FACULTY OF MATERIALS SCIENCE AND TECHNOLOGY
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ANNUAL REPORT '99

SLOVAK UNIVERSITY OF TECHNOLOGY
BRATISLAVA

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Foreword

The Faculty of Materials Science and Technology (MtF) in Trnava was established on 1 January 1986 by decree of the Czechoslovak Government. It was originally named the Faculty of Machine Technology. However, the history of this Faculty is much older than the date of its establishment shows. Its history is closely connected with the technological branches of machine construction, the foundations of which were laid at the Department of Mechanical and Electrical Engineering in the forties.

In February 1991 the Academic Senate of the Faculty suggested a new name for this institution - the Faculty of Materials Science and Technology - which is its present official name. Faculty of Materials Science and Technology is one of the six faculties of the Slovak University of Technology (STU), the oldest and the largest University of Technology in Slovakia.

In the academic year 1999-2000 the Faculty comprises the following departments:

Department of Applied Mechanics
Department of Engineering Pedagogy and Psychology
Department of Forming
Department of Foundry
Department of Humane Sciences
Department of Industrial Ecology
Department of Information Technology and Automation
Department of Languages
Department of Machining and Assembly
Department of Management and Quality Engineering
Department of Materials Engineering
Department of Mathematics
Department of Physical Education and Sports
Department of Physics
Department of Welding
Detached workplaces in Brezno, Dubnica, Partizánske and Komárno

The educational and research activities of the Faculty are aimed at training the experts and solving research tasks in the field of industrial (partially mechanical engineering) production, where issues related to engineering materials, technological processes, production management and quality control, information technologies and automation processes in production plants, together with ecological and humane aspects of production processes are being dealt with.

Following the requirement for diversification of all forms of study and graduate profiles, the Faculty provides Bachelor's degree courses (BSc.), Master's degree courses (MSc.), and postgraduate doctoral (PhD) degree courses. In the academic year 1999—2000 studied at the Faculty in various courses 3.020 students.

It is possible to study the following majors within the below mentioned types of accredited courses:

1. **Bachelor degree courses** (3 years)
   Information Technologies
   Technical Materials
   Industrial Ecology
   Industrial Management

Applied Informatics and Information Systems

2. Master of Science degree courses (5 years)

Machine Technology
Technological Devices and Systems
Materials Engineering
Environmental Engineering
Management of Industrial Plants
Applied Informatics and Automation in Industry
Production Quality Engineering

3. PhD degree courses (4 years)

Automation and Control
Materials Engineering and Limiting States of Materials
Machine Technologies and Materials
Production Quality Engineering
Plant Management
Theory of Technical Subjects Training

4. Complementary Teacher Training (2 years)

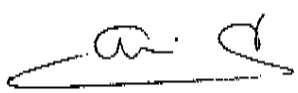
Teaching the Technical Subjects

The scientific research of the Faculty of Materials Science and Technology respects the scientific and pedagogic profile of the Faculty and is carried out in the following forms: grant research, institutional research, research within the framework of programmes of international scientific and research co-operation, research within the framework of entrepreneurial Faculty activities.

The basic organisational units promoting the scientific research programme at the Faculty are the departments.

In organising the activities the Faculty builds upon its traditional and long-term relations with foreign partner universities and foreign enterprises. The most important are: Technische Universität Wien Austria, Technische Universität Darmstadt Germany, Technische Universität Cottbus Germany, Fachhochschule Koethen, Germany, State University of Technology in Izhevsk Rusia, IFW e.V. Dresden Germany, NIS USA.

International co-operation programmes concentrate especially on co-operation in curriculum development and innovation, professional growth of the Faculty staff and the exchange of students, pedagogic documentation and other information. TEMPUS and CEEPUS (Central European Programme for University Studies) programmes represent a significant form of the updating of our foreign activities.



February 2000

Jozef Sablik, PhD, Professor
Dean of the Faculty

Presidium of the Faculty

Dean: ***Jozef Sablik, PhD, Prof.***
Vice-deans: Oliver Moravčík, PhD, Prof.
Milan Turňa, PhD, Prof.
Jozef Vaský, PhD, Assoc. Prof.
Alexander Štrpka, PhD, Assoc. Prof.
Viktor Bajčík, PhD, Assoc. Prof.

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Scientific Board

Chairman: Jozef Sablik, PhD, Prof.
Vice-chairman: Milan Turňa, PhD, Prof.
Members:

Jozef Bača, PhD, Prof.
Viktor Bajčík, PhD, Assoc. Prof.
Karol Balog, PhD, Prof.
Pavel Blaškovitš, PhD, Prof.
Peter Grgač, PhD, Prof.
Marián Halabrín, PhD, Assoc. Prof.
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Alexander Janáč, PhD, Prof.
Ján Kalužný, PhD, Assoc. Prof.
Alexander Linczényi, PhD, Prof.
Oliver Moravčík, PhD, Prof.
Jozef Mudrik, PhD, Assoc. Prof.
Alexander Štrpka, PhD, Assoc. Prof.
Róbert Galbavý, PhD
Jaroslav Holeček, MSc.Eng.
Ján Korec, MSc.Eng.
Peter Kostka, PhD, Assoc. Prof.
Peter Palček, PhD, Prof.
Štefan Schmidt, MSc. Eng.
Juraj Sinay, PhD, Prof.
Milan Belko, PhD
Jozef Barančok, PhD
Štefan Rosina, MSc. Eng.
Branko Katalinic, PhD, Prof.
Miroslava Ožvoldová, PhD, Assoc. Prof.
Jozef Vaský, PhD, Assoc. Prof.

Academic Senate

Chairman of Senate: Peter Grgač, PhD, Prof.
Chairman of Chamber of Employees: Miroslava Ožvoldová, PhD, Assoc. Prof.
Members:

Viktor Bajčík, PhD, Assoc. Prof.
Karol Balog, PhD, Prof.
Miloš Čambal, PhD
Ivan Jurčo, PhD, Assoc. Prof.
Peter Kotras, PhD, Assoc. Prof.
Ľubomír Martinec, PhD, Assoc. Prof.
Martin Mišút, PhD, Assoc. Prof.
Jozef Mudrik, PhD, Assoc. Prof.
Kvetoslava Rešetová, MSc.
Anton Pokusa, PhD, Assoc. Prof.
Jarmila Šalgovičová, PhD, Assoc. Prof.
Karol Velíšek, PhD, Assoc. Prof.

Chairman of Chamber of Students: Michal Harnúšek
Members:

Erika Bábeľová
Peter Hummel
Ľubomír Košík
Katarína Martyščáková
Andrej Potfaj
Martin Valovič

DEPARTMENT OF APPLIED MECHANICS

Head of the Department
Bohumil Taraba, MSc.(Eng), Ph.D.

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I. STAFF

Professors:	0	Research Fellows:	0
Assoc. Professors:	5	Technical and Admin. Staff:	5
Senior Lecturers:	12	PhD Students:	4
Lectures:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Mechanical laboratory
- Tribological laboratory
- Computational laboratory
- Specialised CAD laboratory
- Manufacturing workshop

II.2 Special Measuring Instruments and Systems

- Experimental stend for testing of mechatronic systems
- Equipment for testing of tribological material properties
- Codes - ANSYS, DYNAST, AutoCAD
- Equipment for noise measurements
- Equipment for strain gauges measurements

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Technical Documentation	1	1-2	Janský
Hydro-thermomechanics	3	4-2	Taraba
Mechanisms and Machine Parts	3	2-2	Muráň
Mechanisms and Machine Parts	5	1-3	Muráň
Strength of Materials	3	2-2	Jelemenský
Strength of Materials	3	3-3	Jelemenský
Manipulations with Materials	4	2-1	Janský
Manipulations with Materials	4	0-2	Janský
Mechanics of Solids	3	3-2	Pekárek
Computer Aided Design	5	1-3	Muráň
Degradation processes of materials	4	1-1	Jelemenský
Fracture mechanics	4	2-1	Jelemenský

III.2

Graduate Study (Ing.)

H/W Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Basics of Engineering Design	1	2-2	Rusnák
Basics of Engineering Design	8,9	2-1	Rusnák
Practice of Basics of Engineering Design	2	0-2	Rusnák
Mechanics of Solids	3,7	3-3	Mudrik,Nánási,Pekárek,Nad
Hydro-thermomechanics	7	2-2	Taraba
Strength of materials	4,8	2-2	Jelemenský
Mechanisms and Machine Parts	5	2-2	Muráň
Computer Aided Design	6	2-2	Muráň
Theory and Technology Industry Heating	9	2-2	Taraba
Mechanics of Technological Systems	9	2-2	Mudrik
Mechanics of Machines	5	2-2	Mudrik
Fracture Mechanics	5	2-1	Jelemenský
FInIte Element Method	6	2-1	Jelemenský
Mechanics of Manipulation Systems	7	2-2	Mudrik
Tribology	8	2-2	Rusnák
Mechatronics	8	2-2	Mudrik
Basics of Engineering Design	1	10-10	Muráň
Practice of Basics of Engineering Design	2	0-10	Tomaníček
Strength of materials	4	10-10	Jelemenský
Mechanics of Solids	4	14-12	Pekárek
Hydro-thermomechanics	5	14-4	Kravárikova
Mechanisms and Machine Parts	7	10-8	Muráň
Thermodynamics	7	10-8	Taraba
Theory and Technology Industry Heating	11	9-9	Taraba
Mechanics of Manipulation Systems	8	8-8	Mudrik

IV. RESEARCH TARGETS

- The analysis of dynamical properties of manufacturing machine frames
- Investigation of tribological properties of new friction materials-plasma spraying materials
- Numerical analysis and simulation of technological processes and engineering structures
- Investigation of mechatronical problems of machinery dynamics
- Investigation in field of theoretical and applied mechanics

V. RESEARCH PROJECTS

V.1 Institutional Projects

- Applications of special FEM codes for analysis and simulation of structures and technological processes (No. MtF/855)
- Analysis of tribological properties of advanced materials (No. MtF/853)
- Application of simulation experiments in conditions of mechatronic systems. (No. MtF/856)
- Analysis of dynamical properties of manufacturing machine frames (No.854)

V.2 National Grants (VEGA, KEGA)

- Simulation of Technological Processes Control in Conditions of Mechatronic Systems. VGA 1/4264/97 - Scientific Grant Agency of Ministry of Education

  The research object is a dynamical analysis of (electro) mechanical machine aggregate (EMMA) in conditions of adaptive mechatronical systems as a lay-out for its synthesis. Complex mutual interactions of subsystems within the system will be taken into account with the aim of optimising the systems control from the technological process point of view. Computer aided modelling and simulation of the optimised processes will be verified experimentally.

