

## MODEL FOR AWARDING ACADEMIC TITLES IN THE HIGHER EDUCATION INSTITUTIONS

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### ABSTRACT

A model for awarding academic titles is proposed, which determines minimum general criteria. The context and purpose of the research are given, the novelties in relation to the existing model in the Republic of North Macedonia are particularly highlighted and several issues related to the proposed changes are noted. For each of the three groups of scientific fields, natural and mathematical, technical-technological and medical-health sciences as one group, social sciences and humanities as a second group and arts as a third group, special criteria are differentiated.

The most important changes are the requirement for publishing papers in prestigious scientific journals, the evaluation of the main scientific results of the candidates in the field of election, and strengthened regulation of the level of national scientific journals. The criteria for awarding academic titles for the first group of scientific fields is fully presented.

*Keywords: academic title, criteria, higher education*

### 1. INTRODUCTION

The rankings of the universities at the global level show that Republic of North Macedonia is lagging behind more and more, even compared to the countries of its immediate surroundings, with which it had the same educational system, close higher education, and in a similar way it has been transformed to the European credit-transfer system in the past. Many statements can be declared as the reasons for the decrease in the quality of Macedonian education, although they are rather perceptions, than scientifically verified facts.

Having in mind that the evaluation of universities (which is followed by corresponding ranking) is primarily based on their scientific results, one of the mechanisms to improve them qualitatively and moreover quantitatively at the national level is by increasing the requirements that are placed before the academic staff as conditions for awarding academic titles. Of course, greater demands should not be imposed without providing better conditions for scientific work, which includes a gradual increase in the percentage of the budget that is allocated for science, until reaching the corresponding one of the European countries. Macedonia has to do much greater investment in science, especially since its companies do not show interest in financing scientific research for their own needs, although they would benefit from it.

The criteria for awarding academic positions at higher education institutions in Macedonia, from its independence until today, have varied slightly through several iterations of changes in the Law on Higher Education. It is about the so-called minimum

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conditions for selection, while the universities with their autonomously adopted regulations, based on the previous ones, more closely determined the conditions, usually expressed through scoring the results of teaching, scientific work, and professional-application activity.

In order to raise the level of scientific activity at universities, the experiences of several EU and Balkan countries were reviewed. A model has been proposed that, through legal amendments, will raise the level of the minimum general conditions for election to teaching and scientific titles. In doing so, the existing criteria for elections in Macedonia have been taken into account, but basically, the model is based on the appropriate one for election to academic titles at universities in the Republic of Serbia, for the following reasons:

- Historical context: Macedonia and Serbia were part of a common higher education system within the Yugoslav federation until 1991, which created complementarity and similarities in educational approaches and criteria.
- Access to European funds: As candidate countries for membership in the European Union, both Macedonia and Serbia have access to the same European funds for scientific research and development.
- Limited investments in science: Macedonia and Serbia are among the countries in the region with the lowest investments in scientific research. According to the Global Innovation Index 2024, gross expenditures on research and development amount to 0.4% of GDP for Macedonia and 1% for Serbia.
- Higher scientific results: Serbia is a leader in science, so it can serve as a close example in the effort to initially raise the level of scientific activity in Macedonia.

## **2. CHANGES REGARDING THE EXISTING CRITERIA**

The paper proposes a model for elections to teaching and scientific titles, while the criteria for the remaining titles can be shaped accordingly to the existing and proposed ones for the highest titles. The basic innovations proposed by this model in relation to the existing legal regulations are summarized in the following points:

1. Minimum general elections for election to titles are determined, some of which are mandatory and some are optional.
2. Different conditions for election to titles are determined for different scientific fields: natural-mathematical, technical-technological and medical-health sciences as one group, social sciences and humanities as a second group and a separate third group for titles in the field of arts.
3. An introductory lecture is planned to be held before the members of the review committee upon first election to assistant professor, and the same applies when applying for any teaching-scientific title at a higher education institution at which the person has not previously taught.

