YEREVAN STATE MEDICAL UNIVERSITY
after MKHITAR HERATSI

SCIENCE UNIT

GUIDE TO DOCTORAL PROGRAMME IMPLEMENTATION

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INTRODUCTION

PhD education in Yerevan State medical University (YSMU) constitutes the main link between the Higher Education and Research Areas, and high quality PhD programmes are crucial in achieving the research goals of the University.

According to Salzburg principles the core component of doctoral education programmes which provide the third cycle of higher education, is the advancement of knowledge through original research. Thus, doctoral education should be built within a framework which ensures fair and competitive admission procedures, competent supervision, appropriate environment and qualified assessment.

On the whole, the **aim** of a doctoral education programme is to provide, for each doctoral student, *individual depth of experience and competence in the chosen specialty; understanding of a substantial body of knowledge which is at the forefront of the academic discipline; the development of such skills as critical analysis, evaluation and synthesis of new and complex ideas, as well as other qualities and transferable skills that will enable them to continue self-education after formal training, to undertake new research at an advanced level and to serve his or her field productively through a long career.*

This guide has been elaborated based on the national principles of PhD level education development in Armenia, based on the provisions of the RA Law on Higher and Post-Graduate Professional Education, Regulations on Admission and Studies at PhD level as Full-Time PhD Students, Part-Time Research Applicants and Doctoral Students, Regulations on Awarding Scientific Degrees in the Republic of Armenia as a general framework for the modernization of PhD education in Armenia. It has been harmonized with the Salzburg principles for the third level of higher education within the context of "Doctoral Programmes for the European Knowledge Society"(Salzburg 3-5 February 2005) to serve as a guide for reforms in PhD programmes in higher education (Appendix 2).

The core component of PhD programmes forming the "third cycle" of higher education is the advancement of learning through original research, but within defined time limits. Thus, PhD education in YSMU is built within a framework which ensures smooth admission procedures, competent supervision, appropriate environment and qualified assessment.

This guide to PhD programme implementation will help foreign applicants of PhD programmes to acquire necessary information on how PhD programmes are being implemented within YSMU. It will steer the PhD students through the steps needed for planning and implementing their own PhD programmes.

PHD PROGRAMME GOALS AND REQUIREMENTS

The fundamental issue of doctoral education is the progress of knowledge through innovative research with scientific novelty. The aim of the PhD programme is to

- provide individual practical knowledge, experience and skill in the given professional field for each PhD student,
- understanding the nature and logic of the profession as a whole,
- sufficient knowledge of fundamental science, which allows to engage in self-education after the completion of formal education and be in leading positions in changing professions,
- provide career motivation to act effectively in the given field.

During PhD studies the postgraduate student acquires the following skills and abilities:

1. Implementation of individual research, independent solutions to scientific problems, acquisition of professional knowledge, participation in team work on the same research subject, necessary knowledge of the research field and sufficient knowledge of the subject under study.
    - Presentation of the outcomes of the research in articles, and/or implementation of thesis analyses, surveys, fact-finding and evaluation, developing and strengthening analytical and critical thinking,
    - Ability to access databases, statistics and relevant literature.
2. Acquisition of general skills
    - Peer-to-peer communication in team work enabling researchers to take part in various workshops and conferences (posters or reports are mandatory), presenting personal research is important, however implementation of individual research is central,
    - University support in organizing seminars and other events with the researcher's initiation,
    - University support in the development of the PhD student's communication and presentation skills by offering special courses during studies aimed at developing similar skills,

- Attending lectures: researchers need to acquire academic writing skills, thus strengthening knowledge and capacity in that field

3. Acquiring teamwork skills, team management and fundraising skills:
    - PhD researchers need to lead student groups and engage in mentoring, thus strengthening teamwork skills and team management skills,
    - The university offers workshops and round-table discussions on various mechanisms for grant proposals, including examples of successful grants, various types and ways of applying for grants.
4. Teaching, management and/or mentoring skills
    - Through mandatory courses taught by postgraduate students the PhD programme gives the researchers teaching skills and other practical capacities, such as mentoring.
5. Autonomy, initiative and entrepreneurship skills
6. Ethical behavior, reliable scientific practice, sustainability, responsibility, professional behavior.

