

Operational Regulations of the Doctoral School of Computer Science of the University of Szeged

This present regulation amends and applies the Government Decree (GD) 387/2012 (XII.19.) on Doctoral Schools, doctoral procedure, and habilitation and the Regulations Governing the Doctoral Training Programmes and the Awarding of the Doctoral Degree of the University of Szeged.

1. The Founding of the Doctoral School of Computer Science

The Doctoral School of Computer Science of the University of Szeged (hereinafter DS) applied for accreditation from the Senate of the University of Szeged in 2008, as the successor of the PhD Programme in Informatics of the Doctoral School of Mathematics and Computer Science of the University of Szeged.

Founding core members of the DS:

Professor Tibor Csendes, Doctor of the Hungarian Academy of Sciences

Professor János Csirik, Doctor of the Hungarian Academy of Sciences

Professor Zoltán Ésik, Doctor of the Hungarian Academy of Sciences

Professor Zoltán Fülöp, Doctor of the Hungarian Academy of Sciences

Professor Ferenc Gécseg, Full Member of the Hungarian Academy of Sciences

Tibor Gyimóthy, PhD, associate professor

Professor Ferenc Móricz, Doctor of the Hungarian Academy of Sciences

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2. The Structure and the Board of Leaders of the Doctoral School of Computer Science

2.1. The work of the DS is coordinated by the Council of the Doctoral School (hereinafter CDS).

Members of the Council are:

- head of the DS, who is also the chair of the CDS, elected by the core members of the DS
- deputy head of the DS, who is also the deputy chair of the CDS, elected by the core members of the DS
- five further members of the DS, elected by the core members of the DS
- the secretary of the CDS has consultations rights; the secretary is appointed by the chair of the CDS after consultation with the DS.

The mandate of the members of the CDS is for three years, the secretary is also appointed for three years. If members of the CDS are incapacitated, pre-elected substitute members may use their voting rights.

2.2. The CDS arranges meetings as necessary, but at least once in a semester. Minutes are taken at the meetings.

2.3. The resolutions of the CDS – apart from voting with points – are passed according to the rule of majority decision making. In the event of a tie vote, the chair shall have the casting vote. (During the procedure of obtaining a doctoral degree, except for the initiation of the procedure, the members of the CDS vote with points; for details see the Regulations of Obtaining a Doctoral Degree below). A quorum shall exist at a CDS meeting, if the majority of its members with voting rights (or their substitute members) are present at the voting

2.4. CDS decisions made by voting – except for personnel issues, applications for a doctoral degree, the process of the doctoral procedure and the awarding of the degree – are passed by open voting. If justified, any member, including the chair may initiate a secret voting; about this issue the CDS decides with simple majority at an open voting.

2.5. In specific cases submitted by the chair of the CDS, and if open voting can be used, the CDS may make a decision through electronic voting (e-mail). Votes of members not replying until the given deadline are deemed invalid.

2.6. Documents necessary for making a decision about the issues on the agenda of the CDS meeting must be made accessible for the members at least two days before the meeting – this may be done electronically. Members must be informed about the date and time of the meeting and its agenda at least five work days before the meeting.

2.7. The CDS makes decisions about the following issues concerning the DS (in accordance with the Doctoral Regulations of the University of Szeged):

- the supervisors and the topics offered for the doctoral candidates,
- the subjects of the doctoral programme for the given semester,
- the organization of preliminary defences
- the acceptance of semester reports of PhD candidates taking part in the organised training programme,
- the study trips of candidates and
- the financial management of the incomes of the DS, in consent with the Board of Leaders of the Institute of Informatics.

2.8. The CDS makes proposals about the following issues concerning the DS:

- initiating degree awarding procedures
- launching the public section of the procedure
- compiling the subjects of the doctoral comprehensive exam
- appointing the members of the Comprehensive Examination Board and the Committee of Assessors of public defences,
- allowing the intermission of studies,
- awarding a doctoral degree,
- appointing the members of the Admission Committee,
- electing new core members,
- defining the internal structure of the DS and
- filling up the admission quotas assigned to the School by the Faculty.

2.9. The secretary of the CDS is responsible for the administration of the DS. The secretary of the CDS is a lecturer at the Institute of Informatics, with a doctoral degree. The secretary controls the following tasks:

- collecting doctoral topics, preparing documents necessary for CDS decisions,
- collecting the courses planned for the given semester, inviting the lecturers, preparing the documents necessary for the CDS decision,
- collection and preliminary evaluation of the semester reports of students,
- keeping record of student data and
- maintenance of the webpage of the DS.