4. For each election to a title, a positive assessment of the teaching work by the students is mandatory, if the person has taught. In doing so, it should be precisely determined what a positive assessment means. Universities are obliged to issue a certificate of the assessment by the students, in order for it to serve when applying for subsequent elections.
5. The minimum general conditions for election to teaching-scientific titles are strengthened with requirements for published papers in more representative scientific journals, while a condition for papers in journals with an impact factor is also introduced, for all titles in the natural-mathematical, technical-technological and medical-health sciences, as well as for election to full professor in the social-humanities sciences. For election to other titles in the fields of social sciences and humanities, the corresponding conditions are weakened with requirements that the papers can also be in journals indexed in the SCOPUS database.
6. The Ministry of Education and Science shall adopt the Terms of Reference for the editing of national journals with higher criteria and, in cooperation with the universities, the Ministry of Education and Science shall select committees for categorization and ranking by groups of scientific fields (Table 4).
7. For the elections in the field of sports, special criteria may be defined that may be considered equivalent to the requirements for published scientific papers. For example, a medal won at an Olympic Games, World or European Championship, etc.
8. For election to full professorship, a peer-reviewed university textbook or monograph, participation in a scientific project, contribution to the development of young scientists (through mentoring or participation in committees for final theses of second and third cycle studies), a plenary or invited lecture, and accreditation for a mentor for doctoral studies are also mandatory. In connection with the latter, changes are needed in the procedure, in the sense that an individual request for accreditation of a mentor in a specific field, unrelated to a third cycle study program, can also be submitted.
9. All changes in the criteria for selection into titles, in addition to the Law on Higher Education, must be followed by appropriate changes in the Law on Scientific and Research Activity, especially considering the equivalence of teaching-scientific and scientific titles.
10. The current Frascati classification of scientific fields is replaced by a new classification, simplified and more concise (Table 3), which provides for a much smaller number of fields (grouping is performed in relation to the previous ones) and selection into titles can be performed in those fields. For example, in the scientific field (previous area) of natural and mathematical sciences, there will be a field of mathematical sciences, a field of biological sciences, of physical sciences, ..., which more appropriately correspond to the acquired academic titles. This does not exclude the possibility of selections in narrower scientific fields according to the existing or revised Frascati classification.

11. After being elected to the title of full professor, every 5 years, the person is obliged to conduct a public presentation of the results of his/her teaching-scientific, or teaching-artistic work, for the previous period.

### 3. CONNECTED ISSUES

The proposed changes must be accompanied by a detailed analysis of the human resources of all universities in the country, from the perspective of already acquired titles, scientific results, the conditions for scientific research work, a review of the norm, but also of the real situation regarding the workload of academic staff with the number of subjects and the total weekly fund of classes and debate in the academic community, in order to properly implement these reforms and to accept them without resistance by the academic staff themselves. They will inevitably require changes in other by-laws and their harmonization with such changes. Related to the above are the following issues:

1. Creating a National database of all academic staff in the country.
2. Revitalization of the national database of published papers – National Repository.
3. Development of a Rulebook on conditions for editing national scientific journals.
4. Greater control over the awarded academic titles.
5. Establishment of a special fund for scientific research activity to which everyone will have access and through which part of the scientific research work of academic staff will be financed with incentive measures for already attained achievements and especially through financing of new research based on the previous results of research teams, originality, applicability and other criteria for proposed projects. Something similar is now being done through the Ministry of Education and Science, rewarding papers published in journals with an impact factor and public calls for applications in bilateral international projects. However, these funds are too small, significantly greater investments in science are needed.
6. The minimum number of required academic staff at university units should be legally determined by the number of subjects and the weekly number of hours in accordance with the study programs, instead of as before (10 people elected to teaching and scientific positions for each faculty).
7. The employment of academic staff at universities should be carried out according to systematization of university units and the accreditations received for the study programs that are active. Until now, the practice for state universities was to continue funding per employee, in the sense that a person, once employed as an associate and fulfilling the conditions for election in a teaching-scientific title, would automatically be selected in a higher title, regardless of whether there was a need for a new teacher. This led to the situation where universities had too many teachers, as opposed to associates. On the other hand, the Ministry of Education and Science and the Ministry of

Finance did not give a positive response to the majority of requests for new employment, even when a position became vacant due to retirement or other grounds for termination of employment. This problem must be resolved by legislation.