- Transmission and dissipation of vibroacoustic energy in complex mechanical systems. VEGA /4072/97 - Scientific Grant Agency of Ministry of Education

  The proposed project aims to contribute to the fundamental research of the compatibility of two dominant approaches to the study of dynamics of complex mechanical systems: The concept of Statistical Energy Analysis gives acceptable results only for the high frequency range, while various forms of modal analysis (FEM, BEM) are suitable at low frequencies. The main thrust of the project is development of efficient analytical, numerical and experimental methods, which enable the synthesis of dynamical properties as well as qualified estimation of the vibroacoustical response in the middle frequency ranges of systems subjected to deterministic or stochastic excitation.

V.3 International Projects

- „Mechanical Gearings of a New Generation." International grant without financial support.

  Cooperation with foreign partners: IzhGTU Izhevsk, Russia, BAS Sofia, Bulgaria,

  TU Warsaw, Poland, IM RAS Moscow, Russia, IMS TU Brno, Czech Republic

  Problems of improvement of gears, being the most widespread, universal and effective means of torque and motion transfer, development of new methods of their research, design and production are one of the urgent problems of mechanical engineering and attract the engineers and researchers attention. The stated activity plan involved sections and stages, oriented to a wide class of gears, in particular:
  - development of numerical methods of gear dynamics and geometry modeling,
  - development of the approach to the item design construction based on the composition - decomposition method,
  - development of testing and measuring equipment, the results adaptation, and other, and also sections, connected with development of the theory of spiroid gears, gear-boxes and motor-gears design, with scientific bases and their design, manufacturing and tests practice.

VI. CO-OPERATION

VI.1 National Co-operation

VI.2 International Co-operation

- Cooperation with foreign partners: IzhGTU Izhevsk, Russia; BAS Sofia, Bulgaria; TU Warsaw, Poland; IM RAS Moscow, Russia; IMS TU Brno, Czech Republic

VI.3 Contracts with Industry

- Cooperation with EBO Jaslovské Bohunice, VUJE Trnava.

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

1 Graduate Thesis - Numerical verification of residual stresses of welded structures. (Taraba)

VII.2 Dissertations (Ph.D.)

- none

VII.3 Habilitations (Assoc. Prof.)

none

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- Monakov A.V. - Izh.GTU Izhevsk, Russia

VIII.2 Foreign Visitors to the Department

- Abramov I.V. - Rector of Izh.GTU Izhevsk, Russia
- Gol'dfarb V.I. - Director of Institute of Mechanics, Izh.GTU Izhevsk, Russia
- Kl'ukovkin V.S. - Head of Department of Machine Parts, Izh.GTU Izhevsk, Russia

VIII.3 Organised Conferences, Seminars and Workshops

- none

IX. PUBLICATIONS

All publications without notice are written in Slovak language.

[1] **MUDRIK,J. - LABAŠOVÁ, E. - PEKÁREK,F. - NAĎ,M.**: *Mechanics of Solids.* Bratislava: STU, 1999.

[2] **TARABA,B. - BEHÚLOVÁ, M. - KRAVÁRIKOVÁ, H.**: *Hydromechanics. Thermomechanics*. Bratislava: STU, 1999.

[3] **TARABA,B.**: Computer modelling of temperature fields and stress state for conventional technologies of temperature processing. In.:*Materiálové inžinierstvo*, 1999, No.18, pp. 1-8.

[4] **MICHALČONOK,G. F. - MUDRIK, J. - MORAVČÍK, O.**: Synchronous filters in mechatronic systems. In.: *AT&P Journal*, 1999, No.10, pp. 68-70.

[5] **MUDRIK, J. - NAĎ, M. - LABAŠOVÁ, E.**: Vibration in electromechanical system with tooth space. In.: Proc. of National Conference with International Participating "*Engineering Mechanics '99*". Svratka : 1999, pp. 133-138.

[6] **MUDRIK, J. - MORAVČÍK, O. - MICHAĽČONOK, G. F.**: Control systems and information connectivity in machine aggregates. In. Proc. of International Conference „*Information Technology in Innovative Projects* ". Izhevsk: 1999, pp. 79-83. (in Russian)

[7] **NÁNASI,T.**: Estimate of damping in composite continuous mechanical systems. In.: Proc. of 4th Inter. Acoustic Seminar "*Noise and Vibration in Practice*". Kočovce:1999, pp. 103-106.

[8] **NAĎ, M. - MUDRIK, J.**: Estimate of damping of structural elements in constraint damping layers. In.: Proceedings-VII. International Scientific Conference "*COM-MAT-TECH '99*". Bratislava: STU, 1999, pp. 374-379.

[9] **JELEMENSKÝ, J. - ĎURIŠ, R.**: Numerical solution of rod in elastic environment. In.: Proc. of VII. International Scientific Conference "*COM-MAT-TECH '99*".Bratislava: STU,1999, pp.339-344.

[10] **TARABA, B. - JELEMENSKÝ, J.**: Prediction of thermoelastic deformation of energetic reactor cover. In.: Proc. of VII. International Scientific Conference "*COM-MAT-TECH '99*". Bratislava: STU, 1999, pp. 390-395.

[11] **KRAVÁRIKOVÁ, H.**: Inverse problem of temperature fields. In.: Proc. of VII. Int. Scientific Conference "*COM-MAT-TECH '99*". Bratislava: STU,1999, pp. 351-356.

[12] **ĎURIŠ, R. - JELEMENSKÝ, J.**: Analysis and construction-technological design of welded frame press. In.: Proc. of VI. Int. Conference "*Technology '99*". Bratislava:STU,1999, pp. 268-271.

[13] **MUDRIK, J. -** MICHALČONOK, G. F.: Problems of machine aggregates modelling - Simulation experiments. In.: Proc. of „*Research Works of MtF STU '99*. Bratislava: STU, 1999, pp. 111-117.

[14] **NAĎ, M.**: Dynamical properties of beam in constraint damping layers. In.: Proc. of „*Research Works of MtF STU '99*. Bratislava: STU,1999, pp. 119-125.

[15] **PEKÁREK, F.**: Axoids of body motion for rotational-rotational general body motion. In.: Proc. of „*Research Works of MtF STU '99*. Bratislava: STU, 1999, pp. 127-132.

DEPARTMENT OF ENGINEERING PEDAGOGY AND PSYCHOLOGY

Head of the Department:
Viktor Bajčík, PhD, Assoc. Prof.

Tel/Fax: (00421-7) 5443-1730
E-mail: kipp@mtf.stuba.sk

I. STAFF

Professors:	2	Research Fellows:	0
Assoc. Professors:	1	Technical and Admin. Staff:	3
Senior Lecturers:	10	PhD Students:	21
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

II.2 Special Measuring Instruments and Systems

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: *Hours per Week*
L-P: *Lectures-Practices*

Name of subject	Semester	H/W L-P	Reader's name
Industrial Psychology	1	0-2	Schuller
Communication in Management	8	0-2	Borošová

III.2 Graduate Study (Ing.)

H/W: *Hours per Week*
L-P: *Lectures-Practices*

Name of subject	Semester	H/W L-P	Reader's name
Psychology in Management	9	0-2	Kováč
Leadership	7	2-2	Kollárik
Industrial Psychology	5	0-2	Schuller

IV. RESEARCH TARGETS

V. RESEARCH PROJECTS

V.1 EDUCATION AND RESEARCH PROJECTS

• **University Pedagogy for Engineers-Teachers According to the European Standards.** *Grant task VEGA, 763 (1/4453/97):* The goal of the project was to develop and test a pedagogy course for engineering educators based on the IGIP's standards and to

propose an optimal form based on our own experience. Our project was based on the IGIP's standards concerning its structure and a minimum number of 204 contact hours.

- **Lifelong Education of Engineers under the Conditions of Technological, Economic and Social Changes.** *Grant task VEGA, 743 (95/5195/162):* The goal of the task was to set the basic criteria for training and lifelong education of engineers, based on the analysis of the new functions and roles of engineers in society. The outputs of the project included 4 monographs and 39 articles published in journals and almanachs, four of them in the foreign ones.

- **System of In-Service Education and Training of Teachers in the Slovak Republic.** *Faculty task, 858*

- **Didactic Parameters of Hypertextual and Multimedial Applications.** *Faculty task, 810*

VI. COOPERATION

- Beloruskij Politechnitcheskij Institute, Minsk
- Technische Universität Dresden
- Muszaki Egyetem Budapest
- Politechnika Slonska, Gliwice
- Universität für Bildungswissenschaften Klagenfurt
- Technische Universität Wien
- Technische Universität Darmstadt
- Technische Hochschule Hannover
- Technische Hochschule Zürich

VII. THESES

VII.1 Graduate Theses

VII.2 Dissertations (Ph.D.)

[1] Horečný, H..: Effective Teaching of Technical Subject from a Viewpoint of the Use of Didactic Software.
[2] Karaffa, R.: Didactical Aspects of Development of the Exam Tests in Egineering at the Secondary Technical School of Engineering.
[3] Švarc, Š.: Contribution to Intensification of Instruction by the Means of Computer.

VII.3 Habilitations (Assoc. Prof.)

[1] Bajčík, V.: Psychology in Safety and Health Protection at Work.

VIII. OTHER ACTIVITIES

VIII.1 Complementary Pedagogical Study - four-semester, daily:

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Pedagogy I	1	2,3-0	Budinec, Kostelník
Psychology I	1	2,3-0	Borošová, Bustinová
School Youth Biology	1	1,53-0	Broniš
History of Engineering	1	1,53-0	Chyba
Pedagogy II	2	1,4-0,92	Budinec, Kostelník
Psychology II	2	1,4-0,92	Borošová, Bustinová
Didactics of Special Technical Subjects I	2	1,4-0,92	Vašková, Hrmo, Kundrátová, Tináková, Koláriková
Didactics of Special Technical Subjects II	3	2,3-0	Vašková, Hrmo, Kundrátová, Tináková, Koláriková
Adult Education	3	1,53-0	Kostelník
Basics of Legal Education	3	1,53-0	Kopšová
Mental Hygiene	3	1,53-0	Bajčík
Didactic Techniques	3	1,53-0	Hambalík
Seminar on Pedagogical Practice	4	0-1,53	Vašková, Hrmo, Kundrátová, Tináková, Koláriková
Pedagogical Practice	4	0-3,1	Vašková, Hrmo, Kundrátová, Hambalík, Tináková, Koláriková

VIII.2 Graduation Exam Subjects

- Pedagogy
- Didactics
- Psychology

In 1999 the Department also delivered the following courses:

Complementary Pedagogical Study (part-time) - three-semester / 300 hrs
Note: Both types of the Complementary Teacher Training are accredited by the European Monitoring Committee of the International Society of Engineering Pedagogy (IGIP) for an 'ING.PAED-IGIP' degree standards.

