group, 2004. [https://tauu.uu.nl/wp-content/uploads/2015/01/Dublin\\_Descriptoren.pdf](https://tauu.uu.nl/wp-content/uploads/2015/01/Dublin_Descriptoren.pdf) (2020.02.25).

- The candidate can demonstrate the ability to conceive, design, implement and adapt a process of research with scholarly integrity.
- The candidate has demonstrated a systematic understanding of a field of study in geosciences and is able to apply independently the scientific methods of the discipline to the development, interpretation and application of new knowledge in that field.
- The candidate has acquired and worked with a substantial body of knowledge which, at the very least, embraces the principles and methods of international academic practice and of theorisation, methodology and study in the discipline concerned.
- The candidate is capable of critical analysis, evaluation and synthesis of new and complex ideas in one of the fields of geosciences.
- The candidate is able to adequately communicate with peers, the larger academic community and society in general about his/her areas of expertise.
- The candidate is able to carry the social responsibility for the conduct, application and use of his/her own research.
- The candidate is able to indicate the societal relevance of the results of his/her scientific work and, where applicable, to translate these results into practical recommendations and/or applications.
- The candidate is able to look beyond his/her own field of expertise and to link the knowledge of his/her own field to other disciplines.
- The candidate can demonstrate skills in project management and coordination. He/she is able to take responsibility for the direction of his/her project.
- The candidate has insight into his/her own competences and ambitions and is able to reflect on his/her own functioning.

### **3.3 PhD Programme and Structure**

The GSG offers the following PhD sub-programmes:

- Earth Sciences (Institute for Earth Sciences Utrecht);
- Human Geography and Spatial Planning (Research Institute Urban Futures);
- Physical Geography (Physical Geography Research Institute);
- Sustainable Development (Copernicus Institute of Sustainable Development).

The programme structure is the same for all PhD candidates at the GSG:

- Candidates will carry out a research project and write a doctoral thesis. Candidates will defend their doctoral thesis in public, according to the rules and regulations of Utrecht University, laid down in the Doctoral Degree Regulations, 2020.
- Candidates will take general academic, discipline-specific and career orientation courses, and/or participate in other activities to meet their learning outcomes, such as learning on the job or secondment.
- Candidates will participate in activities designed to help them play an active role in national and/or international research communities.
- Candidates will undertake career coaching if needed.
- In principle, PhD candidates spend at least 80% of their time within the PhD track on research and at most 20% on the training component, such as training on the job in teaching and following courses.

### **3.4 PhD Training and Instruction**

#### **3.4.1 *Research Project and Supervision***

During the PhD programme, candidates will conduct supervised PhD research. The PhD research is the most important component of the PhD programme. The PhD candidate's supervisors will commit to giving proper supervision. Proper supervision involves holding regular meetings to discuss dissertation content, research progress, other work tasks and general issues, and providing advice.

### **3.4.2 *Discipline-Specific Courses***

Discipline-specific courses (i.e. courses in one of the fields of geosciences) may be offered by the national research schools or national and international research networks. It is the responsibility of the PhD supervisors to advise and, if necessary direct PhD candidates to appropriate courses. PhD candidates themselves may identify discipline-specific courses they are interested in and bring these to the attention of their PhD supervisors. Relevant courses should be included in the Training and Supervision Agreement, as detailed in section 3.5.2.

### **3.4.3 *General Academic and Career Orientation Courses***

Throughout the PhD programme, the PhD candidate may want to follow courses, workshops and seminars designed to them to develop general academic skills and attitudes, for example, on English writing and presentation, research methods (including data storage), ethics & integrity, grant writing, enhancing societal impact, project management. Courses for enhancing academic skills and attitude are offered by the GSG and other institutes within and outside Utrecht University. Candidates may also participate in courses or events in career orientation, for example, PhACE (organised by Utrecht University). The courses aim to equip candidates with competences mandated by the curriculum. Relevant courses should be included in the Training and Supervision Agreement, see section 3.5.2.

### **3.4.4 *Colloquia and Seminars***

Apart from the above-mentioned courses the GSG offers workshops and seminars on topical issues on a regular basis. PhD candidates are offered the opportunity to attend meetings organised by the research institutes of the national and/or international research networks and schools. Candidates also have the opportunity to attend guest lectures and participate in international exchange programmes and conferences. It is the responsibility of the research institutes to run these meetings, to regularly invite guest lecturers and to promote candidates' participation in international exchange programmes and/or conferences.

