

Special Regulations of the PhD Programme "Cognitive and Dependable Systems" (PhDO-CDS)

of March 29, 2022

Pursuant to the Brandenburg Higher Education Act (Brandenburgisches Hochschulgesetz) (BbgHG) of 28 April 2014 (GVBl. I/14 No. 18), last amended by the Act of 23 September 2020 (GVBl. I/20, No. 26) pursuant to § 5 para. 1 sentence 2 in conjunction with § 31 para. 3 sentence 5 and § 72 para. 2 sentence 1 no. 1 BbgHG, and in accordance with the General Regulations for Structured Doctoral Programmes (RahmenO PhD) of the BTU Cottbus of 08 February 2011 (Abl. 15/2011), the Brandenburg University of Technology Cottbus-Senftenberg (BTU) sets itself the statutes as follows:

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§ 1 Scope of validity

¹These regulations govern the subject-specific features of the PhD Programme "Cognitive and Dependable Systems" (CDS).

²It is only valid in conjunction with the General Regulations for Structured Doctoral Programmes (Framework Regulations for

PhD Programmes) of 8 February 2011 (OJ 15/2011) or their respective valid version.

§ 2 Profile and goals of the PhD Programme

(1) The PhD Programme "Cognitive and Dependable Systems" offers a multidisciplinary approach to the research and development of advanced hardware and software systems as well as for distributed, embedded and cyber-physical applications.

(2) The PhD Programme draws on methodologies and knowledge from areas of computer science, artificial intelligence and electrical engineering to enable PhD students with relevant backgrounds to design and test engineered systems that either ensure high levels of reliability or cognitive functions, or implement both.

(3) ¹In addition to research under scientific guidance, the PhD Programme offers a study Programme at an international level to complement the students' own studies. ²The PhD Programme shall enable doctoral students to work on a doctoral project at a scientific level within three years. ³Their research is integrated into subject-specific and interdisciplinary contexts and they acquire methodological skills for interdisciplinary research. ⁴PhD students shall also acquire the skills to present, discuss and defend research-based theories and findings in a professionally sound manner.

§ 3 Graduation and degree title

¹Upon successful completion of the PhD Programme, either the doctoral degree "Doctor of Philosophy (PhD) in Cognitive and Dependable Systems" or the doctoral degree "Doctor of Philosophy (PhD)" without an addition shall be awarded upon application.

²The application must be submitted by the PhD student at the latest with the application for the opening of the doctoral examination procedure.

§ 4 Admission requirements

(1) The subject-related prerequisite for admission to the PhD Programme "Cognitive and Dependable Systems" is, as a rule, a diploma or master's degree in a subject-relevant field (e.g. electrical engineering, computer science, information technology).

(2) The currently valid matriculation regulations of the BTU apply to the required English language skills.

(3) A further admission requirement is the binding confirmation of supervision by a university lecturer of Faculty 1 (supervisor) who is authorised to provide unrestricted supervision in accordance with § 7 of the doctoral regulations of Faculty 1.

§ 5 Duration and structure of the PhD Programme

(1) ¹The PhD programme is designed to cover a period of three years and requires 180 credit points (CP), of which 150 CP are reserved for the scientific work (dissertation and disputation). ²Over the course of the PhD Programme, in addition to his or her own research activities, the doctoral student also participates in course work comprised of compulsory modules, which together amount to a total of 30 credit points.

³These include (see Annex 1):

1. Advanced Seminar Cognitive and Dependable Systems
2. Status Seminar Cognitive and Dependable Systems
3. Practical and Methodological Specialisation
4. Essentials of Grant Proposal Writing
5. PhD Thesis Writing Skills

(2) ¹The BTU Student Services determines the overall grade for the modules and informs the PhD Committee of this. ²It is calculated as follows:

- ¼ of the grade of the module "Advanced Seminar Cognitive and Dependable Systems",

- ¼ of the grade of the module "Status Seminar Cognitive and Dependable Systems",
- ¼ of the grade of the module "Essentials of Grant Proposal Writing" and
- ¼ of the grade of the module "PhD Thesis Writing Skills".

³The first decimal place after the comma is taken into account, all other decimal places are deleted without rounding. ⁴The module "Practical and Methodological Specialisation" is completed with a course assignment.

§ 6 Dissertation

(1) The dissertation is a scientific treatise (monograph) written in English by the PhD student, which is based on independent research work and represents an advance in scientific knowledge.

