

DEPARTMENT OF MATHEMATICS

<http://matika.elf.stuba.sk/KMAT>

Head of Department

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I. STAFF

Professors	Prof. RNDr. Igor Bock, PhD., Prof. RNDr. Zdenka Riečanová, PhD.
Associate Professors	Doc. RNDr. Jana Galanová, PhD., Doc. Mgr. Gejza Jenča, PhD., Doc. RNDr. Eubomír Marko, PhD., Doc. RNDr. Vladimír Olejček, PhD., Doc. RNDr. Ladislav Satko, PhD., Doc. RNDr. Peter Volauf, PhD., Doc. RNDr. Michal Zajac, PhD., Doc. RNDr. Igor Zuzčák, PhD. RNDr. Igor Brilla, PhD., RNDr. Karla Čipková, PhD., RNDr. Peter Kaprálik, PhD., RNDr. Mária Kečkemétyová, PhD., RNDr. Hana Lichardová, PhD., RNDr. Ivica Marínová, PhD., Mgr. Dávid Pancza, PhD., RNDr. Elena Pastuchová, PhD., Mgr. Marcel Polakovič, PhD., RNDr. Boris Rudolf, PhD.
Research Worker	RNDr. Anton Galan
Technical Staff	Gabriela Grúňová (secretary)
PhD. Student	Mgr. Katarína Mosná

II. EQUIPMENT

None

III. TEACHING

III.1 Undergraduate Study (Bc.)

Subject, semester, hours per week for lectures and for seminars or practical exercises, name of lecturer

Calculus I	(1st sem., 4-1h)	M. Kečkemétyová V. Olejček Z. Riečanová L. Satko M. Zajac
Logic Systems	(1st sem., 4-1h)	K. Čipková J. Galanová M. Polakovič L. Satko
Linear Algebra	(1st sem., 2-2h)	M. Zajac
Calculus II	(2nd sem., 4-1h)	L. Marko Z. Riečanová B. Rudolf L. Satko

Linear Algebra II	(2nd sem., 2-2h)	M. Zajac
Calculus II	(2nd sem., 3-3h)	I. Bock
Calculus III	(3rd sem., 3-2h)	L. Marko
Numerical and Statistical Computations	(3rd sem. 3-2h)	P. Volauf
Discrete Mathematics and Logic	(3rd sem. 3-2h)	G. Jenča
Numerical and Statistical Computations	(4th sem. 3-2h)	V. Olejček
Statistical Methods in Informatics	(4th sem. 2-2h)	E. Pastuchová
Ordinary Differential Equations	(3rd sem. 2-2h)	I. Brilla
Partial Differential Equations	(4th sem. 2-2h)	I. Bock
Matrix Algorithms	(4th sem. 2-2h)	P. Volauf
Algebras and Graphs	(4th sem. 2-2h)	G. Jenča
Linear Algebra and Linear Programming	(6th sem. 2-2h)	M. Zajac
Discrete Mathematics	(6th sem. 3-2h)	J. Galanová

III.2 Graduate Study (Ing.)

Coding Theory	(1st sem., 3-1h)	K. Čipková
Differential and Difference Equations	(1st sem., 2-2h)	B. Rudolf
Differential Systems and Stability	(1st sem., 2-2h)	I. Bock
Partial Differential Equations	(1st sem., 3-1h)	I. Bock
Mathematical Logic	(1st sem., 3-1h)	J. Galanová
Probability and Statistics	(1st sem., 3-1h)	I. Marinová
Theory of Fuzzy Systems	(1st sem., 3-1h)	P. Volauf
Graph Theory	(2nd sem., 3-1h)	J. Galanová
Differential and Difference Systems	(2nd sem., 2-2h)	I. Bock
Functional Analysis	(2nd sem., 3-2h)	M. Zajac

III.3 Undergraduate Study (Bc. Distance Education Method)

Calculus I	(1st year)	L. Marko
Logic Systems	(1st year)	D. Pancza
Calculus IV	(2nd year)	L. Marko
Calculus V	(3rd year)	I. Brilla
Discrete Mathematics	(3rd year)	J. Galanová

IV. RESEARCH PROJECTS

- Study of algebraic and topological properties of quantum structures and their sets of states. G 1/3025/06, Z. Riečanová
- The analysis and creation of mathematical models of elastic and viscoelastic structures acting under contact conditions. G 1/1135/04, I. Bock
- Quantum logics and effect algebras with applications in quantum computing. APVV(SK-CN-01706), Z. Riečanová
- Application of algebraic methods of modelling uncertainty and information processing. APVT-51-03202, S. Pulmannová (deputy Z. Riečanová)

V. COOPERATION**V.1 Cooperation in Slovakia**

- Mathematical Institute, Slovak Academy of Sciences, Bratislava
- Faculty of Mathematics, Physics and Informatics, Comenius University, Bratislava
- Department of Mathematics, Faculty of Civil Engineering, STU, Bratislava
- Department of Mathematics, Faculty of Mechanical Engineering, STU, Bratislava
- Institute of Information Engineering, Automation and Mathematics, Faculty of Chemical and Food Technology, STU, Bratislava
- Faculty of Informatics and Information Technology, STU, Bratislava
- Military Academy, Liptovský Mikuláš
- Faculty of Natural Sciences, University of Transport and Communications, Žilina

V.2 International Cooperation

- Abt. für Mathematik III, Universitaet Ulm, Germany
- Institut für Algebra und Computermathematik TU Vienna, Austria
- Department of Mathematics, FEE CTU, Prague, CzR
- Academy of Sciences of the Czech Republic, Prague, CzR
- Department of Mathematics, Faculty of Natural Sciences of MU, Brno, CzR
- Department of Mathematics, Univ. Louis Pasteur, Strasbourg, France
- Math. Institute, Polish Academy of Sciences, Warsaw, Poland
- Department of Mathematics, Brunel University, Uxbridge, UK

V.3 Membership in International Organizations and Societies

- ISIMM - International Society for the Interaction of Mechanics and Mathematics (I.Brilla)
- IQSA - International Quantum Structures Association (Z.Riečanová, V.Olejček, G.Jenča)
- Bernoulli Society - (Z.Riečanová, V.Olejček)
- AMS - American Mathematical Society (I.Bock, V.Olejček, Z.Riečanová)
- IACM - International Association for Computational Mechanics (I.Brilla, L.Marko)
- Emmy Noether Society - (Z.Riečanová, I.Marinová, E.Pastuchová, G.Jenča)
- GAMM - Gesellschaft für Angewandte Mathematik und Mechanik (I.Bock)
- ISSMO - Society for Structural and Multidisciplinary Optimization (I.Bock)
- SIAM - Society for Industrial and Applied Mathematics (V.Olejček, L.Satko)

VI. THESES

none.

VII. OTHER ACTIVITIES

- Organizing of the conference in applied mathematics ISCAM'2006, April 7-8, 2006, Bratislava
- Department is a coeditor of Tatra Mountains Mathematical Publications
- Z. Riečanová: member of editorial board of Tatra Mountains Mathematical Publications
- M. Zajac, I. Bock: members of editorial board of Mathematica Slovaca
- I. Bock, M. Zajac: reviewers for Mathematical Reviews
- I. Bock, M. Zajac: reviewers for Zentralblatt für Mathematik

The department supervises the postgraduate study in:

- Applied Informatics
- Boolean Algebras and Boolean Functions
- Differential Equations in Mathematical Physics
- Functional Analysis
- Quantum Structures
- Ordinary Differential Equations and Variational Calculus