Pedagogical Study for Higher Education Teachers - in compliance with the European standards - 204 hrs

The Second Qualification Exam for the High School Pedagogical Workers with at least 10-year Experience - 30 hrs and defense of final work

IX. PUBLICATIONS

[1] **TUREK, I.:** *Slovak Educational System and Journey to Europe*.Bratislava: Metodické centrum, 1999. 60 p.

[2] **TUREK, I.:** *Creative Problem-Solving.* 2nd revised edition.Bratislava: Metodické centrum, 1999. 103 p.

[3] **TUREK, I.** - ZEMAN, M. - JAKUBCOVÁ, E.: *Proposal of a System of Pedagogical Workers Education in the Slovak Republic.* Bratislava : Metodické centrum, 1999.213 p.

[4] **KOSTELNÍK, J.:** Pedagogy Courses for Engineering Educators at the Slovak TU in Bratislava. In: *IGIP Report*, 1999, No.25, pp. 83-87.

[5] **DRIENSKY, D.:** Internation Recognition of the Technical Subject teachers Training.In: *Pedagogická revue*, 51, 2, p. 193.

[6] **KOSTELNÍK, J.**: Didactical Aspects of Students' Self-Study Management. In: *Technológia vzdelávania*, 1999, 4, pp. 6-8.

[7] **BAJČÍK, V. - KUNDRÁTOVÁ, M.** - REŠETOVÁ, K. In:*Scientific Works of the FMSaT.* Bratislava: STU, 1999, pp. 301 - 310.

[8] **HAMBALÍK, A. - TINÁKOVÁ, K.** - TÖRÖKOVÁ, A. - ELEK, E.: On Some Problems of Realising Multimedia-Supported Education. In: *Proccedings ŠKOLA A UČITEĽ V TREŤOM TISÍCROČÍ:Multimédiá vo vzdelávaní.* Nitra: SlovDidac, 1999, pp. 76-79.

[9] **HRMO, R. :** Use of Video in Higher Education Teachers Training. In:*Proccedings UČITEĽ PRE TRETIE TISÍCROČIE: Didaktika v treťom tisícročí.* Nitra: SlovDidac,1999, pp. 191-194.

[10] KAPUSTOVÁ, M. - TRUBENOVÁ, J. - **BAJČÍK, V.**: Comparison of Complex Overload of the LZK 4000 and 2500 Forge Press Workers Using Mathematical Model. In: *CO-MAT-TECH'99: 7th international scientific conference.* Bratislava: STU, Part I, pp. 357-362.

[11] **BAJČÍK, V. - KUNDRÁTOVÁ, M. :**Attitudes of the MtF STU Workers Towards the Faculty Activity in Relationship to Their Academic Activity. In: *CO-MAT-TECH'99: 7th international scientific conference.* Bratislava: STU, Part II, pp. 668-672.

[12] **BOROŠOVÁ, Z. - BUSTINOVÁ, Ľ.**: Relationship of Success of Selected Personality Features of Students. In: *CO-MAT-TECH'99: 7th international scientific conference.* Bratislava: STU, Part II, pp. 677-681.

[13] **TINÁKOVÁ, K.**: Working Sheets in Technical Subjects. In: *CO-MAT-TECH'99: 7th international scientific conference.* Bratislava: STU,Part II, pp. 740-743.

[14] **DRIENSKY, D.** :Engineering Pedagogy and Its Function at the Beginning of the 21st Century. In: *MEDACTA'99: International conference: Teacher for the 3rd Millennium.* Nitra: SlovDidac, Volume 2d, 1999, pp. 241-244.

[15] **HRMO, R. :** Use of Video in Higher Education Teachers Training. In: *MEDACTA'99: International conference: Teacher for the 3rd Millennium.* Nitra: SlovDidac,Volume 2c,1999, pp. 191-194.

DEPARTMENT OF FORMING

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I. STAFF

Professors:	2	Research Fellows:	1
Assoc. Professors:	3	Technical and Admin. Staff:	3
Senior Lecturers:	3	PhD Students:	7
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Light Laboratories of Forming
- Laboratories of Computing Machinery
- Laboratories of Measuring
- Laboratories of High-parametric Forming

II.2 Special Measuring Instruments and Systems

- EU40 and TIRATEST tearing machine
- Hardness tester
- Pendulum impact
- Tool - maker's microscope
- Profile projector

III. TEACHING

III.1 Bachelor Study (Bc.)

III.2 Graduate Study (Ing.)

H/W: *Hours per Week*
L-P: *Lectures-Practices*

Name of subject	Semester	H/W L-P	Reader's name
Technology of Forming	6	2-1	Bača, Kotras, Ulík
Theory of Forming	7	3-2	Polák
Volume Forming	9	2-2	Bača
Flat Forming	9	2-2	Kotras
Projection of Manufacturing Processes and Systems in Forming	9	2-1	Polák
Machines and Equipment for Forming	9	1-2	Ulík
Final Project	9	0-4	Selčan
Technical Preparation for Manufacturing	9	2-2	Polák
Machines for Forming	7	2-2	Ulík
Special Methods of Forming	9	2-1	Bača
Modelling of Forming Processes	9	2-1	Žatkovič
Safety of Machines and Production Facilities	11	9-5	Selčan

Name of subject	Semester	H/W L-P	Reader's name
Automation of Forming	11	16-6	Ulik
Flexible Production Lines for Forming Processes	11	9-5	Ulik
Experimental Methods of Forming	10	10-5	Žatkovič
High Parametric Forming	8	2-1	Bača

IV. RESEARCH TARGETS

- Research of new materials forming
- Formability of new materials
- High parametrical forming
- Hardening of surface layer
- Experimental methods for forming
- Computer Simulation

V. RESEARCH PROJECTS

V.1 Institutional Projects

- Cavity dies produced by nonconventional technologies, No.893
- Draving of holes in closed profiles, No.897

V.2 National Grants (VEGA, KEGA)

- Kumulative plastical deformation, No. 764, VEGA

For viewpoint of unstable development of plastic strains of metals with local effect in is important to note approximate eguality of the yield and tensile stranght values. Theoretical and experimental analyses of stress overloading for strain $\epsilon > 10^{3}\ s^{-1}$ with superposition of the effects of contact pressures, local temperature increasis, the adiabatic Poisson contant, reduction of the moduls of plasticity and the increase of lateral strains shows remitising conditions of the loss of stability in the contact surface layers.

VI. CO-OPERATION

VI.1 National Co-operation

- VŠDS, SjF Žilina
- TU, HF Košice
- TU, SjF Košice
- STU, SjF Bratislava

VI.2 International Co-operation

- University of mining, TU Ostrava
- Military academy, Brno
- VUT, SjF Brno
- Politechnika Katovice

VI.3 Contracts with Industry

- Bendis and Kierulf, v.o.s., Bratislava
- PUNCH Products s.r.o.Trnava

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

[1] Auxt, J.: Processing of stamping project and elaboration of progressive tool constructional documentation for production of threaded board P.N. 640831342. (Bilik)

[2] Mydliar,P.: Design of calibration for tubes rolling with diameter ϕ 139,7 × 4,5 and 139,7 × 5,0 mm (Maťaš)

[3] Baláž,V.: Solution of tube drawing technology with diameter ϕ 8 - 16 mm and with wall thickness t = 3 +5 mm (Kaša)

[4] Soliar,R.: Production of precision cool drawed tubes with internal finning and with two groove in axial direction. (Dekret)

[5] Greschner,R.: Development of precision steel tubes production (Rosiar)

[6] Srnková,A.: Technology of precision cirkular bars drawing from class 11 steel (Kaša)

[7] Sirota,R.: Design of bending tool. (Matejka)

[8] Bušniak,I.: Influence of tube woll thickness reduction size on polygon creating (Maťaš)

[9] Kabát,Z.: Steel tubes bending with small radius (Kotras)

[10] Maruščák,J.: Mobile system of risks control (Polák)

[11] Florek,M.: Solution of low forging tool lifetime problematics for flange P.N. 32120250040 (Kapustová)

[12] Mečiarová,Z.: Workplace for explosion forming (Horváth)

[13] Pelzerová,M.: Workers complex loading evaluation at work in forming workrooms (Kapustová)

[14] Oravec,B.: Forging of ITZ-50 type operating handle (Bača)

[15] Settey,P.: Wasteless systems of forming tools for plastic processing (Horváth)

[16] Farkašová,M.: Holes drawing on hollow profiles (Kotras)

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

VIII.2 Foreign Visitors to the Department

VIII.3 Organised Conferences, Seminars and Workshops

- Logistic, Seminar, Trnava, 1999.

IX. PUBLICATIONS

All publications without notice are written in Slovak language.

[1] **BAČA, J. - ŽATKOVIČ, J.**: Plated forging dies manufactured by forming. In: *Enginnering* No.4, 1999.

[2] **BAČA, J. - POLÁK, K.:** Forging on highspeed forging hammers. In: *New trends in operation of production technics. 2th international conference.* Prešov : FVT TU, 1999.

[3] **BAČA, J. - ŽATKOVIČ, J.:** Trajectory sensors for determination of transformation parameters at forging on forging hammers. In: *2th international conference THER-TECH-FORM 99.* Košice: TU ,1999.

[4] **BÍLIK, J.:** Hardening of dies surface layers. In: *Engineering* , No.1, 1999.

[5] **POLÁK, K.**: Profile making from thin steel plates. In: *Proccedings PRO-TECH-MA 99,* Košice: TU, 1999.

[6] **POLÁK, K.**: Phenomenons in structure after localization of plastic deformations in steels surface layers. In: *7th international conference CO-MAT-TECH* 99. Bratislava: STU, 1999.

[7] **KOTRAS, P.:** Holes drawing in closed profiles. In: *International conference NÁRADIE* 99, Trenčín: TU, 1999.

[8] **KOTRAS, P.:** Preparations and forming tools for small lot and part production. In: 7th *international conference CO-MAT-TECH 99.* Bratislava: STU, 1999.

[9] **KAPUSTOVÁ, M.** - TRUBENOVÁ, J. - BAJČÍK: The comparison of complex workers loading on stamping press LZK4000 and 2500 with use of mathematical model. In: 7th *international conference CO-MAT-TECH 99.* Bratislava: STU, 1999.