3. The Studies of Doctoral Students

3.1. Students can choose from the topics posted on the webpage of the DS, upon agreement with the supervisor.

3.2. The CDS appoints the supervisors and accepts the topics. To become a supervisor, the lecturer needs to have a doctoral degree in the field, and must have scientific achievements beyond the results that were necessary to obtain the degree.

3.3. As part of the admission process, the candidates take part in a conversation. The Admission Board ranks the candidates on the basis of scores given for this conversation, their previous scientific work and the classification of their university degrees. Students at the top of the list can get state-funded scholarships; others meeting minimal requirements can take part in the training programme as self-funded students.

3.4. The students pursue their studies according to the credit system devised and regularly revised by the CDS (see Appendix 1).

3.5. Supervisors are responsible for the scientific progress and studies of their students.

3.6. Students have to make a report about their work at the end of each semester, which has to be submitted to the secretary of the DS. Appendix 2 contains the form for the student's report.

3.7. Students may pursue their studies partly abroad during their training. The disbursement of grants of state-funded students are not interrupted during their studies abroad. The CDS makes a decision about accepting the subjects completed abroad.

3.8. During the first 4 semesters of their studies, upon request, students are bound to take part in the educational work of the Institute, by holding practical lessons/labs and by supervising state exam preparations and for drawing up the minutes of the state exam. Students are bound to hold a maximum of 4 lessons a week per semester; they get credits and hourly rates for their work. Students are bound to supervise state exam preparations and draw up state exam minutes at a maximum of two occasions per semester.

4. Regulations of Obtaining a Doctoral Degree

4.1. Both students of the organised training and those who individually prepare can obtain their PhD degree within the framework of the doctoral procedure. The doctoral procedure consists of passing the doctoral comprehensive exam and successfully defending the doctoral dissertation. In the case of students of the organised training programme, if the comprehensive exam is within 3 years of obtaining the pre-degree certificate, they do not have to take comprehensive exams of the supporting subjects.

4.2. The candidate's publication activities have to meet the requirements described in Appendix 3.

4.3. To obtain the PhD degree, the candidate has to submit the doctoral dissertation. Besides the requirements stated in the Regulations Governing the Doctoral Training Programmes and the Awarding of the Doctoral Degree of the University of Szeged, the DS prescribes the following:

- the length of the dissertation with the abstracts (and without the bibliography) has to be 80-120 pages,
- the language of the dissertation has to be Hungarian or English
- the majority of the results presented in the dissertation has to be published or accepted for publication at the time of submission; furthermore, in case of applications it is essential that the results are appraisable from a scientific point of view,
- the co-authors of the publications forming a part of the dissertation have to make a declaration about the contribution of the candidate to reaching the results; this is done by filling in the co-author's declaration (Appendix 4). If the co-author is incapacitated, this fact has to be proven (for example by correspondence with the colleagues of the co-author),
- at the same time of submitting the dissertation, 10-12 pages long, Hungarian and English language abstracts of the main results of the dissertation also have to be submitted: 20 Hungarian and 5 English language copies, in size A5,

- furthermore, 2 copies of all publications containing the results presented in the dissertation also have to be submitted; certifications have to be attached to these, stating which criteria is fulfilled by each document so that it qualifies as a publication.

4.4. Before the official submission of the dissertation, upon the recommendation of the supervisor, a preliminary, closed defence may be organized. To start such a procedure, the terms and regulations described in point 4.2 must be fulfilled, but the dissertation and the abstracts are not necessarily regarded as final, so these must be marked as “draft version”. The documentation of the preliminary defence must be submitted to the secretary of the Doctoral School. During the preparation of the preliminary defence points 4.5 and 4.6 must be followed. The preliminary defence is organised by the supervisor, along the guidelines of the public defence procedure. After the preliminary defence, considering the remarks and the recommendations of the opponents, the candidate can revise the dissertation and the abstracts, and then start the official procedure, as described in point 4.4. The Council of the Doctoral School aims at inviting the future opponents of the official defence to take part at the preliminary defence.

4.5. The doctoral procedure must be initiated at the Doctoral Institute of the University of Szeged. After registration, the Doctoral Institute sends the application to the Dean’s Office of the respective Faculty, who forwards it to the DS.

