

REPORT

to occupy the academic position:

"Professor"	
"Associate Professor"	X
	one of the academic positions indicated shall be marked with the sign "X"

Candidates to occupy the position:

1	Assist. prof.	PhD	Darina	Ivanova	Zheleva	UCTM
№	academic position	scientific degree	name	middle name	last name	workplace

Scientific area:

5	Technical sciences
code	name

Professional area:

5.10	Chemical technologies
code	name

Scientific specialty:

Shoemaking Technology

The competition has been announced:

108	22.12.2020	Textile and Leather	Chemical technologies
in SG issue	date	for the needs of the Department	Faculty

The report was written by:

Assoc. prof.	PhD	Desislava	Staneva	Grabcheva	UCTM
academic position	scientific degree	name	middle name	last name	workplace

1. Report for the candidate:

Assist. prof.	PhD	Darina	Ivanova	Zheleva
academic position	scientific degree	name	middle name	last name

1.1. 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 must be filled in if answer B is marked. The publication activity of the candidate is analyzed. The response of the results achieved (quoted) is analyzed.

Assistant professor Darina Zheleva participates in the competition for occupying the academic position of Associate Professor with documents that have points meeting and exceeding the minimum requirements according to the Law and its Regulation. The number of points for indicator 1 is 50. According to indicator 4, the candidate submits 10 publications. 9 of the publications are referred to in Scopus, and one in Web of science. These documents have 430 points compared to the required 100 points on this indicator. According to the indicators that further characterize the publishing activity of the candidate, two refereed and indexed articles (indicator 7) and fifteen publications published in non-refereed journals (indicator 8) are presented. The total number of points on this indicator is 248.40 compare with the required 200 points. The points related to the citations of the candidate's scientific publications are 174 points. A review of scientific publication referenced in Scopus is presented that gives 10 points. The required points for this indicator are 50.

1.2. Relevance of scientific and / or applied research:

A) The research is relevant. Part of the research is pioneering (no results are known on the topic by other authors)	8 points	
B) Research is relevant. Results from other authors are known for each of the topics and / or applications studied.	6 points	X
C) Most of the research is relevant, but also some results are presented that have no scientific and / or applied value	4 points	
D) The smaller part of the research is relevant	2 points	
E) Research is not relevant	0 points	

		one of the answers given is marked with the sign "X"
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The evaluation of the relevance of the research must be substantiated.
<p>The presented scientific publications are aimed at solving current problems in the field of footwear and leather production. The adhesives composition and structure used in shoemaking technology, their application, and the substrates processing have a significant impact on the quality of the shoe. The preparation and use of antimicrobial materials in shoe manufacture have a similar effect. The utilization of waste from the leather and textile industry and their application as biomaterials and composites have an ecological and economic effect. Technology changes, process optimization, and reduced use of harmful chemicals are current trends in the production of leather and footwear. The CAD-CAM application in footwear production is important for the model creation, design, and final product production. Research in the field of rubber technology also has an applied contribution in addition to scientific. They contribute to solving important environmental problems related to pollution from the production of rubber products.</p>

1.3. 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	4 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>Dr. Zheleva's researches have scientific and applied interests goals. One goal is to study the conditions under which a good connection of the individual details in the shoe is obtained by creating a strong, flexible, and durable adhesive seam. The use of adhesives with excellent attachment properties to various substrates and the provision of an elastic adhesive film is an important requirement for the quality of the shoe, which is subjected to repeat bending during wearing. The polychloroprene structure and morphology, the adhesive composition influence (hardener, resin, metal oxides) on the viscosity, and the crystallization process have been studied in detail. Various technological features of the gluing process are also considered. The other area is related to the recovery of waste from the leather and textile industries. The keratin hydrolysis degree and the wool sheep or goatskin pre-treatment influence have been studied. It has been found that pre-enzymatic treatment supports the process only in certain cases, which depends on the type of hair and</p>

the chemicals used in the hydrolysis. The structure and bioactivity of the collagen and polyurethane biocomposites and the composites containing bioglass have been studied in detail. The pollution reduction in leather and footwear production and antimicrobial treatments, the CAD-CAM product design, research in rubber technology are the current scientific and applied goals.