At the end of PhD studies the student must:

- Present and apply in written form new knowledge through an original and high-quality research, which guarantees further publication of the research,
- Understand and master basic and advanced knowledge of the profession,
- Be able to imagine, develop and implement a plan for the creation and application of new knowledge, as well as for understanding the profession and align the development of the plan taking into account unforeseen problems,
- Get a clear picture of necessary skills for doing a research.

ADMISSION POLICY

The admission to doctoral study is for the graduates either with Master's degree or with educational degree of certified specialist or for those qualified as physician/specialist physician.

doctoral students are admitted according to the need of a relevant specialist in the Chair or Research Centre, aiming to preserve and develop the university scientific school, research development and research rejuvenation.

The doctoral study is carried out both on full-time and part-time basis, both paid and free of charge. The duration of full-time studies is no longer than 3 years, and that of part-time studies is 4 years. Full-time doctoral education admission with full tuition compensation in the form of state scholarship (free of charge) for the compulsory military service deferment, is implemented within the time set by the RA Government decree on the organization of recruitment in the relevant time period.

According to the procedure at least 6 months prior to the beginning of each academic year the RA Ministry of Education and Science submits the doctoral places and the distribution of full time doctoral study admissions for the RA Government approval based on the proposals received from institutions.

The RA Ministry of Education and Science allocates funds from state budget to cover exam costs and costs of preparatory courses, namely courses in foreign languages (either English, French or German) and in 'Informatics and Basics of Information-Communication'. Funding and organizing agreements for preparatory courses and exams are signed with relevant organizations by the University.

Each applicant has one possibility to participate in courses of foreign language (either English, French or German) and 'Informatics and Basics of Information-Communication' as well as to take the exams, which will be financed at the expense of the RA state budget for the aforementioned purpose. The University submits the lists of potential graduate-applicants of that academic year to the organizations conducting the courses and the exams, signing relevant contracts with the potential applicants. At the same time a copy of the aforementioned lists is submited to the RA Ministry of Education and Science.

With the decree of the RA Government on 'Admission places for full-time doctoral studies for each academic year and distribution of full-time doctoral admission places' the approved list is submitted to the universities and necessary time is given for the organization of admission exams,

the schedule and location of which is submitted to the Ministry of Education and Science.

Applications for PhD admission for each academic year are accepted within set deadlines, at the end of which the lists of male applicants, subject to conscription, are submitted to the RA Ministry of Education and Science.

The major exam for PhD admission is organized within the set deadline.

The data of all the applicants participating in the major exam are submitted to the RA Ministry of Education and Science within the set deadline.

According to the procedure the doctoral study admission announcement is published in the newspaper 'Hayastani Hanrapetutyun' ('The Republic of Armenia') and on the next day the latter is submitted to the RA Ministry of Education and Science.

In the process of organizing PhD admission it is allowed to submit from applicant-graduates a relevant reference on the qualification of higher profession education degree instead of Higher Education diploma, by the time of submitting Master's or certified specialist's diploma (state-recognized diploma).

According to the aforementioned procedure after getting an order from the RA Ministry of Education and Science to start the process of PhD admission each chair or research infrastructure of YSMU can submit an application-petition for the postgraduate place of that year.

The application for the doctoral study admission by the candidate or an authorized person is issued under the name of the head of the institution together with the following documents:

1. Copies of either Bachelor's and Master's or certified specialist's or practitioner's diploma and their transcripts (for foreign applicants a document of their education equivalency is required),
2. Attestation Certificate of foreign language and 'Informatics and Basics of Informatics-Communication' or the relevant reference (set by internal threshold, with percentage grading),
3. List of publications or the copy of at least one scientific work on chosen specialty or a scientific report – at least 20 printed pages,
4. Personal record sheet from Human Resource Department, autobiography and three photos (3 X 4 size),
5. Excerpt from employment record book (if any).

Passport and Higher Education diploma are submitted by the applicant in person.

An admission committee is formed by the order of the head of the institution for organizing doctoral study admission, with the chairmanship of the head of the institution and the deputy.

Professional examination committees (hereinafter committee) are formed by the order of the head of the institution for taking the major exam of doctoral study admission.

3-5 specialists with scientific degree or academic title in the given professional field are included in the committee. 5 members are involved in the committee of Pharmacology major exam, including the head of the committee.

The schedule of major examination is approved by the head of the institution and is submitted to the Ministry.