4.6. The head of the DS appoints a coordinator (possibly but not necessarily a member of the CDS), who introduces the application, makes a proposal for initiating the doctoral procedure, and also proposes the subjects of the comprehensive examination and the members of the Comprehensive Examination Board; the CDS negotiates these proposals and draws up its own proposal.

4.7. When the candidate submits the dissertation, the appointed coordinator verifies, if the candidate meets the necessary language and publication requirements, and if the dissertation meets the formal requirements, whether the majority of the research results in the dissertation are published and whether the dissertation contains the necessary co-authors’ declaration; after this he makes a proposal to the CDS to initiate the doctoral procedure. The CDS makes a decision about the proposal by secret vote (on a scale of 0 to 5 points). The proposal is supported by the Council, if it gets at least 60% of all possible points. Upon the proposal of the coordinator, the CDS makes its own proposal about the members of the Committee of Assessors.

4.8. After the open disputation, considering its results, the CDS makes a decision about the awarding of the degree by secret vote, on a scale of 0 to 5 points. The proposal is supported if it gets at least 60% of all possible points.

Appendix 1. The Credit System

The credit system of the PhD School, compliant with higher level regulations (Government Decree 51/2001, Regulations Governing the Doctoral Training Programmes and the Awarding of the Doctoral Degree, University of Szeged) assures the principle of uniform assessment, and the transparency and consistency of the system of requirements. The following credit points are obtainable by students.

COMPULSORY MODULES TO CHOOSE FROM (each module can be completed only once):

| Research | <i>Credit</i> |
|---|---------------|
| Literature review I.-VI. | 15 |
| Participation at research seminars (2 classes weekly) | 3 |
| Holding a lecture at a research seminar | 5 |
| Making a research plan I.-III. | 5 |
| Holding a lecture at a Hungarian conference | 3 |
| Holding a (foreign language) lecture at an international conference | 5 |
| Study writing I.-III. | 10 |
| Accepted, full length publication, with no points awarded | 10 |
| Accepted publications with point(s) awarded | 30 |
| Other accepted publication, with no points awarded | 5 |
| Making a research report I.-II. | 5 |
| International internship | 15 |
| The completion of the international internship module is evaluated by the Head of the School, based on the written report of the student. | |

Courses: visiting the courses of the given semester

Each course is worth 5 credits

Requirement: terminal exam

| Education: | <i>Credit</i> |
|---|---------------|
| Holding practical classes/labs (1 class weekly) | 2 |
| Holding practical classes/labs (2 classes weekly) | 4 |
| Holding practical classes/labs (3 classes weekly) | 6 |
| Holding practical classes/labs (4 classes weekly) | 8 |
| Educational credits can only be obtained by teaching at the Institute of Informatics of the University of Szeged. | |

Credit requirements for obtaining a pre-degree certificate: During the six semesters students have to collect a minimum of 180 credits, as follows:

- minimum 100 credits from the Research module,
- minimum 40 credits from the Courses module,
- maximum 40 credits from the Education module.

At the beginning of each semester students have to discuss with their supervisors which PhD courses to take up, so that by the end of the sixth semester they will have completed at least 8 courses.

Appendix 2. Student's Report Form

Report of the PhD student

Academic year 20..-20..

I./II. semester

1. Name:

2. Programme, grade:

3. Topic:

4. Supervisor:

5. Courses completed during the doctoral studies and marks obtained:

6. Data of scientific activity:

a. Accepted or published papers (grouped into publications worth points and others):

b. Papers submitted for publication:

c. Scientific lectures:

d. Other (e.g.: reviewed articles, books):

7. A brief, abstract-like summary of achieved results:

8. Study trips:

9. Educational work, courses taught:

10. Language studies:

Szeged,

Student's signature

Observations of the supervisor concerning the above data.

Appendix 3. Publication requirements

Publication requirements can be completed at the general information science or the engineering information technology area. The candidate determines which area's requirements are to be applied when evaluating his application for a doctoral degree. Verifying that papers are accepted for publication is sufficient at both areas.

a) Requirements of the area of general information science

The total score of the full length publications containing new scientific results of the doctoral candidate must be minimum 2.5. Scoring of publications:

Single-author paper: 1.00 point
Two-author paper: 0.75 point
Three-author paper: 0.60 point
Four-author paper: 0.48 point
Five-author paper: 0.40 point
Six-author paper: 0.32 point
Seven-author paper: 0.25 point
Eight-author paper: 0.20 point
Nine-author paper: 0.15 point
Ten or more-author paper: 0.10 point

A further stipulation is that in case of theoretical topics, papers must contain at least 1 one-author or 2 two-author papers.

