

PROGRAMME PROFILE

Educational Programme	Computational Mathematics
Degree Awarded	Master in Computational Mathematics
Standard Length of Studies (Number of ECTS Credits)	2 years – 4 semesters – 120 ECTS
Type of Study	Full-time
Higher Education Institution	Babeş-Bolyai University
Faculty / Department	Faculty of Mathematics and Computer Science
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Profile of the Degree Programme	Computational Mathematics degree programme
Target Group / Addressees	Graduates in Mathematics, Computer Science, Software Engineering
Entrance Conditions	The admission exam consists of an interview designed to test the students' knowledge in the fields of Mathematics and Computer Science. This counts for 20% of the total, while the overall undergraduate average grade represents the remaining 80%.
Further Education Possibilities	The master's programme aims at providing students with the appropriate skills and knowledge for further doctoral studies in the fields of Mathematics and Computer Science.
Description of Study	This programme is an excellent opportunity for the graduates of first cycle of higher education to deepen their knowledge and to continue the training in a field of modern theoretical and applied research purposes. <i>Core courses:</i> Coding Theory; Cryptography; Computer Security; Parallel Programming; Stochastic methods; Economic models; Game Theory; Celestial Mechanics; Algorithmic Number Theory, Algebra and Geometry; Didactic of Mathematics;
Purposes of the Programme	The main objective of the program is the formation of high level specialists in this important field. The formation of high school teachers of Mathematics and Computer Science envisaged.
Specialization / Area of Expertise	<ul style="list-style-type: none"> - Computational Mathematics - Computer programming - Applied Mathematics in Economics
Extra Peculiarities	Most of the courses are offered in Hungarian; a few courses are in English and Romanian.
Practical Training	Many collaborations with educational institutions, research institutes and industry firms in Romania and abroad in the fields of Mathematics and Computer Science enables the practical training of the students. Master students have the opportunity – depending on their interest – to be involved in research and/or practical activities (some of them are paid).
Final Examinations	Research master thesis

Gained Abilities and Skills	<p>The programme develops complex knowledge according to the current technological requirements favors the graduates in the labor market integration.</p> <ul style="list-style-type: none"> - Use of symbolic computation software - Programming skills - Advanced mathematics skills - Analysis of economic processes from a mathematical point of view - Actuarial mathematics skills - pedagogical (<i>teaching</i>) skills - English language skills
Job Placement, Potential Field of Professional Activity	<p>The acquirement of a complex knowledge according to the current technological requirements</p> <p>Possible job placements:</p> <ul style="list-style-type: none"> - research and production laboratories; - ICT companies; - banks and insurance companies; - high school teachers - researchers and academics in research institutes or higher educational institutions.

Date: October 30, 2010

Signature: Prof. Dr. Andrei Marcus