### **3.4.5 *Enhancing International Mobility of PhD candidates***

PhD candidates usually have their budgets for field work and conferences within their research plan or can obtain money for this via the supervisor or research institute. However, for a long stay research visit abroad funds are usually lacking. During such a research visit, PhD candidates could collaborate with scholars from other universities and jointly write papers. Such a visit is an excellent opportunity for them to gain additional experience and to improve their CV. The BoS administers a selective amount of funds to make these long stays at a foreign research institute possible.

### **3.4.6 *Teaching Activities***

In principle, Utrecht University employees with appointments as PhD candidates are involved in teaching, in order to gain teaching experience and acquire qualifications for a future academic position. Specific teaching tasks may differ per department. To ensure that PhD candidates can spend enough time and effort on their PhD research, the total time of the training component (including training on the job in teaching and following courses) is at most 20% of the PhD candidate's total employment time. In order to fulfil their teaching activities adequately, PhDs are offered a short course on teaching principles and teaching didactics.

## **3.5 *Quality Assurance***

### **3.5.1 *Selection and Enrolment***

The BoS of the GSG has an overall responsibility for the recruitment and selection of all PhD candidates. In practice these candidates are recruited and selected by the research institutes and the project leaders (and proposed (co-)supervisors). The Faculty actively strives for diversification (gender and cultural) and internationalisation of its research staff, while attracting talent.

To get admission to a GSG PhD programme, candidates must adhere to the conditions as described in chapter 1, section 2 of the Doctoral Degree Regulations of Utrecht University (2020), describing the criteria for admission to the doctoral degree (article 4, including articles 7.18 and 17a.18 WHW). In most cases, this means that candidates must have earned the degree of Master.

For all PhD candidates, a selection procedure is in place. They may be different for the different types of candidate. For example, in the case of standard PhD candidates (university employees with appointments as PhD candidates), interested parties may apply for advertised positions; a selection committee will be established.

If a research institute offers a PhD position to a candidate, the following process for admission and registration must be adhered to:

- The PhD candidate submits to the Board for the Conferral of Doctoral Degrees a request for admission to the doctoral programme. The request, which is subject to prior approval by the supervisors/co-supervisors, the research director and the Dean of the Faculty of Geosciences, is officially registered in the university's system designated for that purpose. The Board for the Conferral of Doctoral Degrees checks the quality of the PhD candidate (i.e. his/her qualifications) and of the supervisor(s) and co-supervisor(s). If accepted, the candidate is also accepted as a PhD candidate by the GSG.
- The PhD candidate and his/her supervisor establish and submit an individual Training and Supervision Agreement (see section 3.5.2).

### **3.5.2 Training and Supervision Agreement**

The Training and Supervision Agreement (TSA) is an individual work plan outlining the topic of the doctoral project, the courses to be taken by the PhD candidate, and the deliverables and contributions from the candidate and the supervisors. The TSA is mandatory for all PhD candidates. As such, the TSA, which can be adjusted annually, serves as the basis for the annual Assessment & Development Interviews (for non-employees this is the annual Progress Review). The TSA is in fact a contract to be signed by each PhD candidate, his/her supervisor and, if applicable, his/her co-supervisor. The TSA may be amended as needed at the end of the first year and from year to year thereafter.

The Training and Supervision Agreement contains at least the following information:

- Project title and brief project description;
- Proposed training programme/specific modules (time spent, topics, mandatory elements) – including training on the job in teaching;
- Supervision (supervisors and co-supervisors, mode, time, distribution of tasks between supervisors and co-supervisors);
- Research community activities;
- Reporting obligations and evaluation;
- Access to facilities and services;
- Schedule for the final year (to be set by the (co)supervisor(s) and the PhD candidate at the start of the planned final year).

The TSA may contain additional information depending on the research focus of the PhD candidate and whether or not he/she is enrolled in a full-time or part-time PhD programme. The BoS of the Graduate School determines the format of the TSA for the PhD sub-programmes.

### **3.5.3 Monitoring Progress**

The PhD candidate will have regular meetings with his or her supervisors to discuss progress, based on the agreed project plan. The supervisors are responsible for the timely planning and conduct of annual Assessment and Development interviews (or Progress Review meetings, for non-employees), including the timely announcement of the progress decision at the end of the first period.

For standard PhD candidates, the progress decision takes place in the first year. At six and nine months after the appointment, the candidate's progress and performance will be reviewed by his or her supervisors in an Assessment and Development Interview. If progress is not satisfactory in the first six months, the candidate will be given three months to improve performance. The interview at nine months is known as the Go/No-Go review. The Assessment and Development Interview, that uses the TSA as a starting point, aims to ascertain whether the PhD candidate will be able to complete the PhD programme within the four-year time limit. A negative review after the first nine months may eventually lead to dismissal from the PhD programme. For non-standard PhD candidates, dedicated procedures are followed.