(2) ¹Own work which has already served earlier examination purposes may not be submitted as a dissertation. ²The results of such work may, however, be used for the dissertation, in which case the relevant work shall be identified as such in the bibliography.

§ 7 PhD Committee

(1) ¹The doctoral examination board shall be appointed by the faculty and shall conduct the doctoral examination procedure. ²It shall assess the dissertation performance and conduct the oral examination. ³After the examination has been completed, it shall determine the grade and issue the notice of readiness for printing for the publication of the dissertation. ⁴The term of office of the doctoral committee ends with the award of the doctoral certificate by the dean.

(2) ¹In addition to the chairperson from Faculty 1, the doctoral committee shall include at least two reviewers. ²At least one reviewer must belong to Faculty 1 of the BTU. ³An additional reviewer should be a scientist from an external scientific institution who has completed a doctorate and is a recognised expert in the field. ⁴The doctoral committee shall also include at least one further member

from the group of university teachers. ⁵In an advisory capacity, the committee may include academic staff members who hold a doctorate. ⁶The number of members of the doctoral committee shall not exceed six persons in total and the majority of them shall be university teachers with unrestricted supervisory authorisation.

§ 8 Disputation

¹The PhD student first presents his or her dissertation in an English-language presentation of approx. 30 minutes. ²This is followed by a scientific debate lasting approx. 60 minutes. ³The topic of the debate is the topics, methodology and results of the dissertation as well as its classification in the scientific field and the current state of research. ⁴After the debate, the chairperson of the doctoral committee may give the university public the opportunity to address questions to the PhD student. ⁵The disputation shall not exceed a total duration of 120 minutes. ⁶Simultaneous academic discussion with several PhD students is excluded.

§ 9 Entry into force, transitional regulations, abrogation

(1) These regulations shall enter into force on the day following their publication in the Official Gazette.

(2) ¹Doctoral students of the PhD Programme "Dependable Systems" (Abl. 31/2012) may be transferred to the PhD Programme "Cognitive and Dependable Systems" upon application to the PhD Committee as long as their doctoral procedure has not yet been opened. ²The PhD Committee shall decide on the recognition of module achievements already obtained upon application.

(3) The Special Regulations for the PhD Programme "Dependable Systems" of 14 September 2012 (Abl. 31/2012) shall cease to apply after the last enrolment at the end of the three-year standard period of study plus four semesters.

(4) The present Special Regulations shall cease to apply after the last matriculation upon expiry of the three-year standard period of study plus four semesters.

Issued on the basis of the resolution of the Faculty Council of the Faculty of STEM - Mathematics, Computer Science, Physics, Electrical Engineering and Information Technology of 5 August 2020, the statement of the Senate of 23 July 2020 and the approval by the President of the Brandenburg University of Technology Cottbus-Senftenberg of 8 October 2020.

Cottbus, March 29, 2022

i. V. Prof. Dr.-Ing. Michael Hübner

Prof. Dr. Gesine Grande
President

Annex 1: Curriculum of modules

¹The PhD programme is supplemented by a structured study programme directly related to research, amounting to 22 semester hours per week (SWS) and 30 CP. ²In total, the PhD students take five compulsory modules that promote their scientific discourse among each other, their scientific development, the interdisciplinarity of the research approaches, their professional qualification and their international integration.

Module no.	Modules	Status	Evaluation	Total CP
13184	Advanced Seminar Cognitive and Dependable Systems	P	Prü	6
13185	Status Seminar Cognitive and Dependable Systems	P	Prü	6
12238	Essentials of Grant Proposal Writing	P	Prü	6
12241	PhD Thesis Writing Skills	P	Prü	6
13185	Status Seminar Cognitive and Dependable Systems	P	Prü	6
without	Doctoral Thesis – Dissertation	P	Prü	120
without	Oral Examination (Disputation)	P	Prü	30

P = Mandatory, Prü = Test Performance

Annex 2: Regular study plan

Module	Credit Points in Semester						Total Credit Points
	1	2	3	4	5	6	
Advanced Seminar Cognitive and Dependable Systems	6						6
Status Seminar Cognitive and Dependable Systems	6						6
Essentials of Grant Proposal Writing			6				6
PhD Thesis Writing Skills			6				6
Status Seminar Cognitive and Dependable Systems	6						6
Doctoral Thesis – Dissertation	120						120
Oral Examination (Disputation)						30	30