The applicant is given the permission to take part in the major exam by the admission committee if the following documents are available: a certificate and (or) a reference certifying the relevant point scored from foreign language and 'Informatics and Basics of Informatics-Communcation', as well as a written positive review by the chair of specialty or research infrastructure about the scientific paper based on the chosen specialty or an approved list of published scientifc works in reviewed scientific journals.

The necessary minimal point for any of the below mentioned foreign languages is:

1) English – 'TOEFL' (IBT) – 46 and 'IELTS' - 5.5 points.

2) French – 'TCF' 200 points.

3) German 'on DaF' 60 points.

The minimal score for 'Informatics and Basics of Informatics-Communicatin' is 25 points.

The result of the major exam is valid in the admission process of the given univeristy during the given year.

The doctoral study admission announcement is posted in the newspaper designated for the institution announcements, it is as well posted on the official website (http://ysmu/science/).

The schedule of the admission major exam is approved by the head of the institution and is submitted to the Ministry.

The following information about the major exam is posted in the intended space for the announcements and on the official website:

1. Date, time and venue of the exam – about 7 working days prior to the exam

2. Questionnaire – at least 1 month prior to the major exam
3. Procedural requirements, which are approved by the head of the institution.
4. Given the specificity of the profession, the way of conducting the major examination (written or oral) is set by the admission committee.

The applicant attends the exam with an identification document. The oral examination is recorded and the record is kept for at least 24 hours after announcing the results.

Major examination results are graded on a 20 (twenty)-point scale. The applicant passes the examination in case he has acquired at least 13 points. The final score is the mean score of each member of the Committee.

The applicant with the highest score for major examination is admitted to the PhD programme. In case of equal scores for major examination, the following criteria shall be taken into account respectively:

1. The total GPA (Grade Point Average) in MA degree or Certified Specialist or Practitioner studies.
2. The total sum of GPA in Bachelor's and Master's Degree studies.
3. The number of scientific publications.
4. Diplomas of international or national student disciplinary contests or Olympiads or participation in international conferences.

The Admission Committee makes a decision for each applicant based on the results of the competition. The applicants are notified about their admission or rejection decision within 7 working days after the major examination.

The procedural requirements for appealing major examination results are as follows:

1. Applicant may appeal to the committee against the professional examination results within an hour after the announcement of the results by submitting a written complaint to the head of committee, which is discussed on the same day.
2. A representative of University administrative staff (a dean or a representative of academic unit), who is not a member of the committee and a representative of student or young scientist council of the institution, whose nominations are approved beforehand by the head of the institution, participate in the appeal process.
3. The written work is examined and discussed in the presence of the applicant and in case of oral examination the recording is replayed. As a result of appeal by an open

ballot and a simple majority of votes of committee members with the involvement of additional members makes a decision on either to leave the score unchanged or to raise it.

4. A record is made on the decision which is signed by the head of committee, university administrative staff, the representative of student or young scientist council and the applicant. In case of disagreement with the decision by any of the above mentioned members a special opinion is submitted in written form, which is attached to the protocol.
5. In case of change of the score a relevant record is made.
6. The major examination result can be appealed in the court in accordance with the relevant law.

The doctoral study admission results are submitted to the Ministry of Education and Science of the RA in concise form.

The announcement of the successful applicants is carried out by the order of the head of the institution by signing a trilateral contract with them for regulating relations between the University, the doctoral student and the scientific supervisor. The subject of the contract, rights and obligations of all parties, terms are clearly stated in the contract.

Students admitted to the doctoral study on full-time and free of charge basis, are awarded a set amount of state scholarships starting from the date of admission.

The admission of the foreign students is carried out in line with the "Regulation on Admission of Foreign Students to Higher Educational Institutions of the Republic of Armenia, as well as Admission of Family Members of Diplomats Working in Diplomatic Service Bodies of the Republic of Armenia Operating in Foreign Countries' № 700-Ն dated on 28 April 2011.

APPROVAL OF RESEARCH TOPIC, PROFESSIONAL INDEX AND SCIENTIFIC SUPERVISOR

A doctoral student should have a working plan and get a scientific supervisor approved by the University Scientific Council at least within 3 months after the admission and promulgation.

Each scientific supervisor can have maximum 5 full-time and part-time doctoral students at the same time.