1.4. Candidate research contributions:

A) With lasting scientific and / or applied response, they form the basis for new research and applications	20 points	X
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	
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.

Dr. D. Zheleva's researches have contributed to determining the factors that affect the adhesive seam with desired properties in footwear and textiles. A thorough study of the influence of stearic acid in the vulcanization of rubber is associated with solving environmental and economic problems. The supply of technologies for the recovery of waste from the leather and textile industries has a similar effect. The obtained polyurethane biocomposites with collagen or keratin, and the inclusion of bioglass in them are the basis for further material research with new properties and applications. The presented scientific papers have a significant number of citations in various foreign scientific journals, which show that they have achieved high international evaluation and have created a basis for new research in each of the presented areas.

1.5. Participation of the candidate in the achievement of the presented results:

A) The candidate has at least an equal participation in the submitted papers	8 points	X
B) The candidate has at least an equal participation in most of the submitted papers	7 points	

C) The candidate has a secondary participation in most of the submitted papers	4 points	
D) The candidate participation is unnoticeable	0 points	
		one of the answers given is marked with the sign "X"

Critical notes must be provided if one of the items C or D is marked.

Dr. Jeleva is the only author in 12 of the publications presented in the competition. In 11 issues is a first or corresponding author, which shows her leading role in the presented researches.

1.6 Pedagogical activity:

A) The candidate has effective and sufficient pedagogical activity at the university. The textbooks issued are modern and useful (they meet the requirements of the Regulations). The work with undergraduate and doctoral students is at a high professional level.	8 points	X
B) The candidate has sufficient pedagogical activity at the university. The textbooks issued satisfy the requirements of the Regulations.	6 points	
C) The pedagogical activity and / or textbooks issued are insufficient (do not meet the requirements of the Regulations)	0 points	
		one of the answers given is marked with the sign "X"

Critical notes must be provided if one of the items B or C is marked.

Assistant. Prof. Jeleva has been a lecturer in 8 courses for bachelor's degree and 12 courses for master's degree. She has developed several new programs for various specialties as Technological design of textiles and leather, Materials Science with an elective module Polymeric materials, Engineering Ecology and Environmental Protection. She has supervised the thesis for 16 bachelor's degrees and 1 master's degree. She is the author of textbook entitled Polymers in textile, leather, and footwear production (Publishing House NTS on TOK (Scientific and Technical Union of Textiles, Clothing and Leather) with ISBN 978-954-91951-4-9, p. 203, 2020). This textbook is related to one of Dr. Jeleva's courses for bachelor's degree students in Polymer Engineering, module Technological Design of Textiles and Leather. Such a textbook has not been published so far. The textbooks published in the field of the Bulgarian language are from more than 15 years ago.

1.7. Critical notes:

A) Lack of critical notes	8 points	X
B) Critical notes of a technical nature	7 points	
C) Critical notes that would partially improve the results achieved in a small part of the research	5 points	
D) Critical notes that would partially improve the results achieved in most of the research	3 points	
E) Significant critical notes	0 points	
		one of the answers given is marked with the sign "X"

Critical notes must be provided if one of the answers C, D or E is marked.

1.8. Conclusion

A) The evaluation of the candidate's activity is POSITIVE	This evaluation is assigned to a total number of at least 50 points	78
B) The evaluation of the candidate's activity is NEGATIVE	This evaluation is assigned to a total number below 50 points	
		one of the answers given is marked with the sign "X"

To be filled in if requested by the member of the scientific jury

29.04.2021	The report was written by:	
date	Assoc. prof. Desislava Staneva Grabcheva	signature