DEPARTMENT OF FOUNDRY

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I. STAFF

Professors:	1	Research Fellows:	1
Assoc. Professors:	2	Technical and Admin. Staff:	4
Senior Lecturers:	4	PhD Students:	2
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Laboratory of foundry theory
- Laboratory of powder metallurgy
- Laboratory of plasma-electrolytic technology
- Laboratory of molten metal
- Laboratory of electromagnetic method and magnetohydrodynamics
- Laboratory of manual formation
- Robotised working-place of die casting

II.2 Special Measuring Instruments and Systems

- The vertical electromagnetic caster for the small profiles
- The high-frequency generator - 400 kHz for the levitation melting
- The medium-frequency induction furnaces 40/100 kg
- The vacuum induction furnace 50 l
- The electric resistance furnace 90 kg for non-ferrous metal
- The electric chamber furnace 35 l

III. TEACHING

III.1 Bachelor Study (Bc.)

III.2 Graduate Study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	semester	H/W L-P	Reader's Name
Technology of Casting and Powder Metallurgy	8	2 - 2	Pokusa
Materials and Technologies	2	2 - 3	Makovník
Processes of Heat-Treatment and Sintering	7	2 - 2	Pokusa
Foundry Technology	5	2 - 1	Makovník
Tools and Jigs	7	2 - 2	Makovník
Selected Technologies of Mechanical Engineering	7	3 - 2	Podhorský
Equipment and Tools in Casting and Heat-Treatment	7	2 - 2	Murgaš
Technology of Casting and Welding	7	4 - 2	Pokusa

Name of subject	semester	H/W L-P	Reader's Name
Engineering Technologies and Ecology	7	4 - 2	Murgaš
Non-conventional Metallurgical Processes	8	3 - 2	Murgaš
Technical Preparation of Manufacturing	8	2 - 2	Makovník
Foundry Metals and Alloys	8	3 - 2	Murgaš
Theory of Metallic Powder Material Preparation	9	2 - 2	Pokusa
Technology of Metallic Powder Material Processing	9	3 - 2	Pokusa
Foundry Metals and Alloys and their Preparation	9	2 - 2	Murgaš
Special Production Method in Foundry	9	2 - 2	Makovník
Projecting of Manufacturing Processes and Systems in Foundry	9	2 - 2	Makovník
Automation of Casting Processes	9	2 - 2	Žižka
Theory of Foundry	7,8	2 - 2	Murgaš
Preparation and Processing of Ceramic and Friction Materials	9	2 - 1	Makovník
Final Project	9	0 - 4	Podhorský
Selective subject: Programming in Foundry	8	1 - 2	Podhorský
Prognosis and Trends of Casting Production Development	8	2 - 1	Pokusová

IV. RESEARCH TARGETS

- Foundry - preparation of the molten metal
- Preparation of moulding materials
- Powder metallurgy - technology of the powder processing
- Plasma-electrolytic technology - surface treatment of the metals
- Magnetohydrodynamics
- Continuous casting

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- Application of polyethylenoxide and some other polymers in foundry; No. 867, Zátura, M.
- Software development for ductile iron production by IN-MOLD technology, Podhorský, Š.

V.2 National Grants (VEGA, KEGA)

- Project VEGA - Electromagnetic processing of metal material's No. 1/6187/99, Murgaš Marián.

The aim of the project is the development of the progressive electromagnetic methods for technical metal materials processing, and the research of the phenomena accompanying the application of these methods. Theoretical research of the physical phenomena, which occur during the technical metal material's solidification under the action of electromagnetic force, the magnetic field and electric one. The qualitative analisys of the individual factors partaking in the effect on the primary crystallization process. The investment of the MHD interactions occurring at the molten metal surface shaping in the electromagnetic caster of the horizontal arrangement for the continuous casting of the Al-alloy strip; and the development of the inductors, which allow the homogeneous distribution of the magnetic field in the solidification zone. Obtaining of information for the property prediction of the

selected metal materials that are effected by the action of electromagnetic force, the movement or magnetic field during the solidification.

VI. CO-OPERATION

VI.1 NATIONAL CO-OPERATION

VI.2 International Co-operation

VI.3 Contracts with Industry

- OSRAM Slovakia, a.s, Nové Zámky - The development of the heat-resistant cast iron and Al-alloys for the machine's parts for the lamp production.
- Town Brezno - Casting of the sculpture of gen. M. R. Štefánik

VII. THESES

VII.1 Graduate Theses

[1] FARSKÝ, S.: Možnosti ovplyvnenia rozmerov výlisku infiltráciou pri spekaní" (Pokusa,A)

[2] KOVÁČ, J.,"Povlakovanie liatinových odliatkov z nástreku formy bronzovým práškom CuSn10"(Pokusa,A.)

[3] BANSKÝ,A.,"Elektrokontaktné spekanie zmesí a kompaktov dopovaných Cu"(Podhorský,Š.)

[4] HLAVAČKA,R.,"Povlakovanie liatinových odliatkov z nástreku formy modifikovaného navarovým práškom K60" (Pokusa,A.)

[5] PISOŇ,J.,"Vplyv granulometrického zloženia prášku na elektrické parametre pri elektrokontaktnom spekaní" (Podhorský,Š.)

[6] PLANK,M."Vplyv parametrov elektrolyticko-plazmového procesu na hodnotu dosiahnutej drsnosti povrchu" (Podhorský,Š)

[7] SZALAY, R.,"Počítačový program pre návrh technológie výroby odliatkov z tvárnej liatiny metódou vnútroformovej modifikácie"(Podhorský,Š.)

[8] NÉMETH,S.,"Úprava zariadenia pre elektrolyticko-plazmovú technológiu"(Podhorský,Š)

[9] GOGOLA,S.,"Využitie monolitického mikropočítača na riadenie procesu pri technológii elektrolyticko-plazmovej úpravy kovových povrchov" (Podhorský,Š)

[10] KOLLÁR,R.,"Vývoj tvárnej liatiny odolnej voči opalu" (Pokusová,M)

VII.2 PhD Theses

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

VIII.2 Foreign Visitors to the Department

VIII.3 Organized Conferences, Seminars and Workshops

IX. PUBLICATIONS

[1] **MURGAŠ, M. - ČAUS, A. S. - POKUSOVÁ, M.**: Vybor chimičeskogo vysokopročnogo čuguna. In: *Litejnoje proizvodstvo*, 1999, No.3, pp. 14 -17.

[2] **POKUSA, A. - MURGAŠ, M. - ČAUS, A.S.** : Poverchnostnyje metalličeskie sloi na otlivkach, polučennyje iz obmazki formy. In: *Litejnoje proizvodstvo*, 1999, No. 3, pp. 30 - 33.

[3] **ČAUS, A.S.**: Vlijanie modificirovanija i legirovanija na iznosostojkosť litych bystrorežuščich stalej. In: *Trenije i iznos*, 20, 1999, No.3, pp. 325 - 332.

[4] **ČAUS, A. S.:** The effect of modification anf alloying upon the wear resistance of cast high-speed steels. In: *Friction and wear*, Vol.20, 1999, N .3, pp. 325 - 332.

[5] **ČAUS, A. S.**: Features of wear of cast and rolled high-speed steel tools in turning. In: *Friction and wear*, Vol. 20, 1999, N.4, pp. 388 - 392.

[6] **ČAUS, A. S.:** Karbidy MeC v litych vystrorežuščich staljach. In: *Metally*, 1999, No. 3, pp. 68 - 74.

[7] **MURGAŠ, M. - ČAUS, A. - POKUSOVÁ, M.:** Neprerývnoje litije stalnych zagatovok s peremešivanijem rosplava v krystalizatore i slitke.In: *Fyzika i chimia obrabotky materialov*, 1999, č. 5, s. 99-107.

[8] **ČAUS, A. - LATYŠEV, I.**: Vlyjanije vadadija,titana i niobija na formirovanije struktury litoj volframomolibdenovoj bystrorežuščej stali. In :*Fyzika metallov i metallovedenije* 88,1999.č.5,s.50-57.

[9] **ČHAUS, A. S. - MURGAŠ, M.**: Štruktúra a mechanické vlastnosti komplexne legovanej liatej vysokochrómovej nástrojovej ocele.In: *3.medzinárodná vedecká konferencia : 3.międzynarodowa konferencja naukowa : 3rd International Scientific Conference : ZVYŠOVANIE AKOSTI V ZLIEVÁRENSTVE'99: Zapewnienie jakości w odlewnictwie'99: Quality assurance in foundry'99.* Košice: TU, 1999, s. 345 - 349. (Acta Metallurgica Slovaca, 5, 1999).

[10] **MURGAŠ, M. - POKUSOVÁ, M.**: Vplyv vlastností formovacej zmesi na tuhnutieliatiny s guľôčkovým grafitom : Effect of molding mixture´s properties on the solidification of ductile iron.In: *3rd International Scientific Conference : ZVYŠOVANIE AKOSTI V ZLIEVÁRENSTVE'99: Zapewnienie jakości w odlewnictwie'99: Quality assurance in foundry'99.*. Košice: TU, 1999, s.109 - 114.

[11] **POKUSOVÁ, M. - MURGAŠ, M.** : Rapid prototyping & Manufacturing: Rapid Prototyping & Manufacturing.In: *3rd International Scientific Conference: ZVYŠOVANIE AKOSTI V ZLIEVÁRENSTVE'99: Zapewnienie jakości w odlewnictwie'99: Quality assurance in foundry'99.* Košice: TU, 1999, s.165 - 169.

[12] **PODHORSKÝ, Š. - TÓTH, R. - PÚČIK, V.**: Počítačový návrh výroby tvárnej liatiny metódou vnútroformovej modifikácie : Computer aided design for ductile cast-iron production using the in-mould modification technique.In: *3rd International Scientific Conference : ZVYŠOVANIE AKOSTI V ZLIEVÁRENSTVE'99: Zapewnienie jakości w odlewnictwie'99: Quality assurance in foundry'99.* Košice: TU, 1999, s.318 - 321.

[13] **POKUSA, A. - MURGAŠ, M. - ŠUBA, R.** : Elektrokontaktné spekanie kovových práškových materiálov : Electrocontact sintering of metal powder materials. In: *3rd International Scientific Conference : ZVYŠOVANIE AKOSTI V ZLIEVÁRENSTVE'99: Zapewnienie jakości w odlewnictwie'99: Quality assurance in foundry'99.* Košice: TU, 1999, s. 558 - 564.

[14] **TÓTH, R. - PODHORSKÝ, Š.**: Čistenie a úprava povrchu odliatkov elektrolyticko - plazmovou technológiou: Electrolytic - plasma cleaning and surface conditioning of castings.In: *3rd International Scientific Conference : ZVYŠOVANIE AKOSTI V ZLIEVÁRENSTVE'99: Zapewnienie jakości w odlewnictwie'99: Quality assurance in foundry'99.* Košice: TU, 1999, s.192 - 196.

