



BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS
Doctoral School of Business and Management

Training Plan

Budapest, 30 April 2020

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Preamble

The present Training Plan was drawn up with regard to the applicable laws and regulations and the regulations of the BME, in particular Act CCIV of 2011 on National Higher Education (hereinafter Nftv.), Government Decree 387/2012 (XII.19.) on Doctoral Schools, Doctoral Procedures and Habilitation (hereinafter Doctoral government decree), the Doctoral and Habilitation Regulations of the BME (hereinafter BME DHSZ) and the Code of Studies and Exams of the BME (hereinafter BME TVSZ).

Where the Training Plan does not include the requirements in or includes more stringent requirements than the above mentioned laws and regulations, such requirements may – in exceptional cases – be reduced to the lowest extent allowed by superior laws and regulations. The permission shall be granted (on a substantiated written request) by the DIT for doctoral trainings or the HBDT for degree award procedures. The decision on the request shall be recorded.

1. Elements of PhD training

Enrolment for each semester of the PhD program shall be completed on the basis of an individual work plan, which has to be developed in accordance with the regulations of the Doctoral School. In the first active semester, students have to submit their work plan, as agreed by their supervisor, to the Dean's Office, by the end of the 3rd week of the semester; in the semesters to follow, by the end of the registration week. If students do not submit their work plan by the specified date, they may (by paying a fee specified in a Rector's order) make up for it until the end of the 5th week of the semester. If a work plan is not submitted by this date, the semester of the student shall become a passive semester (subsection (1) and (2) section 27 of the BME TVSZ).

The most important part of the doctoral program is the research activity carried out in topics, as announced by the Doctoral School of Business and Management (hereinafter referred to as: Doctoral School) and approved by the Council of the Doctoral School (DIT). Each PhD student has one and only one supervisor, who guides and assists the PhD student with their studies, research and the publication of the results while working on the topic, and helps him/her prepare for graduation with full responsibility. According to section 10 of the BME Code of Doctoral Studies and Habilitation (DHSZ), the supervisor shall be a full-time employee or professor emeritus of BME or a full-time employee of an institution within the framework of a cooperation agreement concluded with BME for doctoral training who has at least two years of professional practice from the date of obtaining his/her doctoral degree. A dual supervisory system is only allowed – and requires the involvement of a co-supervisor – in the case of international co-operation or interdisciplinary topics if the topic was approved by the Council of the Doctoral School and the topic announcement was made with the prior consent of the Habilitation Committee and the Doctoral Council of the University (EHBDT). In the case of an external (DHSZ § 10 (4)) or visiting (subsection (5) section 10 of the DHSZ) supervisor, DIT shall designate a consultant, who helps with the supervisor's work and monitors the student's professional progress.

The programs of doctoral training are closely related to the master's programs – economic science and engineering management - of the Faculty of Economic and Social Sciences of BME, in line with the disciplines represented by the Doctoral School. These are as follows:

- Engineering Management program (Master program)
- Marketing program (Master program)
- Finance (Master program)
- Regional and Environmental Economic Studies program (Master program)
- Accounting program (Master program)
- Management and Leadership program (Master program)
- MBA (Master program).

The basic requirement for admission (in addition to the basic requirements as specified in the Rules of Procedure of the Doctoral School) is that applicants complete the compulsory subjects of the relevant master's degree program in a verified way, with a maximum of 20 credit deficits. The latter shall be completed during the first two semesters, along with the other subjects of the doctoral program.

2. Professional competences to be acquired

a) Competences related to knowledge

He/she knows and understands the comprehensive concepts, theories, developmental characteristics and correlations of economic and management studies in his/her research and/or development topic. He/she is aware of the fundamental values and ethical standards of research, development and leadership activities along with those of the society. In his/her research and/or development topic, beyond the relevant principles and theories, he/she knows the related economic and social facts, the important and new research directions and findings.

He/she knows and understands the concepts, theories and trends of related co-disciplines relevant to his/her research or development field. In his/her research and/or development topic, he/she is aware of the most important research questions and issues of economics, including their social and environmental aspects and implications.

