Field name	Description
University	„Constantin Brâncuși" University of Târgu-Jiu
Faculty	Faculty of Engineering
Department	**Industrial and Automation Engineering**
Position in the list	10
Rank	**Associate professor**
Disciplines	**Manufacturing Technology Optimization** **Industrial Design** **Tolerances and Dimensional Control**
Scientific field	**Industrial Engineering**
The description of the academic position	Associate Professor position 10 – Department of Industrial and Automation Engineering/Faculty of Engineering - associate professor position, including teaching activities in the disciplines of the position put out to competition that are found in the curricula of the undergraduate study programs within the Faculty of Engineering. Also, the position includes, in addition to teaching activities, evaluation activities - AEV, consultations - ACSL, guidance activities for the development of undergraduate theses - ILL and tutorial activities - AT. The position is put out to competition for an indefinite period.
Academic duties	**Weekly teaching activity consisting of:** - 2 hours of lecture and 1 hour of laboratory in the discipline Optimization of Manufacturing Technologies; - 2 hours of lecture and 1 hour of laboratory in the discipline Industrial Design; - 3 hours of lecture and 3 hours of laboratory in the discipline Tolerances and Dimensional Control; - 2 hours of evaluation activities; - 2 hours of tutorial activities; - 2 hours of consultation activities; - 0.5 hours of guidance activities for the development of bachelor's theses. The position also includes scientific research activities in the field, according to the National Education Law no.199/2023, with subsequent amendments and completions, and the job description, which will be drawn up as an annex to the employment contract.
Employment salary	**11390 lei**
Publication date on site UCB	**November 28th 2024**
Starting and final dates of the registration	**November 28th 2024 – Ianuary 08h 2025**
Date, day of the week and hour for the promotion exam	**January 30th 2025, THursday, hour 9.00**
Venue where the promotion exam	Faculty of Engineering, Room 113, Calea Eroilor, no. 30, code 210135, Gorj
The dates for the competition tests, including lectures, courses, etc.	**January 30th 2025**
Date of exam results communication	**January 30th 2025**
Starting and final dates for contesting the results	**January 31th 2025- February 04th 2025**
Topics for preparing the promotion exam	For candidates coming from higher education, the fulfillment of the national minimum standards for occupying the position of associate professor is verified in accordance

	with Law no. 199/2023, the Higher Education Law, with subsequent amendments and completions, with the Order of the Ministry of National Education and Culture no. 6129/20.12.2016, with the Competition Methodology for occupying vacant teaching and research positions at the "Constantin Brâncuși" University of Târgu-Jiu. Candidates coming from outside the higher education system additionally give a public lecture of a didactic or scientific research nature, having the following theme: **I. Discipline: Optimization of manufacturing technologies** **Topics:** 1. Optimization of technological processes in machine construction Evolution of human knowledge of the field. Optimization of technological processes – praxeological science 2. Systematic treatment of technological processes and equipment in machine construction System concept. Production system. Man-machine system. Study of the production process. Modeling of systems. Classification of models 3. Issues of optimal decisions specific to technological processes in machine construction Technological operational system in machine construction a. Analytical study of systems – technological process and technological equipment Criteria for optimizing technological processes and equipment. Establishing criteria. Importance of choosing the optimization criterion. Optimization criteria used. 4. Issues of optimal decisions specific to technological processes in machine construction History of decision theory. Structure of the decision-making process. Analysis of the decision-making method. Decision-making processes. Stages of the decision-making process. Classification of decision types. Methods of substantiating decisions under conditions of certainty. Methods of substantiating decisions under conditions of risk. Techniques of substantiating decisions under conditions of uncertainty 5. Optimization problems specific to technological processes in machine building. Stages of optimizing mechanical processing processes. Correlation between the shape of the part and the technological processes of generating the shape. Correlation between the accuracy of the fit and the cost of achieving this accuracy. Complex criteria for assessing the materials of the parts 6. Optimization of semi-finished products. Optimization of semi-finished products depending on the material utilization coefficient. Algorithm for choosing the type and process of obtaining the semi-finished product. Optimization by the ELECTRE method Optimization by the dynamic programming method Optimization by the graph method