DEPARTMENT OF HUMANE SCIENCES

Head of the Department:
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I. STAFF

Professors:	1	Research Fellows:	0
Assoc. Professors:	3	Technical and Admin. Staff:	1
Senior Lecturers:	6	PhD Students:	0
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

II.2 Special Measuring Instruments and Systems

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: *Hours per Week*
L-P: *Lectures-Practices*

Name of subject	Semester	H/W L-P	Reader's name
History of Technology	2	0-2	Petráš
Entrepreneurial Law	2	0-2	Paulíčková
Design	4	2-2	Dubnička
Psychology of Personality	6	1-2	Sawicki
Planning the Personnel and Social Development	6	2-2	Šima
General Economic Theory	6	2-1	Mrvová
Industrial Sociology	6	2-1	Csampai
Solving the Work Conflicts	6	2-2	Sawicki

III.2 Graduate Study (Ing.)

H/W: *Hours per Week*
L-P: *Lectures-Practices*

Name of subject	Semester	H/W L-P	Reader's name
History of Technology	1	0-2	Petráš
History of Philosophy	1	0-2	Šima
Philosophy of Technology	2	0-2	Skalský
Rhetoric	2	0-2	Odlerová
Sociology	3	2-1	Csampai
General Economic Theory	3	2-1	Mrvové
Politology	4	0-2	Končal
International Economic Relations	4	0-2	Mrvová

Name of subject	Semester	H/W L-P	Reader's name
Humane Ecology	5	0-2	Odlerová
History of Technology	5	0-2	Chyba
History of Philosophy	5	0-2	Šíma
Industrial Sociology	6	0-2	Csampai
Rhetoric	6	0-2	Odlerová
Fundamentals of Law for Technics	7	2-1	Indrišek
Fundamentals of Law for managers	7	2-1	Indrišek
Introduction into Research Work	9	0-2	Skalský
Introduction into Research Work	8	1-1	Skalský
Fundamentals of Law for Managers	7	2-1	Indrišek
Prognostics	8	0-2	Dubnička
Introduction into Law for Engineers	7	2-1	Indrišek
Design	7	2-1	Dubnička
Synergetic	8	0-2	Dubnička
Industrial Sociology	8	0-2	Csampai
Methods of Sociological Research	8	2-2	Csampai
Social Politics	8	3-1	Šíma

IV. RESEARCH TARGETS

- Human Sciences
- Social Sciences
- Philosophy
- Cosmology
- Physics

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- The Human and Social Sciences - the Advicer Garant of the process Human Education of the Students on the Technical University

V.2 National Grants (VEGA, KEGA)

V.3 International Projects

VI. CO-OPERATION

VI.1 National Co-operation

VI.2 International Co-operation

- Technical university Izhevsk - Russia

VI.3 Contracts with Industry

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

VII.2 Dissertations (PhD.)

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- Doc.PhDr. Vladimír Skalský,PhD. - august 16. - 22. 1999, The international conference: The universe of Gamow: Original ideas in astrophysics and cosmology", Ukraine, Odessa.

VIII.2 Foreign Visitors to the Department

- Doc. PhDr. František Ochrana, DrSc. - Economy University, Praha, Česká republika

VIII.3 Organised Conferences, Seminars and Workshops

- 4. Science seminar „Humanisation of the university education in the begining of 3th Millennium". 1.12.1999

IX. PUBLICATIONS

All publications without notice are written in Slovak language.

[1] **CSAMPAI, O.:** *Sociology in the research of the etnicity.* (Introduction to the etnosociology). Bratislava: ATELIER GABRIEL, 1999. 202 p.

[2] **CHYBA, J.:** Academic Jozef Čabelka, founder of the Slovak weld research. In: *CO-MAT-TECH'99.* Bratislava: SUT, 1999, part II, pp.696-700.

[3] KUSIN, V. - **KONČAL, V:** *Selected chapters of the politology.* Bratislava: SUT, 1999, 152 p.

[4] **KONČAL, V.:** Democratic society and its politics. In: *CO-MAT-TECH '99.* Bratislava: SUT, 1999, part II, pp.701 - 705.

[5] **MRVOVÁ, Ľ.:** Unemployment and its analyze in Slovak republics. In: *CO-MAT-TECH* '99. Bratislava: SUT, 1999, part II, pp. 711-715

[6] **MRVOVÁ, Ľ.:** Unemployment in the regions of the Slovak republics and its relationship to education. In: *Proccedings„Akademická Dubnica".* Bratislava: SUT ,1999, part II, pp. 441-444.

[7] **ODLEROVÁ, E.:** Environment ethics and its phenomen in the science-technique creations. In: *CO-MAT-TECH '99.* Bratislava: SUT, 1999, part II, pp.435-437.

[8] **ODLEROVÁ, E.:** Environmental education for the technical intelligence. In: *MEDACTA, International conference „Teacher for the three thousand year"*. Nitra: SlovDidac, 1999, pp.399-401.

[9] **PETRÁŠ, M.:** History of the science and the technique. In: Nitra 1999, KSV SPU

[10] **PETRÁŠ, M.:** Štefan Banič - Slovak inventor. Reality and the legends. In: *CO-MAT-TECH '99*. Bratislava: STU, 1999.

[11] **SAWICKI, S.:** Nationalism and its psychosotial analyzation. In: *„Akademická Dubnica"* Bratislava: SUT, 1999, part II, pp.473-478.

[12] **SAWICKI, S.:** Psychology aspects of the education and the markets economy. In: *CO-MAT-TECH '99*. Bratislava: SUT, 1999, part II, pp.722-727

[13] **SKALSKÝ, V.:** Analyzation of the universe fridmans model. In: *CO-MAT-TECH '99*. Bratislava:STU, 1999, part II, pp. 728 - 733.

[14] **SKALSKÝ, V.:** Relativisation universe and the law of the energy conserve. In: *„Akademická Dubnica"* .Bratislava : SUT, 1999, part II. pp. 479 - 484.

[15] **ŠÍMA, R.:** Students education on the technique university in the 3th Millennium. In: *CO-MAT-TECH '99*. Bratislava: SUT, 1999, part II, pp.734-739.

DEPARTMENT OF INDUSTRIAL ECOLOGY

Head of the Department:
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I. STAFF

Professors:	3	Research Fellows:	1
Assoc. Professors:	2	Technical and Admin. Staff:	2
Senior Lecturers:	2	PhD Students:	4
Lecturers:	2		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Teaching laboratory for chemistry

II.2 Special Measuring Instruments and Systems

- Polaro ECOR 626 Metrohm Ltd Swiss DC polarography/voltammetry DP polarography /voltammetry
- PHOTOMETER SQ 118 Merck Germany
- HPLC Hitachi system Hitachi Belgium

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: Hours per Week

L-P: Lectures-Practices	Name of subject	Semester	H/W L-P	Reader's name
	Introduction into Environmental Studies	1	2-1	Tureková
	Chemistry II	4	2-3	Forsthoffer
	Industrial Technologies a and Environment	4	4-4	Murgaš, Šilhár
	Monitoring of Environment	4	2-2	Kočan
	Environmental Management	4	2-1	Polívka
	Safety of Systems	4	2-2	Balog
	Dosimetry and Protection of Radiation	4	2-2	Morávek
	Biotechnology and Environment	5	3-1	Polívka
	Technology for Waste Treatment	5	3-1	Lacuška
	Environmental Law	5	3-2	Cáliková
	Half Year's Projects	5	0-2	Šabo
	Water Protections	6	2-2	Hlavačka
	Energy of Environment	6	2-2	Wittlinger
	Environmental Management	6	2-2	Cáliková
	Hazard Materials	6	2-2	Balog
	Environmental Chemistry	5	2-2	Hutta
	Remediation of Ecosystems	5	2-2-	Leontiev
	Ecological Software	6	1-2	Balog
	Non-metallic Materials	6	2-1	Hrivňák

III.2 Graduate Study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Basics of Environmentalists	5	2-2	Tureková
Basics of Biological Systems	5	2-2	Škárka
Technique and Environment	5	0-2	Tureková,Wittlinger,Kováč
Environmental Chemistry	7	2-2	Augustín
Machine Technology and Environment	7	2-1	Murgaš
Environmental Management I	7	2-1	Polívka
Environmental Engineering	7	2-2	Šilhár
Structure and Date and Database Systems	7	2-2	Schreiber
Energy and Materials Transport	7	2-2	Wittlinger
Reliability of Technical systems	7	2-1	Sabo
Dosimetry and Protection of Radiation	7	2-1	Kováč
Industrial Toxicology	8	2-2	Poór
Environmental Engineering	8	2-2	Hlavačka, Forsthofer
Environmental Management II	8	2-1	Polívka
Chemical technology and Environment	8	2-1	Škárka
Ecology and Working Environment	8	2-1	Sabo
Risk Judgement	8	2-1	Balog
Safety Management	8	2-1	Sabo
Fire Engineering	8	3-0	Balog
Waste Economy Technologies	9	2-2	Lacuška
Environmental Informatics	9	2-3	Balog
Remediation of Ecosystems	9	2-2	Leontiev
Environmental Engineering	9	2-2	Rusko
Environmental Law	9	2-1	Cáliková
Final Project	9	0-5	Polívka
Safety of Chemical Compounds and Matters	9	2-3	Poór

IV. RESEARCH TARGETS

- Problem of wastes of cutting fluids, cooling emulsion their life cycle prolongation, changes of composition during microbial contamination
- Potential decomposition of grinding, brushing sludge and utilisation of metal parts
- Engineering analysis of industrial fire hazard, dangerous wastes, hazardous substances
- Halons alternatives

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- Research of destructive changes by isotermic and dynamic thermal strait of selection polymeric materials in oxidation and inert atmosphere. (Balog). N: 812.
- Characterisation of reactivity and oxidation ability of danger matters and wastes. (Balog), N:878.
- Contract N.68/99 : Exaction of safe disposal with halons and alternative of halon´s alternative.

