APPLIED MATHEMATICS
INFORMATICS

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1. The mission of the study program

The mission of the master's degree field "Applied Mathematics Informatics" is to continue the specialized training of bachelor's degree graduates, based on the correspondence between learning/research results and university qualification. It also aims to stimulate student performance in the professional and research fields by promoting the following strategic values: theoretical and practical training of students at international standards, the use of the latest technologies and platforms for the development of complex information systems in the teaching process, the creation of a teamwork style for complex projects, the provision of knowledge models, the pursuit of personal development, the ability to abstract and refine knowledge.

The Master's degree program in Applied Mathematics Informatics has been operating since the 2007/2008 academic year and was accredited in 2007, as shown in ARACIS address no. 1093/21.02.2008.

2. Study program objectives

Objectives of the Master's degree field Mathematics:

- To familiarize students with modern models, methods and techniques;
- To develop students' skills and attraction for scientific research;
- To promote an exchange of ideas, knowledge and experiences, in a free, open and transparent manner;
- To develop students' ability to use modern teaching tools;
- To ensure conditions for career placement on the labor market in any type of organization;
- To ensure the connection with the values of the faculty after completing training at the faculty.

3. Prerequisites and deliverables of the study program

The Master's degree program Applied Mathematics Informatics, in the field of university studies in Mathematics, is part of the category of professional master's programs, being mainly oriented towards the development of skills and abilities for teaching in education and the development of software products. The skills developed by graduates of this study program qualify them for the following occupations, according to the diploma supplement and registration in the RNCIS: 212012 - Expert statistician; 212002 - Expert mathematician; 212024 - Research assistant in mathematics informatics; 2330.1.11 - secondary school mathematics teacher; 2512.4 - software developer.

4. Teaching activity

Share of study subjects by formative category

Specification	Number	Number of hours	%
In-depth disciplines	11	31	52,38
Synthesis disciplines	4	11	19,05
Practice, research activity	5	17	23,81
Complementary disciplines	1	1	4,76
Total	21	60	100

Share of credits by training category

Specification	Number of credits	%
In-depth disciplines	58	48,33
Synthesis disciplines	22	18,33
Practice, research activity	23	19,17
Complementary disciplines	5	4,17
Dissertation development	12	10,00

Total	120	100

5. Student evaluation

	Number of assessments/years of study			
Evaluation type	**Year 1**	**Year 2**	**TOTAL**	**%**
Exams	6	6	12	57,14
Colloquia	6	3	9	42,86
Other forms	-	-	-	-

6. Enrollment methods (access conditions). Enrollment conditions for the next academic year. Conditions for passing a year of studies.

In the Master's degree program Applied Mathematics Informatics, admission is based exclusively on the candidate's academic skills and no discriminatory criteria are applied. Registration for the admission competition is made only on the basis of a bachelor's degree or other equivalent academic documents. For admission, an oral exam is taken, evaluated as passed/failed, and the classification of candidates admitted to the oral exam is made entirely based on the grade obtained in the bachelor's exam. The admission regulations present the admission criteria as well as those for the tie-breaking of candidates with the same grade in the bachelor's exam.

Enrollment in the following year is conditional on meeting the promotion conditions contained in the Regulation on the professional activity of students.

7. Equal opportunities

The recruitment, admission, transfer and mobility of students to the Master's degree program Applied Mathematics Informatics is carried out transparently in accordance with the legislation in force and the procedures approved by the Senate of ULBS. Admission is based exclusively on the candidate's academic competences and does not apply any discriminatory criteria.

8. Program sustainability

From the perspective of ecological sustainability, the Master's degree program Applied Mathematics Informatics promotes an efficient use of resources through the following measures: configuring study groups to minimize energy consumption related to the conduct of teaching activities while ensuring efficient professional training; encouraging the use of electronic format for assignments, papers or projects; using support materials in electronic format.

Also, waste resulting from application activities is managed according to the regulations in force and the waste collection system adopted by ULBS.

The need for specialists in the field of Mathematics (and especially in the field of mathematics applied to informatics) has increased in recent decades as new global challenges arise and new cutting-edge fields are developed.

Graduates of study programs in the field of Mathematics, the master's degree program Applied Mathematics Informatics, can find jobs both in the private sector (IT companies, primary, secondary, high school education institutions, etc.) and in the state sector (research institutions, forecasting and statistical study institutions, secondary schools, high schools, etc.).

Professional training through the Applied Mathematics Informatics master's degree program therefore responds to the needs of society, providing sustainability to social and economic development.

9. Ensuring flexibility in training. Conditions.

The flexibility of the study program is ensured through optional and facultative subjects.

There are 10 optional subjects grouped in pairs in 5 packages (1 package in year I semester 2, 3 packages in year II semester 1, respectively 1 package in year II semester 2), from which students will choose at least one. The large number of optional subjects makes the study program more flexible and allows the acquisition of skills for different professional outlets.

10. Methodology for assessing skills upon completion of studies

The conditions for taking the graduation exam are presented in the applicable Methodology for completing studies, approved by the University Senate. According to this methodology, taking the graduation exam is conditional on passing all the subjects provided in the curriculum.

FINAL EXAM

1 Dissertation preparation period: semesters 3-4;
2 Graduation exam registration period - during June;
3. Period for taking the bachelor's exam: week 40 of the second year;
4. Number of credits for passing the dissertation exam: 12 credits.

11. Preparing for a competitive position in education

To fill a position in education (secondary school, high school or higher education in the bachelor's degree field) through a competition, the graduate must possess the Certificate of Graduation from a study program for psycho-pedagogical training (which allows the exercise of the teaching profession) coordinated by the Department for the Training of Teaching Staff within ULBS (or within another university).

The psycho-pedagogical training for obtaining the Graduation Certificate is done after completing two modules:

(1) Module I (30 credits) - which is carried out additionally, in parallel with undergraduate studies or as a postgraduate course, upon completion of which a Graduation Certificate (module I) is obtained.

(2) Module II (30 credits) - which is carried out after the graduation of the bachelor's degree, in parallel with the period of the master's degree or in a postgraduate regime. It is concluded with a Certificate of Graduation (advanced level).