	7. Optimization of machining allowances 8. Optimization of cutting regimes. 9. Choosing the optimal control methods. 10. Optimizing the orientation scheme of semi-finished products during machining in the device on the machine tool. **BIBLIOGRAPHY** 1. Rădulescu, C.; Cîrțînă L.M. – Optimizarea proceselor tehnologice, Ed. Academica, g-Jiu, 2011 2. Brăgaru A., ș.a. – SEFA – DISROM, Sistem și metodă, Vol.I și II, Ed.Tehnică, București, 1982 3. Vlase, A., ș.a., Prelucrări pe mașini de strunjit, Ed.Tehnică , București, 1981. 4. Brăgaru A., ș.a., Optimizarea proceselor și echipamentelor tehnologice, E.D.P., București, 1995 5. Sturzu, A., Bazele proiectării dispozitivelor pentru controlul suprafețelor din construcția de mașini, E.T. București, 1997. 6. Neagu, C., Modele de programare și conducere a proceselor economice, E.D.P. – RA – București, 1985. 7. Rațiu-Suciu, C., Modelarea și simularea proceselor economice, E.D.P., București, 1995 **II. Discipline: Industrial Design** **Topics:** 1. Design. Terminology. Design definition concepts. Factors of the emergence and development of design. Current areas of design. 2. Graphic representations. Visual perception. Concepts of infographics. 3. Axonometric representations. Geometric elements of axonometry. Classification of axonometry. Orthogonal axonometric representation. 4. Form. Concepts of form. Classification of forms from an aesthetic point of view. The relationship between form and geometric structures 5. Elements of composition. Aesthetic organization of forms. Proportions. Golden section. Symmetry. Rhythm and eurythmy. 6. Light and color. General concepts. Perception of light. Perception of colors. Physiological and psychological effects. 7. Technological conditions for the design of constructive elements in machine building. Particularities of technological processes specific to machine building. Precision of technological systems. 8. Interference of scientific, technical, technological, economic and aesthetic aspects in design 9. Choice of materials. Interdependence between technical conditions, form and materials imposed on parts. **BIBLIOGRAPHY:** 1. Ciofu Florin – Design Industrial, Editura „Academica Brâncuși”, Tg-Jiu, 2009

	2. Lucian Raicu – Grafic și vizual între clasic și modern, Editura Paideia, București, 2002 3. Octavian Gligor, ș.a. – Bazele proiectării și designul produselor, Editura Mirton, Timișoara, 1998 4. Dorin Diaconescu - Designul conceptual al produselor, Editura Universității Transilvania din Brașov, 2005 5. Octavian Ciobanu – Elemente de Design Industrial și Design Ergonomic, Editura Cristal, Iași, 2002. 6. C.Dale, Th.Precupețu – Desen Tehnic Industrial pentru construcții de mașini, Editura Tehnică, București, 1990 7. J.Moncea – Geometrie Descriptivă, Editura Didactică și Pedagogică, București, 1982 **III. Discipline: Tolerances and Dimensional Control** **Topic:** **1.** General considerations. Precision of parts processing. Precision of dimensions. 2. Adjustments. Definitions, classification, calculation relations 3. Precision of geometric shape. Precision of mutual position of axes and surfaces 4. Condition of surfaces. Roughness. 5. Basic notions related to technical measurements. 6. Study of processing and measurement errors by statistical methods. 7. Universal means for measuring linear and angular sizes. Classification. Generalities. 8. Measurement with measuring instruments with graduated scales and vernier. 9. Measurement with micrometric instruments. Measurement with comparator instruments. Profile projectors. Optimeters. Microscopes. 10. Methods and means for measuring angles and conics. 11. Methods and means for controlling roughness. 12. Methods and means for measuring deviations from the geometric shape. 13. Methods and means for controlling deviations from the mutual position of surfaces. 14. Tolerances and fits of smooth parts. Systems of tolerances and fits. 15. Control of dimensions and surfaces with limiting gauges. 16. Tolerances, fits and control of smooth conical parts and assemblies. 17. Tolerances, fits and control of threaded parts and assemblies. 18. Tolerances, fits and control of wheels and gears with gears. 19. Tolerances of bearings and bearings fits 20. Tolerances, fits and control of assemblies with keys and grooves 21. Dimension chains. Solution methods 22. Basic notions regarding automatic dimensional control

