

REPORT

of dissertation for the acquisition of:

educational and scientific degree " doctor "	X
scientific degree "Doctor of Science"	
	the true is indicated by the sign "X"

Author of the dissertation:

		Simona	Marianova	Angelova	31 Secondary school with foreign languages and management "Ivan Vazov", Sofia
academic position	scientific degree	name	middle name	last name	workplace

Topic of the dissertation:

«A model of educational content in chemistry and environmental protection, oriented towards professional realization»

Scientific area:

1.	Pedagogy
code	name

Professional area:

1.3	Pedagogy of Teaching .. (Methodology of Teaching Chemistry)
code	name

Scientific specialty:

Methodology of Teaching Chemical technology disciplines

The report was written by:

Assoc. prof.	PhD	Aleksandriya	Ivanova	Gendzhova	Faculty of Chemistry & Pharmacy, Sofia University "KI. Ohridsky"
academic position	scientific degree	name	middle name	last name	workplace

1. Meeting the minimum requirements under the Regulations:

A) The candidate meets the minimum requirements	20 points	X
B) The candidate doesn't meet the minimum requirements	0 points	
		one of the answers given is marked with the sign "X"

It is mandatory to fill in if answer B is marked. The publication activity of the candidate is analyzed. The response of the results achieved (quoted) is analyzed.

The candidate meets the minimum requirements for educational & scientific degree "PhD" - 80 points: a dissertation for the degree "PhD" - 50 points and three publications published in non-refereed peer-reviewed journals or edited collective volumes - 3 *10 points =30 points

2. The relevance of the topic of the dissertation:

A) The topic is relevant and new (there are no known results on the topic by other authors)	8 points	
B) The topic is relevant and results from other authors are known	6 points	X
C) The topic is not relevant, but results from other authors are known	2 points	
D) The topic is not relevant and no results from other authors are known	1 point	
E) The topic does not correspond to the level of dissertation	0 points	
		one of the answers given is marked with the sign "X"

The evaluation of the relevance of the dissertation must be substantiated

The topic is relevant due to the dwindling number of qualified young people interested in a career in chemistry and chemical technology. Teaching chemistry in secondary school is an important factor in encouraging students to study chemistry and become professionally involved with it. At a time of ongoing reforms in modern education in chemistry and environmental protection in Bulgaria, the question of connecting the content of the training to the professional realization of young people is extremely important. Studies on the subject have been done in other countries, but no similar studies have been found in Bulgaria.

3. Type of research:

A) Theoretical	4 points	
B) Applied	4 points	X
C) Theoretical with application elements	4 points	
D) It does not correspond to the level of dissertation	0 points	
		one of the answers given is marked with the sign "X"

The level of research must be substantiated if answer D is marked.

The dissertation presents applied research, which seeks a practical solution to learning content foundation for chemical education in profiled training, which will lead to the development of students' competency and suitability for professional realization. The study used empirical methodology to collect additional data. Its findings are applicable after the study is completed

4. Objectives of the research:

A) Realistic and of scientific and / or applied interest	8 points	X
B) Realistic, but not of scientific and / or applied interest	3 points	
C) Unattainable (unrealistic)	0 points	
		one of the answers given is marked with the sign "X"

Objectives must be specified. The type of the set objectives must be justified.
<p>The objectives are realistic and of scientific and/or applied interest and they are as follows:</p> <ul style="list-style-type: none"> • Rationale for the curriculum model provided by outlining the learning issues and advocating for changes in chemistry education. These changes target learning motivation and early career guidance for a smooth transition between secondary and higher education in engineering and technology majors. • Development of an innovative system for professional guidance of students in the second stage of secondary education to increase the effectiveness of the educational process, such as motivation and provision of personnel problems related to the profession. • Empirical research to assess the research quality of the developed model and analysis of research results.

5. Contributions of the dissertation:

A) With lasting scientific and / or applied response, they form the basis for new research and applications	20 points	
B) They are of significant scientific and / or applied interest, complete and / or summarize previous research	16 points	
C) They are of scientific and / or applied interest	12 points	X
D) Lack of significant contributions	8 points	
E) Lack of contributions	0 points	
		one of the answers given is marked with the sign "X"

Contributions must be specified. The type of results achieved must be justified.
<p>The research contributions are of interest to the theory and practice of teaching chemistry and chemical technology.</p> <p>Theoretical grounds for integrating the development of key competences and methods of motivation, for professional realization in chemistry and environmental protection, with an emphasis on the technological components of the content, are presented.</p> <p>Based on the analysis of the educational content and identification of units in chemistry and environmental protection, its components were determined, providing vertical mobility and guidance for choosing a professional direction in higher education.</p> <p>A model of educational content for profiled training in chemistry and environmental protection has been proposed, consisting of thematic units, traditional and innovative methods in education for the transition from junior to senior high school grades to achieve the stated objectives in the State Educational Standards for education in chemistry and protection of the environment.</p>

6. Conclusion

A) The evaluation of the dissertation is POSITIVE	This evaluation is assigned to a total number of at least 40 points	X
B) The evaluation of the dissertation is NEGATIVE	This evaluation is assigned to a total number below 40 points	
		one of the answers given is marked with the sign "X"

To be filled in at the request of the member of the scientific jury

This dissertation is on a topic that is current and significant for the field of science education. The choice of topic is well justified in the context of the contemporary situation. The topic is formulated precisely and clearly. When posing the problem, the requirements for scientificity and justification of the presentation were met. The author substantiates her work with a very good general pedagogical basis, on material sufficient in scope and level. The work would have gained even more if it had critically reviewed foreign developed models aimed at the motivation and professional guidance of students in chemistry and chemical technology. In this way, the merits of the developed model would stand out better. The purpose of the research depends on the nature of the problems of the scientific field. The research design and methods are appropriate for the questions asked. The dissertation is well structured. Its content allows one to grasp its essence and direction. The obtained results are considered in connection with the methodology and methods used in the research. The analysis of the results is scientifically sound. The objectives of the study have been achieved. The dissertation's contributions towards resolving the presented issues are clearly outlined. The questions that the author has not been able to resolve, but which could be addressed in future research, are indicated.

The work is well put in terms of language and style. The language used is clear and precise. The above remarks do not diminish the value of the PhD student's work.

Considering the aforementioned comments, I am pleased to give a positive assessment of the presented dissertation work and wish the dissertation student to continue her professional path in the field of chemical and chemical technology education with the same success.

23.05.23	The report was written by:	
date	Assoc. prof. Aleksandriya Gendzhova, PhD	signature