

**Guidelines to the training program of the Doctoral School of Earth Sciences**  
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**Framework and basic principles of the program**

The doctoral program of the Doctoral School of Earth Sciences (hereafter DSES) spans 48 months divided into two periods (4+4 semesters). The two periods require different accomplishments from the doctoral students which is also reflected in the names of the periods: the first two years is called the “period of education and research” while the other two years is termed as the “period of research and dissertation writing”.

The Doctoral School has three programs and numbers of thematic groups.

Programs	Geopolitics, geoeconomics and political geography from a Central European perspective	Human geography	Physical geography, geology and meteorology
Head of program	Norbert Pap	András Trócsányi	Dénes Lóczy
Thematic groups	Political and Historical Geography  Regional geography  Regional and Settlement development	Cultural geography  Population and Settlement Geography  Tourism geography	Geology  Geomorphology  GIS  Meteorology, climate change  Physical geography and landscape evaluation

**Period of education and research**

Within the educational period, students shall pass two different types of lectures:

Lectures related to research: Student may choose lectures from the attached list and select courses related to their field of research. A short description of the course content is given for each course. See details in the Appendix.  
 10 credits are given if the exam is passed.

Seminars: Seminars are mandatory for all students. Each program in the DSES has its own seminar. The heads of the programs are responsible for the organization of the seminars. 5 credits are credited for the participation in the seminars and 5 for the annual report describing the progress of research.

Lectures offered by other doctoral schools (optional): It is allowed to get max. 30% of the credits by taking courses offered by other doctoral schools. The number of credits is determined by the other PhD schools that offered the courses.

During the period of training and research 120 credits must be collected (see table below). A prerequisite for the admission to the complex exam is the acquisition of at least 90 credits. The remaining 30 credits are required no later than by the end of the period of education and research.

Students shall register for lectures (for 10 credits) and seminars (for 5 credits) to get at least 80 credits by the end of semester 4. The list of the lectures and seminars and the description of their content are provided in the Appendix. Note that passing the lectures and the seminars is insufficient to collect 90 credits by the time of the complex exam. Hence students are encouraged to make progress in their research over their period of the education and research and/or shall be involved in ongoing research projects.

	Minimum number of required credits	Maximum eligible credits
Lectures and seminars	80	100
Papers, conference presentations	5	40
Participation in research projects (max. 5 credits/semester)	0	20

### **Complex exam**

The successful fulfilment of the first four semesters over the period of education and research is necessary for the admission to the complex exam. The exam consists of two parts:

- Theoretical part, where the knowledge related to the research field shall be presented. The doctoral students must choose two subjects, one from category A and one from category B. The list of exam topics is shown in the Appendix.
- Dissertation part, where the student presents his/her research results and outlines his/her research plan for the second part of the doctoral program as well as the timing of the preparation of his/her dissertation in the form of a presentation.

The complex exam is an oral exam. Students are given 25 minutes for the first part and 20 minutes for the second part of the exam. The examination committee evaluates both the theoretical and dissertation parts of the exam. If the student fails the theoretical part, the exam can be repeated within the same examination period. A failed exam on the dissertation part cannot be repeated and involves the termination of doctoral study. The evaluation of the complex exam can be either satisfactory or unsatisfactory (pass or fail).

### **Period of research and dissertation writing**

Following the successful completion of the complex exam, doctoral students shall enter the second period of their training program. During the last 4 semesters the students shall focus on the (i) completion of their research, (ii) publishing their results in scientific papers, (iii) participation in conferences and (iv) being involved in higher educational duties. In addition, students may be actively involved in research projects and contributing to the compilation of scientific publications. The completion of educational and research activities shall be certified by the supervisor(s). Doctoral students must gain 120 credits during their period of research and dissertation according to the following:

	Minimum number of required credits	Maximum number of eligible credits
Conference presentations, posters	20	50
Scientific papers	60	100
Educational activity in university (max. 5 credits/lecture/semester)	0	40
Participation in research project (max. 5 credit/semester)	0	20

The number of credits allocated to conference presentations and publishing scientific papers are listed in the Appendix.

1. A prerequisite for awarding the doctoral degree is the acquisition of a pre-degree certificate (absolutorium) that confirms the fulfilment of all requirements.