At the sub-programme level (see section 3.3) the research director is responsible for monitoring all PhD projects within the research institute. An overview of progress and performance is provided annually to the BoS of the GSG.

### **3.5.4 Final Review of the PhD Thesis**

Before the end of the appointment or contract (or otherwise agreed duration of the PhD track), the PhD candidate will submit his or her thesis manuscript to the supervisor. The supervisor is responsible for checking the quality of the thesis and verifying whether the candidate has achieved the learning outcomes of the PhD programme offered. When the supervisor has approved the thesis, it can be presented to an independent Assessment Committee. The procedures for appointing members of the Assessment Committee and for reviewing a doctoral thesis are laid down in the Doctoral Degree Regulations (2020) of Utrecht University.

### **3.5.5 Counselling**

Each research institute within the Faculty of Geosciences has at least one PhD mentor. PhD candidates may contact the PhD mentor at any point during their programme with personal issues or issues that they do not want to discuss with their supervisor(s). A faculty confidential PhD advisor is available as first point of contact for PhD candidates that have problems in the relation with other PhD candidates, supervisor or manager. If the nature of the problem is such that it is beyond the remit of the PhD mentor or advisor, his/her formal role will end. In the event a problem or dispute in the relations between a PhD candidate and his or her supervisor cannot be solved by the PhD mentor or advisor, the mentor/advisor refers the candidate to other counsellors or services, if possible, or to the Dean of the Faculty of Geosciences. PhD candidates are free to contact other counsellors and services directly, without reference of mentor or advisor.

PhD mentors and advisor are independent, in order to maintain the respect of their peers when taking on the role of mediator. They are also responsible for their own actions. Their role is to advise and support PhD candidates and to act in their interest. PhD mentors and advisor are bound to confidentiality and do not act without the consent of the PhD candidate.

### **3.5.6 Course Evaluations**

The GSG is responsible for monitoring the quality of the courses offered and aims to maintain and improve the quality and quantity of course offerings. Once a year, courses are evaluated using standardised evaluation forms. The Graduate School submits the course evaluation results to the course coordinator for comment. The Board of Studies reviews the evaluation results and makes suggestions for changes or improvements. Evaluations of courses offered by external providers such as national research schools and national research networks are the responsibility of the respective organisations and networks.

### **3.6 Career Services**

PhD candidates are expected to start exploring career options inside or outside academia at the beginning of their third year at the latest. The Graduate School, together with the HR Department and the career officer, offers more specific activities such as coaching and career guidance. The BoS of the GSG, sometimes in close cooperation with student organisations, also organizes so-called 'career days' where MSc students and PhD-candidates meet representatives of businesses, NGOs and governments. Career services Geosciences offers career advice in order to improve the employability of the graduates. The Career services Geosciences offers two activities:

- Recognizing and presenting PhD candidates' talents: training candidates to reflect on their abilities and to translate those into traits and skills that employers like to see in new employees.
- Policy and communication; provides multiple online resources, as well as workshops and advice, growing the alumni network and inviting alumni to help our PhD candidates.

## **4. Community Building**

A strong community encourages mutual learning and developing ideas together, thus bringing knowledge and skills within the community to a higher level. Moreover, after graduation, graduates are likely to stay connected to their fellow community members and the GSG. This provides a valuable link to societal partners, which is further detailed in section 5. On one hand, community building is based on a selective, transparent and fair admission procedure and training programmes aimed at scientific excellence, as detailed in sections 2 and 3. On the other hand, challenging community formation activities will be organised throughout the programme. Examples are colloquia (possibly with external guests and/or alumni), research projects in which MSc and PhD students cooperate, and social programmes. Interdisciplinarity is a key concept here.

## **5. Monitoring Alumni**

Alumni are a link to societal partners, and as such, they can provide useful information on the programmes from both (former) student and PhD perspectives and employer positions. This may relate to discipline-independent aspects, such as the education of generic skills and personal and professional development. Other aspects may be discipline-dependent, for example, topics that need to be addressed, in order for the students to develop themselves into outstanding professionals to be employed in a wide variety of (societal) organisations. Also, this valuable link to alumni opens possibilities for cooperation with societal partners in research and education. This facilitates, for example, MSc student traineeships, guest lectures, exchange of data and knowledge, and the acquisition of (funded) research projects. To this end, the GSG will keep in touch with its alumni. The BoS assigned the task of keeping track of former MSc students and PhD candidates to the departments. Secondly, activities will be organised to keep the alumni involved and let them feel connected to the GSG community.