V.2 National Grants (VEGA, KEGA)

V.3 International Projects

VI. CO-OPERATION

VI.1 National Co-operation

- Technical University Košice
- Technical University Zvolen
- Fire Research Institute Bratislava
- Ministry of the Environment of Slovak Republic
- Slovak Environment Agency, Centre of Waste Management, Bratislava
- Regional Training Centre for Implementation of the Basel Convention, Bratislava

VI.2 International Co-operation

- VŠB - Technical University of Ostrava, Department of Fire Protection Engineering and Industrial Safety, Czech Republic

VI.3 Contracts with Industry

- VUJE (Nuclear Power Station Research Institute) Trnava: Training the experts in industrial ecology, research development, development of information system

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

VIII.2 Foreign Visitors to the Department

VIII.3 Organised Conferences, Seminars and Workshops

IX. PUBLICATIONS

[1] **BALOG, K. – TUREKOVÁ, I.:** Interpretation of resuts of unisotermic termogravimetric measurement for determination of celulolytic materials degradation In: *CO-MA-TECH '99 : 7. International Scientific Conference* .Bratislava :SUT, 1999,part 2, pp.415-420.

[2] **POLÍVKA, Ľ. – BALOG, K. – PÁSTOR, P.**: Introduction of EMS into practis SR as solue of environmetal problems In: *CO-MA-TECH '99 : 7. International Scientific Conference* .Bratislava :SUT, 1999,part 2, pp.441-445.

[3] ŠOLTÉS, L. – MENDICHI, R. – MACHOVÁ, E. – STEINER, B. – ALFOLDI, J. – SASINKOVÁ, V. – BYSTRICKÝ, S. – **BALOG, K.:** Cyclodextrin derivative of hyaluronan. In: *Carbohydrate Polymers*, 1999, pp. 1 – 8.

[4] **POLÍVKA, Ľ. – TUREKOVÁ, I. – BALOG, K.**: The bases of environmentalistic. Bratislava: STU, 1999.

[5] **POLÍVKA, Ľ.:** Utilisation of Probiotic Microbial Culture in Food.In: Ith Meeting on Chemistry and Life. Brno, Czech Republic: 9.-10.9.1999. Book of Abstracts, pp. 29 – 30.

[6] ŠILHAR, S. – **POLÍVKA, Ľ.** – KOVÁČ, M.: Importance of Pilot Plant Experiments for Transfering Scientific Results into practice of Food Production in Slovak Republic. In: *Ith Meeting on Chemistry and Life*. Brno, Czech Republic: 9.-10.9.1999. Book of Abstracts, pp. 28 – 29.

[7] **KOVÁČ, J.**: New trends of lignidation of petroleum pollutants using microemulsion systems.In: *CO-MA-TECH '99 : 7. International Scientific Conference* .Bratislava : SUT, 1999,part 2, pp.426-429.

[8] **WITTLINGER, V.**: Metods for komplete evaluation of environment quality. In: *CO-MA-TECH '99 : 7. International Scientific Conference* .Bratislava :SUT, 1999,part 2, pp. 469-474.

[9] **SABO, M.:** Risk management in subsystem „human – machine".In: *Scientific Works of Materials Science and Technology in Trnava*, Slovak University of Technology. Bratislava: SUT, 1999, Vol. 7, pp. 203-208.

DEPARTMENT OF INFORMATION TECHNOLOGY AND AUTOMATION

Head of the Department:
Oliver Moravčík, PhD, Professor (till 30.9.1999)
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I. STAFF

Professors:	2	Research Fellows:	1
Assoc. Professors:	5	Technical and Admin. Staff:	4
Senior Lecturers:	10	Ph.D. Students:	21
Lecturers:	3		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- CAD/CAM System Pro/ENGINEER Laboratory (1 Sun Ultra Creator 3D, 4 Sun SPARCstation 4, 3 HP 715/50,)
- Automation and Control Laboratory
- Unix Laboratory (15 alpha-numeric terminals)
- 2 PC Laboratories
- Linux Laboratory
- Internet Laboratory
- Robotics Laboratory
- X-Terminals Laboratory
- Multimedia Laboratory

II.2 Special Measuring Instruments and Systems

- PCL System

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: *Hours per Week*
L-P: *Lectures-Practices*

Name of subject	Semester	H/W L-P	Reader's name
Information Technology Basics	1	3-2	Važan
Theory of Automatic Control	3	3-2	Moravčík
Data Models	3	2-2	Mišút
Information Technology Basics II	3	2-2	Schreiber
Software Technologies I,II	3,4	0-3	Tanuška
Software Engineering	4	3-3	Moravčik
Computer Architecture	4	2-2	Pecko
Operation Systems	4	2-2	Velicsányi
Computer Graphics	5	3-3	Klačo
Database Systems	5	3-3	Mišút
System Programming	5	2-2	Velicsányi
Computer Networks	5	2-2	Velicsány
Automation in Industry	6	3-3	Božek
Information Systems	6	3-3	Mišút

III.2 Graduate Study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Information Technology Basics I,II,III,IV	1,2,3,4	1-2	Schreiber, Michalčonok
Theory of Automatic Control	5,7	2-2	Vrban, Pecko, Pohlmüller
Software Engineering	5	2-2	Moravčík
Computer Graphics	6	2-2	Klačo, Nemlaha
Computer Architecture	6	2-2	Pohlmüller
System Programming I,II	7,8	2-2	Velicsányi
Artificial Intelligence	7	2-3	Schreiber
Graphics Systems I, II	7,8	2-3	Vaský, Klačo
Means of Automatic Control	8	3-3	Michalčonok
Database Systems	8	3-3	Mišút
Modelling and System Simulation	8	2-2	Važan
CIM	7	3-3	Važan
NC Programming	7	3-3	Božek
Production System Planning	8	3-2	Mišút
Information Systems	9	2-4	Mišút
Computer Networks	9	3-3	Velicsányi
Production Systems Design	9	2-3	Mišút
Production Systems Control	9	3-3	Važan
CAD/CAM	9	3-3	Vaský

IV. RESEARCH TARGETS

- Information and Database Systems
- Client-server Architecture Systems (Design, Tuning, Data Management, Data Security, Applications)
- Control systems
- Artificial Intelligence and Expert systems
- Modelling and Simulation of Systems (Discrete-event Simulation, Petri-Nets, Queuing Theory)
- Computer networks
- Computer graphics, graphics and CAD/CAM systems

- Multimedia, Virtual Reality

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- Design Methods of the Software Applications Using Different Data Servers
- Multimedia Support of Teaching
- Database Expert Systems
- Methodological and Technological Problems of Information Systems Design
- Automation of Department Administration
- PROMAN-W: Research Projects Administration

V.2 National Grants (VEGA, KEGA)

Design and Implementation of the Mechatronical System Control Algorithms with Using of Computer Graphic Methods – VEGA

V.3 International Projects

- Continuing Education System for Academic Staff in Trnava. TEMPUS JEP 12 290
  In years 1997-1999 there was established a continuing education centre for university teachers in the Trnava region. The main goal of the project was to improve the personal and pedagogical abilities and computer skills of the teachers.

- Socrates Programme
  Germaniac is an international program for teaching of the German language via internet in different countries of the world. KAIA guarantees its realisation in the Slovak republic.

VI. CO-OPERATION

VI.1 National Co-operation

- Faculty of Electrotechnic and Computer Science STU Bratislava
- Faculty of Engineering STU Bratislava
- Trnava University Trnava
- University of Cyril and Metod Trnava
- Faculty of Electrotechnic TU Košice
- Fakulty of pedagogical sciences UKF Nitra
- Faculty of Engineering Žilina
- Research Institute of Nuclear Power Supply Trnava
- AITEN ltd. Trnava
- NUPSESO ltd. Nitra

VI.2 International Co-operation

- IFW e. V. Dresden, Germany

- TU Darmstadt, Germany
- University of Lisboa, Portugal
- Politechničeskij universitet Peterburg, Russia
- Universitzy of Zelona Gora, Poland
- KAHO Gent, Belgium
- FH Köthen, Germany
- FH Darmstadt, Germany

VI.3 Contracts with Industry

- The proposal of the concept for verification and validation of the project of the integrated information system for emergency centre of atomic power plant Mochovce For organisation – Research Institute of Nuclear Power Supply Trnava
- IS development in Microsoft Access according contractor instructions. Administration of HP UNIX operating system version 10.20. For organisation – AITEN ltd. Trnava
- The preparation of drawing documentation. For organisation - NUPSESO ltd. Nitra

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

[1] Ahin, Q. M.: Program system control of technical documentation. (Vaský)

[2] Bajer, T.: Decision of DHTML utilization by realization of the Internet application. (Husárová)

[3] Bilišič, G.: User's print report design for digital archive of technical documentation. (Dragún)

[4] Fintor, A.: Complex administration of technical documentation of firm. (Dragún)

[5] Cisár, R.: Control of assembly system simulation by using SIMFACTORY II.5. (Vážan)

[6] Gašparovič, P.: E-mail in TCP/IP environment. (Velicsanyi)

[7] Hinca, J.: Virtual reality utilization for operating procedure simulation. (Pohlmüller)

[8] Höher, Ľ.: IS for small firm. (Michalčonok)

[9] Huba, J.: IS design for accommodation unit. (Miksa)

[10] Chmura, T.: Presentation design for organization by Internet. (Husárová)

[11] Jakúbek, M.: Evaluation of FMC control by discrete-event simulation. (Vážan)

[12] Ješka, M.: Protection and security of networks created on TCP /IP protocol. (Velicsányi)

[13] Juhás, M.: Test data generation for DBMS ORACLE IS. (Tanuška)

[14] Kačáni, A.: The verification of control strategies of FMS by using SIMFACTORY II.5. (Važan)

[15] Kamendy, M.: Electronic communication by TCP/IP. (Velicsányi)

[16] Kolárik, P.: Distributed applications in Internet/Intranet. (Božek)

[17] Konček, D.: Audio signals treating by signal processor.. (Halama)

[18] Kostolanský, J.: The Verification of the control strategies of FMS. (Vážan)

[19] Kubišová, S.: Creation of drawing documentation for glass products by CAD routines. (Pavlinová)

[20] Kudeláš, D.: IS for pay and personal data processing for small firm. (Iringová)

[21] Lackovič, T.: IS for support of technologist decision. (Klačo)

[22] Masár, L.: Non-standard input/output equipment of personal computer. (Halama)

[23] Masár, R.: IS design budget organisation. (Miksa)

[24] Matiaško, R.: IS of storage unit. (Dragún)

[25] Molnár, K.: Downward engineering and integration of selected module of IS of Department. (Mišút)

[26] Nagy, M.: Cllient for statements system of DATD, technical information accessing in networks budget environment and Intranet. (Pohlmüller)

[27] Orolin, J.: IS design for agenda processing. (Miksa)

[28] Pekarčík, Ľ.: Design and development of client applications for statements system and control flow of technical documentation AIM. (Božek)

[29] Puchel, L.: IS of the Department. (Nemlaha)

[30] Richter, M.: Interactive multimedia application design. (Schreiber)

[31] Rožič, A.: IS for management of company accountancy in small business with commercial bearing. (Iringová)

[32] Tylka, R.: Downward engineering and integration of selected module of IS of Department. (Mišút)

[33] Urcikán, M.: Database aplication in Intranet. (Nemlaha)

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

- Schreiber, P.: Constribution to Problems of The Expert Systems Using in the Technical Practise. MtF STU, 1999.
- Gese, A.: Monothematic collection of articles (control theory).

