Name of the field	Description
University	**„Aurel Vlaicu" University of Arad**
Faculty	Faculty of Economics
Department	Department of Economic Disciplines
Position in the organisational chart	**2**
Academic position	Professor
Academic disciplines in the curricula	Modelling and Simulation of the production systems; Mathematics Applied in Economics; Statistics; Mathematical modeling of financial markets; Modeling, simulation and optimization of complex systems
Scientific Area	Mathematics
Description of the vacant position	The announced position of Professor at the Faculty of Economics, Department of Economic Disciplines, the 2nd position in the department's hierarchy, consists of teaching and research activities from the academic curricula included in the announced job. Disciplines in the curricula: - Modelling and Simulation of the production systems - 2 hours course; - Mathematics Applied in Economics - 4 hours course; - Statistics - 2 hours course ; - Mathematical modeling of financial markets - 1 hour course and 2 hours seminar; - Modeling, simulation and optimization of complex systems - - 2 hours course.
Related respoansabilities/tasks	1. **Educational activities:** a) Teaching activities; b) Seminar teaching, practical and laboratory work, guiding annual projects; c) Guiding the elaboration of B.A. papers; d) Guiding the elaboration of dissertation papers; e) Other teaching activities , vocational and research activities, which are included in the curriculum f) Evaluation activities; g)Tutoring, scientific advice, guidance of students scientific circles h) scientific and methodological training activities and other educational activities; i) Participation in all activities organized by the department, faculty and/or university; j) Participation in educational panels and committees; 2. **Research activities:**

	a) Activities in the research centre, that are included in the internal educational plan; b) Initiating, developing and monitoring programs and projects; c) Participating in conferences, scientific sessions, dissemination sessions of scientific research results; d) Elaboration and publication of articles, treaties, monographs, and books required by the internal plan.
Minimum wage according to position classification	5376 lei
Publication date in the Official Monitor	**Official Monitor no. 391 from 27.04.2022, Part III**
Registration period	27.04.2022 - 20.06.2022
Date and time of the contest	08.07.2022, 10:00 a.m.
Place for the contest	„Aurel Vlaicu" University of Arad, B-dul Revoluţiei, nr. 77, Faculty of Economics, room D45
Time of taking competition tests including lectures, courses, a.s.o.	08.07.2022, 10:00 a.m. - public speech 11:00 a.m. - didactic lecture (if necessary)
Results communication date	08.07.2022
Results appeal period	08.07.2022-12.07.2022
General description of exam topics and bibliography	**TOPICS** 1. Calculus. Partial differential equations 2. Black-Scholes equation 3. One-parameter semigroup theory. Black-Scholes associated semigroup 4. Dynamics of financial assets modeled by evolution equations 5. On the financial options modeling 6. Combinatorics and probability theory 7. Stochastic calculus 8. Linear regression 9. Time series **BIBLIOGRAPHY** 1. A.V. Balakrishnan, Applied Functional Analysis, Springer, 2nd ed., 2012 2. A.V. Balakrishnan, Introduction to Random Processes in Engineering, Wiley-Interscience, 2005 3. L. Barreira, C. Valls, Nonautonomous Differential Equations, Lecture Notes in Mathematics 1926, Springer, 2008

	4. A. Borovkov, Probability Theory, Springer Verlag, 2013 5. R. Curtain, H. Zwart, An Introduction to Infinite-Dimensional Linear Systems Theory, Springer Verlag, 1995 6. D. Hinrichsen, A.J. Pritchard, Mathematical Systems Theory I, Springer Verlag, 2005 7. J. L. Massera, J. J. Schaeffer, Linear Differential Equations and Function Spaces, Academic Press Inc., New York, 1966 8. A. Pazy, Semigroups of Linear Operators and Applications to Partial Differential Equations, Springer Verlag, New York, 1983 9. J. Zabczyk, Mathematical Control Theory: An Introduction, Birkhauser Verlag, 1995
Description of the competition procedures	The general standards related to the position of professor are minimum and mandatory requirements in applying for the position. The applicant must cumulatively fulfill the requirements of national minimum standards and the standards of the university for each teaching and research position targeted. The applicant must also fulfill the specific conditions for the targeted position: a) PhD in the field of mathematics or a related field; b) habilitation certificate in mathematics; c) master degree/ certificate for graduating the psycho-pedagogical module or an equivalent document; d) fulfillment of the minimal national criteria requiredfor occupying a vacant teaching position, as approved by the Ministry of Education and Scientific Research, according to art. 219 paragraph 1 – a from the Law no. 1/2011. e) fulfillment of the minimal criteria required by U.A.V for occupying a vacant teaching position, specific for the academic position of professor, as mentioned in the UAV Methodology, **Annex 1.** The competition for the professor position consists of: - analysis of the file submitted for the contest; - delivery of a public lecture for a minimum of 45 minutes in which the candidate presents the most significant professional results and the university career development plan. It will obligatorily contain a questioning session from the commission and from the public - the candidates not coming from higher education must deliver a didactic lecture, in front of the commission . The theme of the lecture is announced to the candidates 48 hours before the contest by email as well and on the U.A.V website. The contest committee will evaluate the candidate in keeping with the following aspects: - the fulfillment of the minimal criteria required by CNATDCU and