Only the higher education Institutions or scientific organizations that are accredited by the Supreme Certifying Commission have the right to approve the dissertation topic. In order to acquire authorization, the higher education institution and the scientific organization, each having at least three prominent specialists with doctoral degrees (at least one doctor of science) in the given field as permanent staff members should apply to the Supreme Certifying Committee.

The doctoral student applies to the Rector of University, approves the topic of the dissertation after it has been assessed in respective subdivisions. The dissertation theme should be topical. The approval document includes the title of the dissertation, the field of the science and the speciality according to the degree-awarding nominal list.

The Scientific Coordination Council also approves the scientific supervisor for the dissertation and, if necessary, a consultant for the dissertation. The consent of the supervisor or the consultant is compulsory.

Supervisors selected among scientifically qualified (normally have a doctoral degree or equivalent) and active scholars in the field with a steady scientific production that contributes to the peer-reviewed literature concerned. Supervisors should have broad local and international scientific networks to be able to introduce the doctoral student into the scientific community. Supervisors should assist with career development.

Recognition criteria for supervising are comprehensively stated and described by the Supreme Certify Commission of RA (SCC). According to SCC statements doctors of science in the corresponding field of knowledge and the candidates who have a special authorization from SCC can be appointed as scientific supervisors. To acquire this authorization, the candidate supervisor must submit to SCC a letter of recommendation from the head of the institution or organization and a list of at least 30 scientific publications in the respective field of knowledge, 5 of which published in the last 5 years.

The research study plan of doctoral students designed by supervisors take into account the

research goals, availability of techniques and equipment of The University and scientific partner organizations, as well as the possibilities of doctoral students.

SCC is to be notified in writing about the approval of the supervisor and the topic of dissertation.

EDUCATIONAL PROGRAMME

During the study doctoral students should:

1) take the exam (exams) according to the academic curriculum (plan) and the quiz (quizzes) (including major exam), accumulate the corresponding credits, complete the dissertation and hold an initial discussion of the dissertation in a relevant institution.
2) have a work plan approved by the institution's scientific council, have a scientific supervisor and a scientific-educational workload according to the established credits.

A full-time doctoral study is considered to be a scientific-pedagogical experience.

The educational programme is implemented in accordance with the doctoral student's individual study plan maintaining the criteria set in graduation requirements.

According to the RA legislation the doctoral full-time study load is equivalent to 180 credits, which consists of two interconnected components – education and research: the guaranteed distribution of the established workloads for each of them for the full-time/part-time students is given in the table below:

Academic year	I	II	III	IV	Total
Educational	**26** / 15	**12** / 10	**12** / 10	- / 5	**50** / 40
Research	**34** / 30	**48** / 37	**48** / 39	- / 34	**130** / 140
Total	**60** / 45	**60** / 47	**60** / 49	- / 39	**180**

Education Component

General preparedness section: The academic part of the programme consists of *general training and professional training* sections*, internships and attestations.* The first one serves to ensure and replenish a general background necessary for the researcher's qualification, the second one provides the development of the researcher's scientific-pedagogical skills, and the third one provides the necessary basis for the student's professional knowledge and abilities.

The workload for ***general preparedness section*** is 20 credits. The courses of this section are aimed at developing doctoral students' general, transferable knowledge and skills. It includes compulsory and elective courses with credits from 0.5 to 2.

The general preparedness section includes qualification exams with 3 credits total amount.

	GENERAL EDUCATION COMPONENT
Compulsory Course	Major Foreign Language/Academic Writing
	Philosophy of Science and Methodology
	Medical Informatics
	Pedagogy and Psychology
	Scientific Ethics
	Scientific Research Design and Toolkit
	Biostatistics
	Project Development and Management
	Evidence-Based Medicine
	Communication Skills and Business Writing
Elective Course	Intellectual Property and Patent Case
	Health Law
	Management: Human and Material Resource Management
	Laboratory Research Methods
	Environment and Health
	GCP (Good laboratory practice) Principles

In the professional preparedness programme the total workload is 20 credits and includes 10 major and 5 elective subjects. 6 credits are allocated to major subjects and 4 credits are for the elective ones. The professional preparedness section involves qualification exams with 6 and 3 credits total.

	PROFESSIONAL EDUCATION COMPONENT
Compulsory	Major Subject 1
	Major Subject 2
	Elective/related Subject 1
	Elective/related Subject 2

Internships in the programme: The workload of ***internships in the programme*** is 10 credits, out of which, up to 4 credits are assigned for research internship, 3 for pedagogical and team work each**.** The pedagogical internship includes practical trainings and workshops in bachelor studies, laboratory works, as well as participation in supervision of course papers and graduation papers. The internships are organized in accordance with the programme designed and approved by the PhD student and the scientific supervisor.