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- KAHO Gent, Belgium (3 stays)
- University of Lisbon, Portugal (3 stays)
- IFW Dresden, Germany (4 stays)
- FH Köthen, Germany (6 stays)

VIII.2 Foreign Visitors to the Department

- FH Köthen, Germany (2 persons)
- IFW Dresden, Germany (3 persons)
- KAHO Gent Belgium (4 persons)
- University of Lisbon, Portugal (2 persons)

VIII.3 Organised Conferences, Seminars and Workshops

IX. PUBLICATIONS

All publications without notice are written in Slovak language.

[1] **MORAVČÍK, O. - VASKÝ, J. – MIŠÚT, M.**: *Software engineering. Textbook.* Trnava: Gepard Dizajn, 1999. 183 p.

[2] **MIŠÚT, M.**: *Presentation techniques and tools. Textbook.* Bratislava: SUT, 1999. 111 pp.

[3] **MIŠÚT, M. – SCHREIBER, P. – TANUŠKA, P.**: *Text processing. Textbook.* Bratislava: SUT, 1999. 84 pp.

[4] **SCHREIBER, P.**: *Fundamentals of the computer use. Textbook.* Bratislava: SUT, 1999. 64 pp.

[5] **VASKý, J. - KLAČO, M.**: *Graphics system* I. *Textbook.* Bratislava: SUT, 1999. 201 pp.

[6] **VÁŽAN, P.** – HOLICKÁ, B.: *Basic skills on the computer English. Textbook.* Bratislava: SUT, 1999. 70 pp.

[7] **TANUŠKA, P. - SCHREIBER, P.**: Glosses of problem of the information systems Testing. In: *AT&P Journal*, 10, 1999, pp.30 – 37.

[8] **MICHALČONOK, G.F.** – MUDRIK, J. – **MORAVČÍK, O.**: Synchrone filters in mechatronical system. In: *AT&P Journal*, 10, 1999, pp.68 – 69.

[9] **VRBAN, A. - MORAVČÍK, O.**: Frequency test of the optimal course of controlled parameters. In: *AT&P Journal*, 10, 1999, pp.71 – 72.

[10] **VASKÝ, J. - KLAČO, M.**: CAD system customatization and graphics applications development by calling of internal system functions. In: *INFORMACIONNYJE TECHNOLOGII V INNOVACIONNYCH PROJEKTACH: Meždunarodnaja konferencija.* Iževsk: IŽGTU, 1999, pp. 84 - 87.

[11] **BOŽEK, P. – HALAMA, J.**: Mathematic-physical analyse of heating dynamic system.. In: *MOSIS'99, Proceedings of the Conference Modelling and Simulation of Systems.* Ostrava: TU, 1999, pp.185 - 192.

[12] HELD, Ľ. - **MIŠÚT, M. - SCHREIBER, P. - TANUŠKA, P.**: Hypermedia in continning education of university teachers. In: *Medacta'99: International scientific conference.* Nitra: UKF, 1999.

[13] **MIŠÚT, M. - SCHREIBER, P. – MORAVČÍK, O.**: Integrated Scheduling System. In: *Selected topics in Modelling and Control, Volume 2/1999.* SUT Press, Bratislava 1999, s.75-80.

[14] **VÁŽAN, P.**: Evaluation of production goals of FMS by simulation. In.: *Proceedings ASIS'99.* Krnov 1999, MARQ.

[15] **BOŽEK, P.** - PIVARČIOVÁ, E.: Dictionary of automation in mechanical production. *Textbook.* Bratislava: SUT, 1999.

DEPARTMENT OF LANGUAGES

Head of the Department:
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I. STAFF

Professors:	0	Research Fellows:	0
Assoc. Professors:	0	Technical and Admin. Staff:	1
Senior Lecturers:	7	PhD Students:	0
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching Language Laboratories

- Audio-Video Workshop

II.2 Special Measuring Instruments and Systems

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: *Hours per Week*
L-P: *Lectures-Practices*

Name of subject	Semester	H/W L-P	Reader's name
English	1,2,3,4	0-2	Mironovová, Rusková, Miština
German	1,2,3,4	0-2	Reháková, Tandlmajerová
Russian	1,2,3,4	0-2	Bujnová

III.2 Graduate Study (Ing.)

H/W: *Hours per Week*
L-P: *Lectures-Practices*

Name of subject	Semester	H/W L-P	Reader's name
English	2-4	0-2	Mironovová, Miština, Rusková
German	2-4	0-2	Reháková, Tandlmajerová
Russian	2-4	0-2	Bujnová

III.3 Ph.D. Study

H/W: *Hours per Week*
L-P: *Lectures-Practices*

Name of subject	Semester	H/W L-P	Reader's name
English		0-2	Mironovová
German		0-2	Reháková
Russian		0-2	Bujnová

IV. RESEARCH TARGETS

- Analysis of the current state of teaching LSP at MtF
- ESP syllabus design and course design
- New phenomena in Russian vocabulary implemented in teaching

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- Analysis of the Present State of Foreign Languages Teaching at the Faculty and Designing a New Model, No 857.

V.2 National Grants (VEGA, KEGA)

V.3 International Projects

VI. CO-OPERATION

VI.1 National Co-operation

VI.2 International Co-operation

- The British Council in Bratislava
- The Pushkin Institute in Moscow
- The Goethe Institute in Bratislava

VI.3 Contracts with Industry

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

Miština Juraj, University in Every, France, 10-day mobility within TEMPUS project, May 1999.
Mironovová Emília, Dissemination Conference, British Council, Russia, Moscow, 18 - 23 September 1999.
Mironovová Emília, Lakmida Conference, British Council Lithuania, Vilnius, 21 - 19 October 1999.

VIII.2 Foreign Visitors to the Department

VIII.3 Organised Conferences, Seminars and Workshops

Miština Juraj, „Teacher Trainers Forum '99", National conference of teachers of English, Trnava, 10 - 11 September 1999.

IX. PUBLICATIONS

All publications without notice are written in Slovak language.

[1] **MIRONOVOVÁ Emília - MIŠTINA Juraj:** Prieskum potrieb a preferencií absolventa MtF STU v oblasti odbornej angličtiny. (Needs analysis of MtF STU graduates in the field of English for specific purposes) In: *MtF STU Research Papers Collection.* Bratislava: STU, 1999, vol. 7, pp. 311 - 318.

[2] **MIRONOVOVÁ Emília:** Koncepcia študentskej vedeckej konferencie v sekcii cudzie jazyky.(Concept of Students research activity in Foreign languages section)In:. *Proc. from CO-MAT-TECH '99, 7th International Scientific Conference.* Bratislava: STU, 1999, vol. II, pp. 770 - 773.

[3] **CAGÁŇOVÁ Dagmar - MIRONOVOVÁ Emília - RUSKOVÁ Dagmar:** Návrh modelu kontinuálneho hodnotenia jazykovej kompetencie študenta MtF STU v priebehu štvorsemestrálnej výučby angličtiny na špecifické účely. (Concept of Continuous assessment of MtF STU students' competence within a 4 - semester ESP course) In: *Proc. from Academic Dubnica '99, Scientific Conference with International participation.* Bratislava: STU, 1999, vol. II, pp. 353 - 356.

[4] **MIŠTINA Juraj:** The overhead projector - user-friendly technology in ESP classes. In:. *Proc. from Academic Dubnica '99, Scientific Conference with International participation.* Bratislava, STU, 1999, vol. II, pp. 437 - 440.

[5] **RUSKOVÁ Dagmar:** Mindmapping - the way of improving creativity and increasing enjoyment of learning.In: *Proc. from CO-MAT-TECH '99, 7th International Scientific Conference.* Bratislava, STU, 1999, vol. II, pp. 774 - 777.

[6] **TANDLMAJEROVÁ Anna:** Výsledky testovania cudzojazyčných zručností a schopností. (Results of testing foreing language skills) In: *Proc. from CO-MAT-TECH '99, 7th International Scientific Conference.* Bratislava, STU, 1999, vol. II, pp. 778 - 782.

[7] **BUJNOVÁ Eleonóra:** Úskalia odborného prekladu. (Pitfalls of technical translation) In: *Proc. from CO-MAT-TECH '99, 7th International Scientific Conference.* Bratislava, STU, 1999, vol. II, pp. 744 - 747.

[8] **BUJNOVÁ Eleonóra - MIRONOVOVÁ Emília:** Etiketa multikultúrnych pracovných vzťahov vo výučbe cudzích jazykov. (Multicultural business etiquette in teaching foreign languages) In: *Proc. from Academic Dubnica '99, Scientific Conference with International participation.* Bratislava, STU, 1999, vol. II, pp. 345 - 346.

[9] **MIŠTINA Juraj:** Slovak inset overview and vision (Keynote speech at the ELTECS Conference „Pulling the Threads Together" in Banská Bystrica, February 1999).

In: *School Experience, Vol. 2 No 4.* Hungary, Spring, 1999, s. 20 - 21.

[10] **REHÁKOVÁ Anna:** Testovanie - súčasť procesu skvalitňovania komunikatívnych schopností. (Testing - an integral part of communication skills improvement) In: *Proc. from Academic Dubnica '99, Scientific Conference with International participation.* Bratislava, STU, 1999, vol. II, pp. 463 - 465.

[11] **MIRONOVOVÁ Emília:** Efficient techniques for practising and revising vocabulary. In: *Proc. from ESP Challenges! 3rd ESP Conference.* British Council Slovakia, 1999, pp. 127 - 128.