In his/her research and/or development topic, he/she is fully acquainted with the principles and methods of research and development needed to explore correlations, to model and rethink social/economic processes and to formulate new scientific questions and answers.

As a researcher and/or developer, he/she possesses the fundamental knowledge and methods of planning and organising research, as well as managing developments, including institutional, economic, financial and legal conditionalities and rules. He/she possesses up-to-date institutional, organisational and managerial knowledge necessary for a complex, top-level economic activity.

In addition to a high-level competence in conversational language, he/she is competent in the terminology of economics and other relevant co-disciplines, essential for the effective cultivation of his/her research and/or development field. He/she is familiar with the specific features of linguistic expression and formulation in several languages: besides his/her mother tongue and English, in another language relevant for his/her research and/or development.

In his/her research and/or development topic, he/she is fully familiar with the various communication fora of professional and scientific life, along with the forms and rules of written and oral communication and the requirements of publication. He/she is in possession of fundamental pedagogical, methodological knowledge essential in scientific life and, particularly, in educational activities.

He/she knows and understands the rules and criteria of a research, development or education career in the discipline of business and management, the possibilities, alternatives and conditions of building his/her own career path, along with the available support services.

In connection with his/her research and/or development topic, he/she has high-level and comprehensive social literacy, including the specific institutional features of the main subsystems of society and their connections, the most important social, public issues and problems.

b) Competences related to skills

In his/her research and/or development topic, he/she performs comprehensive and complex analyses to solve scientific and/or practical problems. He/she reveals connections beyond the current state of play of the discipline of business and management, formulates new, original

ideas, raises questions. During his/her research, development and management activities he/she can subordinate his/her activity to the values and ethical principles he/she has accepted.

He/she formulates conclusions with a view to developing and choosing new solutions or making decisions. He/she performs his/her research and/or development activities successfully also in a multidisciplinary context, in a new and so far unknown environment, or while working with incomplete or limited information. He/she is able to interpret the social, ecological and sustainability aspects that concern but also go beyond his/her research and/or development topic, also taking them into consideration during his/her own professional (theoretical research or practical) work.

He/she applies and, on a high abstraction level, improves the theories, methods and practical solutions relevant for the field of his/her research. He/she analyses and compares scientific theories and methods and decides on the relevant theories to be applied while solving practical issues and further developing theories and methods. Based on new research questions and hypotheses in his/her research and/or development topic, he/she initiates, plans and carries out research projects and formulates new scientific findings.

He/she successfully conducts a specific research project of a research, development or business organisation. As a leader, he/she formulates professional expectations for his/her colleagues, uses positive incentives in the organisation's work, evaluates the result and the colleagues.

Based on the results of his/her research and/or development work, he/she prepares scientific dissertations and studies; publishes, documents and defends them according to the rules of the given discipline; presents them in a domestic or international environment to professional and non-professional audiences, also in a foreign language. He/she successfully performs educational as well as scientific communication tasks in the discipline of business and management, particularly in his/her research and/or development topic, in a higher education institution, in a research institute, as a lecturer, a researcher, a leader and a research organiser.

He/she plans his/her career in research/development, sets research and/or development goals and achieves them. He/she plans and organises his/her career in the spirit of continuous learning and self-education in the perspective of an entire lifetime. In connection with his/her research and/or development topic, he/she recognises important social issues to be solved. He/she carries

out his/her professional work while taking into account social interrelations, makes proposals with a view to solving social problems while also effectively contributing.

c) Competences related to attitudes

He/she has a critical view of the practices, current findings and methods of business and management. He/she is a professional individual making use of his/her extensive knowledge, seeking new theoretical and practical solutions and consistently representing his/her professional opinion.

He/she is committed to his/her profession and to research/development work, accepts its core values, professional-ethical principles and rules while also aiming at their critical interpretation and development. He/she is open and receptive to new scientific findings and professional criticism related to, but also going beyond, his/her field of expertise, including co-disciplines.