Internships	Credit
Research Internship	**4.0**
Pedagogical Internship	**3.0**
Teamwork Internship	**3.0**
Total	**10.0**

For the examinations the traditional 20 unit scale is used for doctoral students' assessment: "Excellent", "Good", "Satisfactory", "Unsatisfactory". The threshold is 13 which means that below 13 scored marks - "Satisfactory", "Unsatisfactory" are equivalent to failure. No credits are given for the courses from which the student score less than 13 or completely fail.

RESEARCH AND PRESENTATION OF OUTCOMES

The doctoral study is aimed at training researchers, with an emphasis on the research methodology and techniques that culminate in the writing of a doctoral thesis. The work conducted by doctoral students is original research, which is based on critical thinking, evaluation and synthesis of new and complex ideas, as well as on the communication with broader scientific community and society. For the implementation of the research, doctoral student should conduct:

1. *A study of modern literature on planned research justifying the topicality and the importance of the research*

Based on the skills acquired through the work with scientific articles, through summarizing and presenting them in the form of a report at the professional workshops, the doctoral student submits two reports on the literature reviewed during the study period. The first report is presented at the chair meeting before the approval of the research topic which aims at preparing the doctoral student for the justification of the topicality and the importance of his/her own research study based on the critical analysis of similar works (5 credit). The aim of the submission of the second analytical report on scientific literature is to summarize the nature of the problem studied based on the sources of modern literature, by finalizing the literary review of the dissertation defense (10 credits).

2. *A critical review on the experimental methods approved for the solution of research problems and justification of the selected methods.*

For the implementation of the research purpose and objectives and for the justification of methodological approaches, doctoral students first of all get familiar with the methods approved in the literature for the solution of similar problems and, taking into account the peculiarities of the problems as well as the University recourses and justify the selected research methods.

3. *Mastering the selected research methods and collection of research material.*

For acquiring experimental skills and methods, doctoral students are given the opportunity to use all the research laboratory resources available at the University. The collection of research material is evaluated as a 40-credit workload.

4. *Formulation and Presentation of the Outcomes*

After exploring and discussing the outcomes of the conducted research with the

supervisor, the student publishes articles on them and presents them at scientific conferences in the form of a poster or oral report.

The University encourages the doctoral students to present the research data obtained in the University's annual scientific session, the scientific sessions of the corresponding association, conferences of young scientists, as well as in national and international congresses. A workload of 15 credits is assigned for the reports, which is distributed in the following way:

	Title	Credit	Total
Conferences	Poster participation in a local conference	**2.0**	**15.0**
	Oral report in a local conference	**4.0**	
	Poster participation in an international conference	**3.0**	
	Oral report in an international conference	**8.0**	

Before the defense of the dissertation, the main outcomes and theses of the dissertation should be published in international peer-reviewed scientific publications and in scientific publications included in the list approved by SCC.

For the defense of the doctoral dissertation, it's necessary to publish at least 6 scientific articles, of which 2 should be without co-authors, or at least three articles or at least 3 articles of which at least one article should be published in publications included in Web of Science or Scopus databases and one article should be without co-authors.

	Title	Credit	Total
ARTICLES	Conference materials (article/thesis)	3.0/1.0	30.0
	Journals published in the RA	4.0	
	Foreign journals	7.0	
	Scopus,Web of Science publication	15.0	

The 30 credits assigned for the published works are distributed as shown in the table:

A workload of 130 credits is assigned by the programme for research planning, implementation, formulation of the outcomes and preparation of the dissertation.

The PhD dissertation should comprise 100-150 pages, including references. The dissertation should have an abstract – summary (Synopsis). The summary reflects the main theses and conclusions, the novelty of the outcomes, the scientific and practical significance. The abstract is published with the permission of the professional council for the degree of a candidate of science and it should be 22 pages up to one printing press. The dissertation and the abstract should be formulated in accordance with the requirements of the SCC.

ATTESTATION AND QUALIFICATION

The attestations are performed in accordance with the defined terms (current, qualification, final) and based on the relevant forms, reports, document confirming the implementation of the plans.