In the area of general information science, the following count as publications:

1. *Peer-reviewed journal article*: Article appearing in a journal that is

- referenced by Mathematical Reviews, Zentralblatt für Mathematik, Computing Reviews or Inspec, or that is indexed in Web of Science or Scopus, or is
- published by some renowned scientific publisher (Academic Press, ACM, Cambridge University Press, IEEE Computer Society, IOS, Kluwer, MIT Press, Oxford University Press, Springer-Verlag, Elsevier, Wiley & Sons, World Scientific, Addison Wesley, Prentice Hall, North Holland, Birkhauser), provides an acknowledged professional forum, and has an internationally accepted editorial board.

2. *Book, book chapter*: If the book or the book containing the chapter is

- referenced by Mathematical Reviews, Zentralblatt für Mathematik, Computing Reviews or Inspec, or that is indexed in Web of Science or Scopus, or is
- published by some renowned scientific publisher (Academic Press, ACM, Cambridge University Press, IEEE Computer Society, IOS, Kluwer, MIT Press, Oxford University Press, Springer-Verlag, Elsevier, Wiley & Sons, World Scientific, Addison Wesley, Prentice Hall, North Holland, Birkhauser), and provides an acknowledged professional forum.

3. *Paper appearing in a conference (symposium, workshop) publication*: Paper appearing in a publication that is

- referenced by Mathematical Reviews, Zentralblatt für Mathematik, Computing Reviews or Inspec, or that is indexed in
- Web of Science or Scopus, or is
- a publication of an international conference (symposium, workshop), that is an internationally acknowledged, highly ranked professional forum of the field, with an international program committee; furthermore, more than 50% of the authors of accepted papers are foreign, and the rate of acceptance is usually maximum 50%.

b) Requirements of the area of engineering information technology

The doctoral candidate must have at least 4 full length publications containing new scientific results, that meet the below requirements:

- their total score is at least 12 points,
- at least 2 of them are peer reviewed, foreign language journal articles, one of which appeared (or will appear) in a journal indexed in Web of Science or Scopus and
- at least 2 of them are foreign language, and the contribution of the candidate is minimum 50%.

Publication scores:

Book

- Foreign language 8
- Hungarian 5

Part of a book, book chapter

- Foreign language 6
- Hungarian 3

Journal article

- Peer-reviewed
 - Foreign language, published abroad 6
 - Foreign language, published in Hungary 4
 - Hungarian language 2
- Not peer-reviewed
 - Foreign language, published abroad 3
 - Foreign language, published in Hungary 2
 - Hungarian language 1

Conference proceedings article, at least 4 pages

- Foreign language article at an international conference 3
- Foreign language article at a Hungarian conference 2
- Hungarian language 1

Patent 2

Electronic publication¹ 1

The above publications are to be divided with the number of authors, excluding the supervisor and the co-supervisor.

¹ On the webpage of a journal or company, appears in the result list of *google scholar* (being published at a personal homepage does not earn any points).

Appendix 4. Co-author's declarations

1) Hungarian co-author

Coauthor's declaration

I hereby certify that I am familiar with the thesis of the PhD applicant Mr/Ms ... entitled
Regarding our jointly published results that form part of this PhD dissertation, I declare the followings:

The applicant's contribution was prominent in obtaining the following results:

..... ,

and I did not and will not use these results in getting an academic research degree.

Regarding the following publications, the contribution of the applicant and me is indistributable:

..... .

date, signature

2) Incapacitated co-author

Declaration about incapacitated co-author(s)

I hereby declare that due to their incapacitation, I could not obtain a co-author's declaration from the co-author(s) of the publication(s):

.....

containing the result(s):

.....

Please find the document verifying /reinforcing the co-author's incapacitation attached.

date, signature of the applicant

3) Foreign co-author

Co-author's declaration

I hereby certify that I am familiar with the thesis of the applicant Mr/Ms ... entitled
Regarding our jointly obtained results that form part of this PhD dissertation, I declare the followings:

The applicant's contribution was prominent in obtaining the following results:

.....

I did not and will not use these results in getting an academic research degree.

Regarding our joint results referred to in this thesis, the following ones were obtained as the result of indistributable joint contribution by the applicant and myself:

.....

date, signature