He/she is interested and motivated in the opinion of others, in sectoral, regional, national and European values (including social, ecological and sustainability aspects) and considers their enforcement as being part of his/her profession. Based on the state of play of the discipline's theory and practice, he/she is committed to solving the theoretical and practical questions and problems of business and management and to developing scientific methods.

He/she respects the principles and methods agreed in research planning, organisation and financing while also aiming at innovation, continuously striving for change and improvement in this field. As leader of a research and development project or a business organisation, he/she is motivated not only by individual success but also by the development of the research-and-development community and the whole economy.

He/she considers it to be his/her duty to publish his/her professional and scientific questions, findings and suggestions. He/she is open to professional and scientific criticism and accepts well-established criticism. In his/her publications, he/she seeks to reach the broadest scientific community. During debates, he/she bravely holds his/her opinion, respecting that of others. He/she is committed to transmitting his/her knowledge and the values important for the

community. He/she sees the transmission of knowledge and values as a basic human and professional duty.

He/she considers the continuous professional, scientific, pedagogical self-education and the development of his/her theoretical, practical and methodological knowledge a lifestyle. In addition to professional development in the narrower sense, he/she is aware of the need to manage a complete and complex life path. He/she considers it to be part of his/her profession to make use of professional and social knowledge also in the interests of the common good; he/she is ready to share his/her knowledge with others.

He/she actively participates in public activities of public interest. He/she has a value-based, cultured intellectual attitude towards other people as well as economic and social problems, processes and views.

d) Competences related to responsibility

During his/her research and development activities, he/she formulates his/her research and development goals independently. He/she takes professional, human and social responsibility for his/her research topic, research and development findings and suggestions. During his/her work as a researcher, lecturer, expert or leader, he/she voluntarily complies with and makes others comply with professional ethical standards; if needed, he/she raises new ethical issues, initiates norms and rules. He/she takes full responsibility for his/her research and teaching work, for the organisation he/she manages, for his/her business and for his/her decisions related to these.

He/she independently builds his/her relationships with other areas of the discipline business and management, with representatives of co-disciplines and with the relevant social subsystems. He/she takes responsibility for the economic, social and environmental consequences of his/her research and development findings/results, practical activities and proposals.

During his/her research and development activities, he/she independently and responsibly chooses the methods to apply, knowing (and accepting) that the choice will affect the outcome. He/she initiates new research works, solutions, educational programs and methods, cooperation

systems independently. He/she implements these tasks independently and responsibly, involving the necessary partners. He/she is independent in his/her own professional work, in shaping and developing his/her thinking – either as a researcher or research organiser or in a managing position of any level at a business organisation. As a research organiser and as a manager, he/she takes responsibility for the given organisation, project and staff.

He/she takes an active part in domestic and international research and education projects and professional fora related to business and management. He/she represents his/her standpoint independently, responsibly, credibly and as an equal partner. He/she observes and follows the ethical rules of his/her profession and discipline. He/she strictly and consistently preserves respect for the researchers' and developers' copyright and, as a leader, also makes others preserve it.

In his/her research and development topic, he/she develops and announces educational courses and projects independently. He/she takes responsibility for the successful completion of courses and the performance of students. He/she plans and organises his/her general, professional development, both as a researcher and a lecturer, with great independence and responsibility. He/she also supports the development of his colleagues and subordinates with responsibility and assistance. He/she also helps his/her colleagues and subordinates in other areas of social life responsibly, encouraging their learning and further development.

Apart from his/her professional work and duties, he/she takes responsibility in social and public matters and independently takes initiative in them. He takes part in social programs responsibly and also undertakes the independent management of these programs and projects.

3. Curricular web

The total of 240 credits to be obtained during the training program is divided into the following blocks:

- methodological preparatory subjects: 21 credits
- research work: 135 credits

- guided education: 24 credits
- publication activities: 60 credits.