	23. Organization of technical control in the construction of machines. **BIBLIOGRAPHY:** 1. Luca L., Ciofu F.-Tolerante si control dimensional. Aplicatii. Editura Sitech , Craiova ,2006. 2. Luca, Liliana- Tolerante si control dimensional.Litografia Univ. C. Brancusi ,Tg-Jiu, 2001. 3. Pascu I., Stanimir A.- Tolerante dimensionale si geometrice.Ed. Universitaria Craiova, 2009 4. Georgescu C. –Tolerante si control dimensional. Univ. Dunarea de Jos, Galati, 2009. www.ing.ugal.ro/resurse/MENUS/Facultate/IFR/TCD.pdf 5. Bagiu, L., David, I. -Toleranțe și măsurări tehnice. Lito UT Timișoara, 1992 6. Dragu, D., ș.a.-Toleranțe și măsurări tehnice. Ed. Tehnică , București, 1984 7.Mircea Dan- Aparate si sisteme de masurare a dimensiunilor. EdituraTehnopress. Iasi, 2006. 8. Mircea Dan- Controlul dimensional in constructia de masini. EdituraTehnopress. Iasi, 2004. 9. Tulcan, A. s.a.-Sisteme de control. Ed. Politehnica, Timisoara, 2006 10. Cruciat, P.-Tolerante si control dimensional. Vol.1.Brasov, 2000.
Description of the competition procedure	The competition is conducted in accordance with the Framework Methodology for the competition for filling vacant teaching and research positions in higher education, approved by Government Decree no. 1339/2023, with subsequent amendments and supplements, Higher Education Law no. 199/2023, with subsequent amendments and additions and the Competition Methodology for filling vacant teaching and research positions at the "Constantin Brâncuși" University of Târgu-Jiu, approved at the meeting of the Senate of the "Constantin Brâncuși" University of Târgu-Jiu on 13.03.2024. The competition file created by the candidate, together with the electronic support, which contains the scanned file, is submitted with a registration number to the address of the higher education institution specified on the competition website, directly or through postal or courier services that allow confirmation of receipt. The competition file is sent to the members of the competition committee starting from the closing date of the competition file submission process, but no later than 5 working days before the first test of the competition. The file, in the electronic format submitted by the candidates, is sent by the dean of each faculty that manages the competitions. The file in printed format, submitted by the candidate, will be sent to the chairman of the committee. The competition committee evaluates the candidate from the perspective of meeting the minimum standards specific to the position as well as verifying the following aspects: the relevance and impact of the candidate's scientific results, in relation to the field of disciplines of the position for which he/she is applying; the candidate's ability to guide students or young researchers; the candidate's teaching skills; the

	candidate's ability to transfer his/her knowledge and results to the economic or social environment or to popularize his/her own scientific results; the candidate's ability to work in a team and the efficiency of his/her scientific collaborations, depending on the specifics of the candidate's field; the candidate's ability to lead research and development projects; the candidate's professional experience in institutions other than the institution organizing the competition; the proposal for the development of the teaching and research career. In order to occupy the position of associate professor, the following conditions must be met cumulatively: holding a doctorate; meeting the minimum national standards for occupying teaching positions, specific to the teaching position of associate professor, approved by Order of the Minister of Education, according to art. 156 paragraph (1) of Law no. 199/2023 - Higher Education Law, as subsequently amended and supplemented; other specific criteria established by the Faculty Council, criteria that cannot fall below the level of national standards approved by Order of the Minister of Education, according to art. 156 paragraph (1) of Law no. 199/2023 - Higher Education Law, as subsequently amended and supplemented. In case of equal scores, the committee will take into account for the tie-breaking, in order, the following criteria: • Proposal for the development of the teaching and research career; • the candidate's contributions to increasing the prestige of UCB; • the candidate's contributions to the institutional development of UCB. The competition committee decides the ranking of the candidates and nominates the candidate who has achieved the best results. The chairman of the competition committee draws up a report on the competition, based on the evaluation reports written by each member of the competition committee and respecting the hierarchy of candidates decided by the committee. The report on the competition is signed by each member of the competition committee and by the chairman of the committee. The chairman of the competition committee submits the competition report approved by the committee's decision, the evaluation reports and the original file submitted by the candidate to the Dean of the Faculty. The report of the competition committee, after its validation by the faculty council, is submitted by the dean of the faculty to the senate of the higher education institution, for approval. The Legal Department gives its opinion on the legality of the competition. The university senate analyzes compliance with the procedures established by the higher education institution's own methodology and approves or not the report on the competition. The ranking of candidates established by the competition committee cannot be changed by the university senate. Appeals may be filed by a candidate for