2. The following documents, certifying the language skills of the students, are required by the Doctoral School of Earth Sciences:

- a. Intermediate-level language competence in at least one universal or semi-universal foreign language certified by a complex type (oral and written) language examination or equivalent certification (preferred languages: English, German, French, Spanish and Russian);
- b. In the case of the students of the Physical Geography Program an accredited language exam of A2 level of another language than in point a, or an exam certified by the Foreign Language Centre of University of Pécs;
- c. In the case of the students of the Social Geography Program (Geopolitics and Human Geography) an accredited language exam of A2 level of a language other than in point a, preferably relevant for the research topic of the doctoral student;
- d. Foreign candidates whose native language is not Hungarian shall fulfil the same language requirements as candidates whose native language is Hungarian, but for foreign nationals Hungarian is administered as a foreign language. Therefore, in this case, certificate of the knowledge of the Hungarian language is acceptable;

3. The doctoral candidate shall publish his/her results in internationally recognized and peer-reviewed journals.

Publication criteria of the students in the Physical Geography Program are fulfilled if

- a) The candidate has at least 3 published papers or articles accepted for publication in non-Hungarian language and are relevant to the candidate's field of research and the candidate is the first author of at least one of them.
- b) Publication in high quality (high-prestige, high-ranked peer-reviewed) journals is recommended. The criteria can be fulfilled three different ways: (i) One publication in top 25% tier (Q1 in Scimago Ranking) of the research field. The two others can be published in other, unranked journals. (ii) Two papers are published in Q2 journal and one in a Q3 journal. The third one can be published in other, unranked journal (iii) All three papers are published in Q3 journals.

Publication criteria of the students in the Social Geography Program (Geopolitics and Human Geography) are fulfilled when:

- a) The candidate has at least 4 published papers or articles accepted for publication.

- b) 2 of the papers listed in the Scimago journal rank (<https://www.scimagojr.com/>) and the candidate should be the first author of at least one of the two papers.
- c) The third and fourth publication shall be an individually compiled paper or book chapter or an article published in a category A journal accepted by the journal list of the Doctoral School of Earth Sciences of UP.

4. Research papers and publications compiled by the students shall only be accounted as part of the student's publication activity if they have been checked and approved by the student's advisor beforehand.

5. A mandatory prerequisite for receiving the doctoral degree is the dissertation compiled, submitted and defended by the candidate. The dissertation is a comprehensive piece of work that demonstrates the candidate's goals, new academic achievements, insights into the scientific literature and research methodology. International candidates whose native language is not Hungarian may write their thesis in a language (preferably English) defined by the Board of Doctoral School of Earth Sciences. Requirements for the content and formatting of the treatise and the dissertation should follow the specifics of the actual field of research. These requirements are shown in a document on web site of the Doctoral School "Requirements for the contents and formatting of doctoral Dissertation". The final forms of the treatise and the dissertation shall be submitted both electronically and in three bound copies each. The method of submission is determined by the regulations presented by the TDHT (in Hungarian: Természettudományi Doktori és Habilitációs Tanács, in English: Doctoral and Habilitation Board of Sciences, hereafter DHBS).

### **Dissertation and defence**

1. The general conditions of the doctoral dissertation are regulated by the articles 30 to 42 of the Academic Doctoral Regulations of UP, while its details are described by the regulations of the DHBS and the rules of the DSES. The candidate shall submit a doctoral dissertation maximum 3 years following his/her complex exam. This period, in exceptional cases, shall be prolonged by maximum a year. To obtain the doctoral degree, the candidate shall prepare a dissertation. The dissertation shall be submitted to the secretary of the DHBS after the modifications according to the recommendations of the preliminary defence committee (defence is a two-step procedure with a preliminary and a final defence).
2. The candidate shall send the completed and bound dissertation to the secretary of the DHBS (at the Office of the Registrar) and shall declare that the dissertation is free of plagiarism. The secretary of the DHBS shall approve the submission of the dissertation on the same decree. Following this, the Doctoral School submits the proposal to the DHBS addressing it to the chair of the DHBS.

Based on the available documents and the candidate's scientific performance, the Board of the Doctoral School of Earth Sciences evaluates the fulfilment of the publication requirements at the time of the termination of the degree awarding process.

3. The submitted dissertation shall be first assessed during the preliminary defence organized by the Doctoral School of Earth Sciences.
4. Public Defence is permitted by the DHBS following a successful preliminary defence and the submission of the required documents listed by the DHBS procedure.
5. The members of the public defence committee include a chair, two opponents, two members and an auxiliary member. The chair of the committee is either a full professor or professor emeritus and a member of the Doctoral School of Earth Sciences. The two opponents and the two committee members are leading instructors and researchers with at least a PhD or

Candidate of Sciences (CSc) degree. At least two committee members are exterior members, i.e., shall not be directly affiliated with University of Pécs. The advisor of the candidate shall not be the member of the committee. The assessment of the advisor shall be requested by the defence committee at the beginning of the non-public part of the defence procedure. Administrative duties during the defence are performed by the assigned secretary of the committee.

All steps of the submission and assessment of the dissertation and the public defence are regulated in detail according to articles 33 to 37 of the Academic Doctoral Regulations of UP and the orders of the DHBS. The duties of the DSES are determined unambiguously, the implementation of specific regulations is not permitted.