1. *Current Attestation*

- Each academic year, the doctoral student submits a report to the Science Unit with educational, research and examination sections, in accordance with the approved work plan.
- The annual report is presented at the corresponding chair meeting. A record is made based on the conclusions. The doctoral student and the scientific supervisor fill in the "Researcher's Attestation Form" each year of the doctoral programme. The doctoral student passes attestation with all the above mentioned documents by a special Committee established by the YSMU Rector.
- If the doctoral student fails the attestation he is given an opportunity for double attestation after 3-4 months. If the doctoral student fails for the second time he is exempted from the doctoral programme by the order of the University Rector.

For the first year attestations students are granted 4 credit but for the second year the credits increase up to 6.

2. Qualification Examinations

Students who hold such qualification degrees of higher education institutions as Qualified Specialist Degree or Master's Degree, and in case of medical professions – Qualification of a Physician or Physician Specialists, can take the qualification exams. Qualification examinations are the integral part of Scientific Degree Awarding system, which aim at verifying the professional preparedness of the applicant as a future scientist.

The major qualification examination is taken at Yerevan State Medical University after M. Heratsi as it is accredited by SCC. The approved Committee for major examination consists of a head (a doctor of science) and 4 members (either doctor of science or doctoral candidates). The same person may be a member of no more than 2 committees. Scientists from other institutions can be involved in the committee as well.

An examination is taken after the approval of the dissertation topic and in the field of specialization related to the approved topic of the dissertation according to SCC programme.

The qualification exams and tests are organized in 2 sessions, (May-June and October-November). During the examination and test, a record is made for each student, which includes the examination questions and the final results. The qualification examinations are graded on a 4-point scale as “excellent”, “good”, “satisfactory” and “unsatisfactory”. The student is considered to have passed the examination if he/she gets either an “excellent” or a “good” grade. The head and the members of the examination committee sign the record, which is kept at YSMU as examination organizing institution. The institution where the examination is organized, provides the information on the results of the qualification exams. Applicants who fail may retake it during the next exam session. 3-6 credits are assigned for qualification exams depending on the subject.

3. Final Attestation by the YSMU Science Unit

At the end of the study on scientific-educational and research programmes each doctoral student should pass final attestation which aims at assessing the doctoral student’s dissertation and preparing him/her for preliminary defense.

As a result of the **final attestation** the doctoral student is allowed to submit his/her dissertation to the relevant expert committee for preliminary defense, the decision of which is approved by the Science Coordination Council of the University.

Within the a limited timeframe the Department of Scientific Personnel Planning and Training, verifies the documents regarding the doctoral student performance, the results of qualification examinations and tests, the attestation, actual information on the work done on the dissertation and its formulation. Then information and a report on the doctoral student's performance of the scientific-educational programme is submitted in accordance with the checklist provided.

The main criteria for the final attestation are the requirements set for the qualification of the third level higher education based on the EHEA qualifications framework according to which a Research Qualification is awarded to doctoral students, who

- have demonstrated a systematic understanding of their field of knowledge,
- are proficient in scientific research methods of their field of knowledge,
- have demonstrated abilities of proposing a scientific research topic, planning the research process, implementing and reviewing the finalized scientific work,
- have contributed to the specific field of knowledge with their scientific research and their works have been published in acknowledged journals,
- are able to analyze, evaluate and formulate new and complex ideas.

Stages of final attestation are:

1. Discussion in the relevant chair
2. Discussion in the Session of Ethics Committee
3. Discussion of primary documents and materials

Final discussion in the relevant chair

The first stage of final attestation is carried out in the relevant professional chair, which is responsible for the dissertation. The discussion outcomes are formulated and submitted in the form of a protocol. In case of negative outcomes, time is given for revision based on the comments. Final discussion in the chair covers 3 credits.

Final discussion of ethical standards of research

The main purpose of the Ethical Committee (EC) at YSMU is to provide the high level of research projects and insure their consistency with the ethical standards and local legal acts.

The following issues are taken into account during the discussion:

- research design, the consistence of the objectives and goals with the ethical standards
- justification of risks and benefits in the research,
- expediency of application of reference groups,
- indicators for interrupting or stopping the research,
- compliance with the opportunities for the implementation of objectives and goals,
- discussion/selection of the research members,
- principles for selecting researchers,
- protection of interests of research participants,
- financial and non-financial compensation for damage to research participants.