	U.A.V. - relevance and impact of the candidate's scientific results; - the candidate's ability to guide students and young researchers; - the didactic capacity of the candidate for those positions that entail didactic activities; - the candidate's capacity to transfer knowledge and results to the economic or social field or to disseminate his/her own scientific results; - the candidate's capacity for team work and his/her efficiency in scientific collaborations, according to the specifics of the teaching field - the candidate's capacity to manage research and development projects; - the candidate's professional experience within other institutions.
List of required documentation according to UAV Methodology	**a) Cover** according to the model in Annex 12; **b) Contents** (the list of documents from the contest file, number of pages and the page where the document is placed) according to Annex 13; **c) Application form**, signed by the applicant; includes a declaration regarding the veracity of supplied information, registered at UAV' registry office; **d) University career development** proposal both in terms of teaching and scientific field; proposal written by the candidate and contains maximum 10 pages, one of the main criteria for selecting the candidates; The document shall be signed at the bottom of the page, right side of each page in blue ink; **e) Printed and digital copy of the applicant's CV according to Art 15.** The document shall be signed at the bottom of the page, right side of each page in blue ink; **f) List of published works** – printed and digital copies according to Art 16. The document shall be signed at the bottom of the page, right side of each page in blue ink; **g) Verifying form of university standards** fulfillment, whose standard is provided by their own competitionmethodology. Checklist is completed and signed by the candidate; The document shall be signed at the bottom of the page, right side of each page in blue ink; **h) Documents regarding the doctor's diploma**: certified copy of the doctor's diploma, and if the original doctor's diploma is not recognized in Romania, the attestation of equivalence or recognition of it; **i) Documents regarding habilitation** (for candidates for the position of professor) in legalized copy; **j) A summary of the doctoral thesis/habilitation thesis** both in Romanian and in an international language; maximum 1 page each; **k) Candidate's declaration on his own responsibility**, indicating

	incompatibilities according to Law no. 1/2011 or lack of such incompatibility; **l) Official Monitor copy** where the position was published; **m)Certified copies of other certificates** attesting the applicant's studies (bachelor's degree and transcript); **n) Copy of the ID card**. If the applicant does not have an ID card, a copy of the passport or other relevant identification document is accepted; **o)** In case the applicant changed his/her name, copies attesting towards such modifications must be provided; **p)** A **maximum of 10 publications**, patents or other releva[ ] documents supplied in an electronic format and selected by t[ ] applicant as best representing his/her professional achievements. The[ ] publications shall also be submitted in scanned, PDF form; **q) Certified copy of birth certificate;** **r) At least 3 recommendation letters** of personalities from Romania or from abroad in this scientific field with their names and contact addresses for the positions of associate prof and professor according to Art 17; **s) CD with the contest file** (containing all documents including the scanned ones). The documents included in the file shall be saved as PDF documents). a) ***All the documents previously provided as legalized copies can be submitted to the file in a simple copy if confirmation with the original is made at our university headquarters by the designated person from the university secretariat.***
Address for submission of contest file	Universitatea "Aurel Vlaicu" din Arad, Arad, Bdul. Revoluţiei nr. 77 ,judeţul Arad, cod 310130
Methodology	The methodology of „Aurel Vlaicu" University of Arad posted on its site

Drafted by,

Dean,   Head of department,

Lect. Grigorie SANDA, PhD   **Assoc.prof. Robert Cristian ALMASI, PhD**