	failure to meet the standards, respectively the organization and conduct of the competition. The candidate may file an appeal within 3 working days from the communication of the result by the competition committee. The appeal is formulated in writing, registered at the UCB registry and resolved by the appeals committee within 48 hours of its registration, before the publication of the competition results. The appeal can be sent online to the address rectoratucb@gmail.com. The result of the competition is published on the competition website, within 2 working days from the completion of the competition. The result of the competition is also uploaded on the electronic platform managed by the Ministry of Education.
List of documents	**A1. Application for registration for the competition,** signed by the candidate, which includes a declaration on his/her own responsibility regarding the veracity of the information presented in the file; **A2. Proposal for the development of the candidate's career both from a teaching point** of view and from a scientific research point of view; the proposal is written by the candidate, and comprises a maximum of 10 pages; **A3. Curriculum vitae of the candidate – Europass model** (in original, signed by the candidate on each page), which must include: information about the studies completed and the diplomas obtained; professional experience and relevant jobs; information about the research and development projects and grants that he/she has led as a project director or as a member, indicating for each funding source, the amount of funding and the main publications or patents resulting; information about awards or other elements of recognition of the candidate's scientific contributions; other relevant information; **A4. The candidate's list of works** in printed format (in original, signed on each page) which will be structured as follows: a list of a maximum of 10 works considered by the candidate to be the most relevant to his/her professional achievements, which are also included in electronic format in the file and which can also be found in the other categories of works provided for in this article; doctoral thesis or theses; books and chapters in books; articles/studies, published in journals from the main international scientific flow; full-text publications, appearing in proceedings of the main international specialized conferences; research-development-innovation projects based on contract / grant that he/she led as project director or in which he/she worked as a member, indicating the source of funding for each; patents and other industrial property titles; other scientific works and contributions. **A5. Verification sheet of the fulfillment** of the standards specific to the position, completed and signed by the candidate in printed format (in original, signed on each page). **A6. Documents relating to the possession of the doctoral degree.** A true copy of the doctoral degree and, if the

	original doctoral degree is not recognized in Romania, a true copy of the certificate of its recognition or equivalence. **A7. Summary of the doctoral thesis in Romanian and in an internationally spoken language (maximum one page for each language);** **A8. Other diplomas attesting the candidate's studies:** copies of other diplomas attesting the candidate's studies: (baccalaureate diploma, bachelor's degree, master's degree/advanced studies, Certificate attesting psychopedagogical training) or, if the original diplomas are not recognized in Romania, their certificates of recognition or equivalence; copies of other diplomas attesting the candidate's studies. The copies are signed by the candidate for certification "consistent with the original"; **A9. Transcripts, diploma supplements** or school reports issued for each cycle of studies; **A10. Copy of the identity card certified** by the candidate "according to the original" or, as the case may be, of the passport or another identity document drawn up for a purpose equivalent to the identity card or passport; **A11. Copies certified by the candidates "**according to the original" of the documents attesting to the change of name, if applicable (marriage certificate or proof of name change); **A12. Declaration on the candidate's** own responsibility that he/she is not in any situation of incompatibility provided for in Law no. 199/2023 - Higher Education Law, with subsequent amendments and completions and the Framework Methodology issued at national level**;** **A13. Criminal record certificate;** **A14. Certificate of behavioral integrity;** **A15. Medical certificate proving** that he/she is fit to carry out teaching activities, issued on a specific form adopted by joint order of the Minister of Education and the Minister of Health; **A16. Medical certificate** for the exercise of the teaching profession, issued in accordance with the provisions of the joint order of the Minister of Education and the Minister of Health; **A17. Letters of recommendation, in accordance** with art. 13 of GD 1339/2023: for the position of university lecturer, three letters of recommendation from personalities in the respective field, from the country or abroad, external to the higher education institution whose position is being advertised, who have agreed to draw up letters of recommendation regarding the candidate's professional qualities. **A18.-** **A19. Declaration of assumption of responsibility,** in original (holograph) signed by the candidate. The declaration must affirm the correctness of the data in the file and the fact that they refer to their own activities and achievements, otherwise the candidate will bear the consequences of false declarations, in accordance with the legislation.

	A20. A folder containing a maximum of ten of the candidate's most significant works, in scanned form on electronic media (CD/DVD), and books and book chapters will be submitted in physical format. In addition, the electronic media will also include the candidate's list of works in Word format. **A21. The document for payment of the competition** registration fee. The file will include a cover page and a table of contents.A CD/DVD, or other electronic format, with its entire content scanned, including the folder with the 10 significant works, is also attached to the competition file for transmission to the competition committee. **A22. Other documents** according to the Competition Methodology for filling vacant teaching and research positions at the "Constantin Brâncuși" University of Târgu-Jiu.
Address where the competition file will be sent	"Constantin Brâncuși" University of Târgu-Jiu, Tineretului Street, no. 4, Târgu-Jiu, Gorj
Commission	
Methodology	**Uploading doc, docx or PDF files. The maximum supported file size is 10MB.**

Dean,

Professor PhD.Chemistry, Popa Roxana-Gabriela

Department Director,

Associate professor. PhD. Mihuț Maria-Nicoleta