The EC feedback can be 1) positive, 2) positive with comments or 3) negative. It is provided in written form. In case of negative or partially negative feedback, detailed explanation, justifications as well as additional documents, if necessary, are provided. The final discussion in the Ethics Committee is covered by 1 credit.

Final Discussion of Primary Documents, Material and Methods

One of the crucial stages of the submission, discussion and finalization of the dissertation is the monitoring of the primary documents, material and methods in the relevant committee. After applying to the committee, the doctoral student, based on this application form, is attached to an expert who is also a member of the committee, who reviews all the submitted primary documents, material and methods. If the expert makes a positive conclusion, the work of the doctoral student is put on the session agenda and a relevant protocol is compiled from the session. In case of a negative or a partially negative conclusion the doctoral student is given time for revision based on the comments. If the the comments are acceptable the doctoral student makes relevant changes and resubmits the work to the commission to be discussed in the next session.

The documents necessary for the monitoring of the primary documents, material and methods are the following:

- one copy of the dissertation,
- copies of receipts for discharge of experimental animals
- the entire catalogue of references (the annotation of primary sources),
- record book of the experiments,

- oarrafin tissue blocks, preparations, electrograms, photographic films used in the morphological study,
- portfolio of records of medicine import indicators studied or the hemodynamics and other physiological parametrs in other experiments,
- Portfolio of graphic records of the results of biochemical studies,
- Thematic, paraclinical, clinical extracts (cards) of medical histories, out-patient clinical observation cards (according to the groups studied),
- Record book of epidemiological, hygienic, physical and other types of survey data, according to the groups studied,
- Copies of archived medical histories, epicrises, diagnostic examinations, treatment schemes, vouchers of histological examination of biopsy materials, approved by the head of the institution
- List of the examined patients, approved by the head of the institution,
- Statistical processing method, computer programme and journal of data analysis.

After passing the above mentioned stages of final attestation, not later than 1 month prior to the end of the specified period of study, the doctoral student submits a letter to the University Rector and a package of documents to the Department of Scientific Personnel Planning and Training according to the following list:

- Extract of topic approval (plan-annotation)
- Extract of chair (scientific board) meeting record
- Ethics Committee conclusion
- Act on primary content and its review
- Conclusion of the supervisor on the completeness of the dissertation
- Certificate of qualification exams
- Entire list of scientific articles according to form 2-3
- Certificate from co-authors
- Copy of published articles
- Annual fee payment receipt
- One copy of the dissertation, printed and electronic version
- Personal record sheet from Human Resource Department
- Copies of Diplomas (Professional Compliance), passport, social security card, 2 photos
- Autobiography
- Application form, petition

- The doctoral student's and supervisor's information on project performance (also in percentage)
- Summary of the completed part of the dissertation
- List and copies of publications of participation in lectures, conferences, workshops and other documents

The final discussion of primary documents, material and methods is covered by 3 credit.

Instructions for Expert Committees

Aiming to improve the research quality within YSMU and provide smooth and efficient operation, all expert committees are required to organize their activities based on the instructions given below.

1. In case of registering the doctoral students' applications for academic degree addressed to the YSMU Rector before 10th of the current month, the work can be included in the agenda of the same month session of the expert committee.
2. It is compulsory to submit a certificate proving the existence of the documents necessary for that process, verified by the YSMU Science Unit (Department of Scientific Personnel Planning and Training), attached to the application addressed to the YSMU Rector.
3. Before the submission of the dissertation for preliminary examination, the supervisors submit their conclusion on the completeness of the work (published articles, materials and methods used, scientific novelty, originality of the work, achievements and the applicant's share)
4. All the conclusions of preliminary examination and topic approval should be not older than 6 months.
5. For the verification of the authenticity of the scientific publications, an examination is arranged by the chairman of the expert committee. If necessary, a confidential examination may be organized with the consent of the Vice-Rector and the support of the Science Unit.
6. The reviewer's opinion on the dissertation topic approval (2 copies) should be submitted within 7-10 days, and 15 days are given for submitting the opinion for preliminary examination.