The student status of the doctoral student shall be terminated unless they collect a minimum of 15 credits in the active semester (subsection (2), section 186 of the BME TVSZ).

Students funded through Hungarian state scholarship may be reallocated into self-financed status by the Dean's decision upon recommendation from the DIT if they fail to complete 20 credits as a minimum during the active semester (subsection (8), section 13 of the BME DHSZ).

Upon their request, self-financed students may be reclassified to be eligible for the Hungarian state scholarship subject to a positive opinion from the DIT (see subsection (8), section 13 of the BME DHSZ for details).

If a student submits their doctoral thesis any time during the second phase of their training, and the Habilitation Committee and Doctoral Council (HBDT) approves it for the review procedure, the research and publication credits of the given semester shall be recognised on the day of the HBDT's decision. Students who fulfil all academic and examination requirements prescribed in the curriculum and earn the required amount of 240 credits in such a manner shall obtain the leaving certificate (absolutorium) based on the HBDT's decision while their student status, and the eligibility for scholarship for students benefiting from a scholarship programme, with the BME shall remain valid until the last day of the semester (point (d), subsection (1), section 59 of the Nftv.)

3.1. Subject requirements

Subjects which constitute the education part of the PhD training program serve as a methodological preparation for research in the field of business and management. Subjects review research methodology issues, quantitative and qualitative analytical procedures, economics, management and economic analysis problems and international trends of these topics.

3.2. Guided education requirements

In the framework of guided education, PhD students hold project assignment consultations, lead practice/field-work and give lectures in areas partly related to their research topic. In carrying out their teaching tasks, the supervisor and the lecturer in charge of the given subject assist their work and certify the completion of their educational task for the head of department. The completion of the educational activity is certified by the head of department. Any lecturing activity beyond those prescribed for the doctoral training shall be remunerated according to section 179 of the BME TVSZ.

3.3. Research requirements

Research requirements are met with the help of consultations conducted by the supervisor. Research credits for each semester can be obtained with the approval of the supervisor.

Consultation is an individual activity held by the supervisor with the aim of agreeing on the research tasks as well as presenting the tasks performed and the results achieved.

Research credits can be awarded for the student's individual research work with the approval of the supervisor. Part of the research credit may be obtained by research work carried out at a library, a company or another external site, attending a conference or another scientific event, a research trip abroad, etc.

3.4. Publication requirements

The completion of a total of 60 credits obtained for publication activity equals the completion of requirements for **launching the graduation procedure**. According to the sample curriculum, 30 publication credits shall be obtained by the end of **the 4th semester** (by the time of the complex exam), The completion of the 30 publication credits also equals the completion of at least half of the requirements for **launching the graduation procedure**.



The credits indicated in the sample curriculum can be obtained for the following publications:

- **Publication 1:** two publications with a total value of at least 3 points¹
- **Publication 2:** publications with a total value of at least 4 points¹, including at least **one** revised journal article in a foreign language
- **Publication 3:** publications with a total value of at least 5 points¹, including at least one journal article present in the WoS or Scopus database.

For each publication, only one credit may be awarded.

¹ Calculated in line with the publication points as determined by the graduation requirements of the Doctoral School of Business and Management

The training's sample curriculum is presented in the curricular web as follows:

Subject/type	Total credit	1. semester	2. semester	3. semester	4. semester	5. semester	6. semester	7. semester	8. semester
Study									
Economics		4/e/5							
Research methodology		4/e/5							
Quantitative Methods			4/e/5						
Management Theories				2/e/3					
Economic Analysis					2/e/3				
Study in total	21	8/e/10	4/e/5	2/e/3	2/e/3				
Education									
Education/C	24	2/s/3	2/s/3	2/s/3	2/s/3	2/s/3	2/s/3	2/s/3	2/s/3
Research									
Consultation /C	35	5/t/5	5/t/5	5/t/5	5/t/5	5/t/5	5/t/5	5/t/5	
Research work	100	15	15	10		20	20	20	
Research in total	135	20	20	15	5	25	25	25	
Publication									
Publication 1 /C				10					
Publication 2/C					20				
Publication 3/C									30
Publication in total	60			10	20				30
Grand total	240	33	28	31	31	28	28	28	33