8. 10. It is good to introduce a mandatory evaluation of newly hired academic staff within the first two years of employment, rather than waiting for the next selection and having the outcome of the review determine whether the person's employment will be extended. Namely, private higher education institutions do this, but state institutions do not take sufficient account of whether the academic staff are performing their basic work tasks (teaching classes, consulting with students, advancing in science, etc.).
9. A decision should be made whether a person who will be re-elected to the same title (due to failure to meet the requirements for election to a higher title) will be given the opportunity to make the next election earlier than the duration of the election (after meeting the requirements for a higher title).
10. In contrast to the possibility of a person being elected to the same title multiple times if they do not meet the requirements for election to a higher title, the justification for early election to a title should also be considered, in extremely rare cases when persons have prematurely achieved much higher scientific results compared to those foreseen by the requirements for election to a higher title (previously, such an opportunity existed, after half of the period of the previous election). In such a case, in order to prevent the possibility of abuses that occurred in this regard in the past, this should be regulated by a special procedure, and not by the regular selection procedure (for example, by requesting early selection through the institution where the person is employed to the Ministry of Education and Science, forming an independent and anonymous review committee of members outside that institution, etc.).
11. Previously acquired titles are retained and a transitional period is legally determined until their implementation, in order for academic staff to have time to adapt to the new requirements and meet the higher criteria.

#### **4. PROPOSAL-CRITERIA FOR SELECTION IN TEACHING-SCIENTIFIC TITLES FOR THE NATURAL-MATHEMATICAL, TECHNICAL-TECHNOLOGICAL AND MEDICAL-HEALTH SCIENCES**

Due to the limited space for a complete presentation of the minimum general conditions for election to teaching-scientific titles from all three groups of scientific fields (with all election criteria and special categorizations of works, i.e. artistic achievements), only the proposed model for the first group is given below.

**A person may be elected to the teaching-scientific title of assistant professor if he/she has:**

1. achieved an average grade of at least 8.00 (eight) in the first and second cycle studies for each cycle separately, i.e. achieved an average grade of at least 8.00 (eight) in the integrated studies of the first cycle and the second cycle, before obtaining the scientific degree of Doctor of Sciences,
2. a PhD degree in the scientific field of election, obtained in an accredited study program in the country or abroad, in the latter case recognized in accordance with the Law on Higher Education,
3. three scientific papers published (according to the categorization in Table 2) in the field of election in the last five years,
4. one paper published in category A1, A2, or A3,
5. a positively assessed introductory lecture at the university of choice,
6. a positive assessment of pedagogical work from student surveys for the entire previous selection period (if teaching was carried out),
7. two papers presented at scientific or professional meetings,
8. at least one selection criterion met in two of the three categories: scientific and professional contribution, contribution to the academic and wider community, cooperation with other higher education and other institutions (according to the criteria in Table 1) and
9. knowledge of English at a level determined by a general act of the university, i.e. the independent high vocational school.

**A person may be elected to the teaching-scientific title of associate professor if:**

1. meets conditions 1 and 2 for election to the teaching-scientific title of assistant professor and was previously elected as an assistant professor,
2. has published four scientific papers (according to the categorization in Table 2) in categories A1, A2, A3, A4, B1, or B2 in the field in which he/she is elected during the period of the previous election,
3. has published one paper in category A1, A2, or A3 as the first author during the period of the first election to the title of assistant professor,
4. has a positively assessed introductory lecture at the university (if he/she is elected for the first time at that university),
5. has a positive assessment for the pedagogical work from student surveys for the entire previous election period (if he/she has taught),
6. has presented three papers at international or domestic scientific meetings, during the period of election to the previous title,
7. was a leader or participant in a scientific or professional project,
8. has published a peer-reviewed textbook, collection of assignments, practicum, or a book, or a chapter from a book in the relevant field, or has a translation of an approved foreign textbook for the field in which he/she is elected, or has accreditation as a mentor for a third cycle of studies and
9. has fulfilled at least one selection criterion in each of the three selection categories: scientific and professional contribution, contribution to the academic and wider community, cooperation with other higher education and other institutions (in accordance with the criteria in Table 1), in the period since the election in the previous title.









the model will be accepted in its entirety, with certain changes, or a completely different model will be adopted, depends on the academic community and the commitments of the current government in the country. So far, it is only certain that the Government's intention is to adopt higher criteria for awarding academic titles. However, significant effects from possible reforms in higher education will have to wait several years, having in mind the fact that about 80% of university teachers have already been awarded title of full professor. It is expected that the driving force in raising the quality of higher education will be the younger generation of the academic community, under the leadership of more experienced professors who should devote much more effort to produce a quality scientific youth, capable of responding to the challenges of scientific excellence at a global level.

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