7. The sessions of the expert committee are, as a rule, held in the last 10 days of each month. Additional sessions may be organized upon necessity if the chairman of the expert committee takes permission from the Vice-Rector for Science.
8. 10 days prior to the upcoming Science Coordination Council Session secretaries of all the committees presents relevant information to the secretary of the Scientific Coordination Council for publishing in the official website of the University.
9. If necessary (additional opinions and specialized examination, neutral review), the scientific work may stay in the agenda of the expert committee for a period of up to 3 months, after which the applicant receives a written response.
10. Attached to the record of the session of the expert committee, the applicant's and supervisor's (advisor's) comments, reviewer's opinion, current observations, suggestions, justifications and separate opinions are submitted in a written and signed form.
11. The chairman of the expert committee submits to the agenda of the Science Coordination Council only the voted for and agreed upon conclusion on the scientific work (topic approval, preliminary examination).
12. Only the summarized information on the scientific work (topic approval, preliminary examination) is posted on the official website of YSMU by the Science Unit.
13. If the EC chairman is the supervisor of the dissertation and in a number of other cases, the Chairman of the Science Coordination Council takes over or entrusts to someone else the responsibility to conduct the session.
14. The secretaries of the expert committees ensure the notification of committee members and other persons attending the session via email about the agenda and works involved in the session at least 10 days prior to the session (also to the electronic address of the Science Unit science@ysmu.am).

Based on the opinion of the expert committee members and two reviewers, a final conclusion is made on the main results of the work. Then the dissertation is ready for being submitted to the relevant defence board for public defense. The submission is approved by the Science Coordination Council and stamped by the University Rector.

Based on all the observations, opinions and suggestions, the applicant submits the final version and the abstract of the dissertation to the defense board.

Research examination in the expert committee is covered by 13 credit.

Defense of Dissertation

The dissertation defense is the final examination prior to awarding the doctoral degree. It is expected that each doctoral student will carefully go over the dissertation with their mentor prior to distribution of the dissertation to other defense board members. The dissertation abstract must be submitted to all defense board members 2 weeks prior to the defense. The abstract should be sent by post to 15 organizations listed from SCC RA 1 month prior to the defense. Doctoral students are expected to speak with all defense board members about recommended changes of the dissertation prior to the defense to assure that the dissertation will be in final format the time of the defense. Two reviewer opponents and one leading organization should submit dissertation review 15 days before the dissertation defense. The final dissertation defense should consist of oral presentation, not to exceed twenty minutes in length and covering the research performed during the doctoral study period, followed by a question and answer session. The defense is open to the public. Upon completion of all questioning, the defense board votes with no more than 1/3 negative votes permitted. Students are required to provide one bound copy of their dissertation to the University Library.

Dissertation with abstract and all related documents should be submitted to Supreme Certify Commission for confirming the Defense Board resolution.

ZALSBURG PRINCIPLES

I. **The core component of doctoral training is the advancement of knowledge through original research**. At the same time it is recognized that doctoral training must increasingly meet the needs of an employment market that is wider than academia.

II. **Embedding in institutional strategies and policies**: universities as institutions need to assume responsibility for ensuring that the doctoral programmes and research training they offer are designed to meet new challenges and include appropriate professional career development opportunities.

III. **The importance of diversity**: the rich diversity of doctoral programmes in Europe - including joint doctorates - is a strength which has to be underpinned by quality and sound practice.

IV. **Doctoral candidates as early stage researchers:** should be recognized as professionals – with commensurate rights - who make a key contribution to the creation of new knowledge

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V. **The crucial role of supervision and assessment:** in respect of individual doctoral candidates, arrangements for supervision and assessment should be based on a transparent contractual framework of shared responsibilities between doctoral candidates, supervisors and the institution (and where appropriate including other partners).

VI. **Achieving critical mass:** Doctoral programmes should seek to achieve critical mass and should draw on different types of innovative practice being introduced in universities across Europe, bearing in mind that different solutions may be appropriate to different contexts and in particular across larger and smaller European countries. These range from graduate schools in major universities to international, national and regional collaboration between universities.

VII. **Duration:** doctoral programmes should operate within an appropriate time duration (three to four years full-time as a rule).

VIII. **The promotion of innovative structures:** to meet the challenge of interdisciplinary training and the development of transferable skills

IX. **Increasing mobility**: Doctoral programmes should seek to offer geographical as well as interdisciplinary and intersectoral mobility and international collaboration within an integrated framework of cooperation between universities and other partners.

X. **Ensuring appropriate funding**: the development of quality doctoral programmes and the successful completion by doctoral candidates requires appropriate and sustainable funding.

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