Symbols:

C: Compulsory subject

s: signature

t: (mid-)term grade

e: exam

Example:

Research methodology | C | 4/e/5: compulsory, 4 contact lessons per week, performance assessed by examination, 5 ECTS credits

4. List of subjects

- Economics
 - subject leader: Dr. Ádám Török, professor
- Research Methodology
 - subject leader: Dr. András Nemeslaki, professor
- Quantitative Methods
 - subject leader: Dr. László Kóczy, associate professor and Dr. Imre Dobos professor
- Management Theories
 - subject leader: Dr. Gyula Zilahy professor
- Economic Analysis
 - subject leader: Dr. Tamás Koltai, professor

5. The complex exam

The requirements of applying for a complex exam are as follows:

- In the „education and research period” of the doctoral training (the first four semesters), completion of at least 90 credits and of all of the educational credits (21 credits) prescribed in the Training Plan of the Doctoral School (except independent PhD students who are preparing for doctoral graduation individually and whose student status is established by their application for the complex exam and its acceptance).
- In the case of *independent PhD students*, the requirement for accepting their application for the complex exam is fulfilled upon formally meeting the publication requirements of doctoral graduation (by the time of submitting application, thesis points are not required, there is no content evaluation, only the expected numerical indicators shall be met).

The complex exam shall take place in public, before a board. The board of examination consists of at least three members, with at least one third of the members having no employment relationship with the institution by which the Doctoral School is operated. The chairperson of the board of examination is a lecturer or a researcher holding the academic title of professor, professor emeritus or Doctor of the Hungarian Academy of Sciences. Every member of the board of examination has a doctoral degree. The supervisor and the internal consultant of the examinee may not be a member of the board. At least a week before the exam, the supervisor sends the evaluation of the student’s performance to the chairperson of the board in an electronic form. The supervisor and the internal consultant shall be invited to the complex exam.

At least a week before the exam, the candidate submits a short summary of his/her results achieved so far as well as his/her articles submitted for publication and published to the board in an electronic form. The formal fulfilment of the publication conditions does not guarantee the exam eligibility. The board shall record and justify the exam eligibility or its refusal in the protocol.

The complex exam consists of two main parts, one assessing the theoretical preparedness of the candidate ("theoretical part") and the other assessing the candidate's scientific/artistic progress ("dissertation part").

In the theoretical part of the complex exam, the candidate gives a comprehensive overview of the knowledge of methodology and professional field acquired during the education phase of the program. The subject of the exam is designated by DIT after consulting the supervisor. Students shall be informed by DIT at least two months prior to the exam.

In the other part of the complex exam, the candidate gives an account of his/her knowledge, by giving a presentation, on the specialised literature of his/her research topic, reports on the findings of his/her research, describes his/her research plan concerning the second phase of the doctoral program including the time schedule of preparing the dissertation and publishing the results. In his/her presentation he/she describes the scientific relevance and innovation content of his/her findings and, if relevant, the technological motivations of the research and the practical applicability of the results.

The board of examination evaluates the theoretical and the dissertation part of the exam separately. The protocol of the complex exam shall also contain textual evaluation. The result of the exam shall be announced on the day of the oral exam. The complex exam is completed if the majority of the members of the board consider both parts of the exam as being completed. In the case of a failed theoretical exam, the candidate may retake the exam in the non-completed subject(s) once more during the given exam period. The dissertation part of the exam may not be retaken during the given exam period in the case of failure.



The result of the complex exam is not taken into account while deciding on the qualification of the doctoral degree but its successful completion is a condition for entering the second stage of the training.

The Training Plan was approved by BME EHBĐT on 30 April 2020. The Training Plan will take effect immediately after its approval.

Budapest, 30 April 2020

(Sgn.) Prof. Dr. Tamás Koltai
Head of PhD School