DEPARTMENT OF MACHINING AND ASSEMBLY

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I. STAFF

Professors:	1	Research Fellows:	2
Assoc. Professors:	5	Technical and Admin. Staff:	3
Senior Lecturers:	5	PhD Students:	10
Lecturers:	2		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Measurement Laboratory
- Assembly Laboratory
- Mechanical Engineering Laboratory
- CAD/CAM Laboratory

II.2 Special Measuring Instruments and Systems

- DKM1-3000 DP co-ordinate measurement apparatus fy Zeiss
- Zeiss length gauge 1 m
- Zeiss universal microscope
- Zeiss universal length gauge
- Hilger Watts autocollimator + mirror polygon
- Zeiss collimator + telescope

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Machinery Technologies and Equipment	1	3-2	Lipa, Štefánek
Practical Metrology	2	0-2	Görög
Industrial Technology I	3	3-2	Baránek
Industrial Technology II	5	2-2	Baránek
Production Machines	3	3-2	Velíšek
Tools and Fixtures	4	3-2	Charbula
Final Work	6	0-2	Janáč
Production Metrology	7	2-2	Borovička

III.2 Machining technology

Graduate Study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Machining Technology	6	2-2	Lipa
Metrology	5	2-2	Maduda, Krsek, Borovička
Fundamentals of Assembly	5	2-1	Valentovič
Cuttings Tools	5	2-1	Javorčík
Machining Theory	7	3-2	Békés
Designing of Production Processes and Systems	8	2-3	Baránek
Cutting Machines and Equipment	8	2-2	Vellšek
Assembly Technology	7	2-1	Valentovič
NC Machine Programming	7	1-2	Peterka
Exercise in Metrology	8	0-4	Maduda
Progressive Machining Methods	9	3-2	Hrubec
Production Planning	9	2-2	Békés
Mechanisation and Automation	9	3-2	Potocký
Final Project	9	0-5	Janáč, Šlanina
Finishing Machining Methods	9	2-1	Lipa
Computer Controlled Production	9	2-1	Kuric
Experimental Machining Methods	9	2-1	Lipa
CAD/CAM Systems	9	1-2	Peterka
Design for Manufacture	8	2-1	Hrubec
NC Machine Programming II	7	0-4	Peterka
Machine tools	7	2-2	Vellšek
Forming machines	7	2-2	Ulík
Welding and foundry machines	7	3-3	Kozma
Assembly machines and equipment	7	2-2	Štefánek, Valentovič
Industrial robots and manipulators	8	2-2	Vellšek, Katalinič
Fixture and machine tools technological equipment	8	2-2	Baránek
Theory of automata	8	2-2	Štefánek
Automatization of production planning	7	2-2	Peterka, Kuric
Forming tools	7	2-2	Ulík
Theory of systems	8	2-2	
Rellability of production machines and systems	8	2-2	Bátora, Kuric
Machines and equipment for special technologies	8	2-2	Baránek
Production systems I.	9	2-2	Vellšek, Katalinič
Production systems II.	9	2-2	Ulík
Operation of production systems	9	2-2	Baránek
Prediploma praxis	10		
Diploma project	10		
Computer integrated manufacturing CIM	10	2-2	Peterka

IV. RESEARCH TARGETS

- Theory of machining parts manufacturing, measurement and assembly,
- CIM, CAD/CAM, CAPP, CAQ, CAA,
- 3D art engraving,
- Manufacturing of dies,
- Ecological aspects of machining.

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- Machining of metal and ceramics depositions created by fire- splutter plasma and by other techniques, No.804 (Lipa, Z.)
- Completion and adjustment of machineability normatives CCN 10-0-1, No.869 (Velíšek,K.)
- Set of inaccuracy problems by high-precision measurements of complex workpieces.
- No.844 (Janáč,A.)

V.2 National Grants (VEGA, KEGA)

- Structures of machinery production objects and processes VEGA 1/6188/99 MŠ SR, (Janáč, A.)
  Research of structures of machinery production objects and processes is not till now systematic developed. New solutions were created accidentally, method experiment-mistake; experiment-success was used. It influenced prosperity of machinery production. The project is targeted for debugging of this deficiency. Solvers intend, that systematic research will lead to new scientific method of creative proposing of new production structures of processes, machines and equipment and will contribute to development of national economy.
- Towards Ecologically Friendly Machining, MŠ SR Project - PL95978058S (Peterka)
  Ecological behave of subject in human society is today priority for modern civilization. On ferst step we must put take pff prevention of catastrophe. In engineering production we must run over on ecological acceptable technology. The technology of chippy cultivation have most engineering production, therefor us research is direct to ecological cultivate. The project reveal direction development of ecological tooling. In project we reveal solution which have minimum unecological influence to surrondings. The way is: a, totool with minimum cutting liquid.
  b, totool without cutting liquid.

V.3 International Projects

- European Standards in Mechanical Engineering Education - Tempus project č.S-JEP12313-97 (Janáč, A.)
  Education project for promotion of European Standards implementation into the curricula of Institutions in the Partner State Slovakia. There are four groups of intended subjects for restructurelization:
  - Innovative technologie of mechanical engineering
  - Informaties in mechanical engg. technology
  - Metrology
  - Industrial Expertise
- Towards Ecologically Friendly Machining (ECOFRIM) - INCO-COPERNICUS Project - PL95978058 (Peterka)
  The project solution on international level of ecological totool completely from legal regulations, order and standard ecological cutting liquid. We solution again employ and liquidation cutting liquid in life environment. The project is direct

on creation data base about ecological totool, data base of notion and on internet inform about new knowledges from this area.

- CEEPUS A-104 Asembly Automation in Manufacturing Engineering (Velíšek, K.)
- CEEPUS PL-0001-99/00 Geometrical Surface Structure of Machine (Janáč, A.)

VI. CO-OPERATION

VI.1 National Co-operation

- Faculty of Mechanical Engineering, Slovak University of Technology, Bratislava
- Slovak Academy of Science

VI.2 International Co-operation

- National Institute of Standard and Technology, Gaithersburg, USA
- Faculty of Mechanical Engineering, Technical University of Vienna, Austria
- Faculty of Mechanical Technology, Technical University of Gliwice, Poland

VI.3 Contracts with Industry

- Vunar a.s. Nové Zámky, Magna Slovteca s.r.o. Nové Mesto nad Váhom, Jacobs Suchard Figaro a.s. Bratislava, Skloplast a.s. Trnava, SACHS slovensko s.r.o. Trnava, TZK a.s. Trnava, TOMA Trnava, TRENS Trenčín, IDC Holding Trnava.

VII. THESIS AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Thesis

[1] Martin BÍROŠ: CAAP - computer support drawing technological progress for typing technolgy, [Doc. Dr. Ing. Jozef Peterka]

[2] Branislav CENTEK: Cutting liquids, areas and conditions of their efective, [Prof. Ing. Ján Hrubec, DrSc.]

[3] Andrea CSERGEOVÁ: Suggestion of technological process of details of the millhouse SMS 80/145, [Ing. František Pecháček]

[4] Michal ČECHVALA: Machining of plastics armed with glass fibres, [Ing. Michal Štefánek, CSc.]

[5] Róbert FANČOVIČ: Roughness of surface of grinded hard metal coats, sprayed by plasma spraying, [Doc. Ing. Zdenko Lipa, CSc.]

[6] Jaromil GALLO: Surface roughness after jetting, [Ing. Augustín Görög]

[7] Marek GONDA: Graphic database for uniporpose-made machines, [Ing. Peter Košťál]

[8] Milan HAZUCHA: Possibilities of NC machine tool adaptation on the spinning operations, [Ing. peter Šugár, CSc.]

[9] Patrik HERKO: Surface roughness of grinded plasma spraying ceramics depositions, [Doc. Ing. Zdenko Lipa, CSc.]

[10]Vladimír HUČKO: Technological construction component of the cutting operation on NC machine tool, [Ing. Jozef Charbula]

[11]Marcela CHARBULOVÁ: Posibilities of measuring and evaluating deviations of cylinders in practical technical field, [Doc. Ing. Miroslav Maduda, CSc.]

[12]Ivana ILAVSKÁ: Metrology of the shape error and deviation of position of big size parts, [Doc. Ing. Miroslav Maduda, CSc.]

[13]Galina FARSKÁ: Using of the coordinate measurement machines in the industry, [Doc. Ing. Miroslav Maduda, CSc.]

[14]Miroslav KLEŠTINEC: Projectof the auxiliary equipment for universal hobbers, whitch will permit perform hobbing, [Ing. Michal Štefánek, CSc.]

[15]Róbert KOLENO: Exploitation of CAD/CAM system at modeling and producing components for bike-industry, [Doc. Dr. Ing. Jozef Peterka]

[16]Peter KOMPAS: Optimization of Process Plans, [Prof. Ing. Ján Békés, DrSc.]

[17]Erika KOPTÁKOVÁ: Application new technology production - treatment oval opening, [Ing. Jozef Charbula]

[18]František KRAJAN: Regording proces of steel seamles cold drawn tubes by method of shelling es a rolling inside surface, [Prof. Ing. František Slanina, CSc.]

[19]Daniel KÚDELA: Design of the disposal container for spent nuclear fuel type VVER 440, [Ing. Jozef Prítrský]

[20]Peter KVETŇANSKÝ: Surface roughness after milling, [Ing. Augustín Görög]

[21]Roman LOUČKA: Abotts curves at different machining methods, [Doc. Ing. Zdenko Lipa, CSc.]

[22]Jozef MAZANEC: The technology of grinding and evaluation of sheving wheel, [Ing. Igor Daniš]

[23]Milan MIKŠOVSKÝ: User Auto CAD configuration utility for single-purpose machines design, [Ing. Peter Košťál]

[24]Pavol MIŠA: Introduce change cuting blade for manufacture bearing ring in machines SEL 101, [Prof. Ing. Alexander Janáč, CSc.]

[25]Viktor PLÉZEL: Database of attributes steels with regard their tooling, [Ing. Peter Košťál]

[26]Peter POKORNÝ: The shape of part and her assembly, [Ing. Ernest Valentovič, CSc.]

[27]Renata SOKOLOVÁ: Technological applications WJM, [Prof. Ladislav Javorčík, CSc.]

[28]Miroslav VÁLEK: Building of multistation assembly system new simulation models, [Ing. Michal Štefánek, CSc.]

[29]Andrej VIDLIČKA: The shape of part and her assembly, [Ing. Ernest Valentovič, CSc.]

[30]Marián VINKLER: Mechanibility harly mechanibilited Cr-Ni steel: digging, [Ing. Jozef Charbula]

[31]Patrik ZVOLENSKÝ: Engineering study of the condition of the normalization in the education and the practical exploit of the Technology of Machining, [Ing. Michal Štefánek, CSc.]

[32]Ľubomír GÁLIK: The production of tools turning cavities for toothed wheels from thermoplast by method EDM, [Ing. Jozef Horváth, CSc.]

[33]Jana JURČOVÁ: Suggestion of the optimal method of truth measurement of rotary surfaces in production proces, [Prof. Ing. Alexander Janáč, CSc.]

[34]Oskár NEDBAL: Internality aberration metrology in technical practice, [Doc. Ing. Miroslav Maduda, CSc.]

[35]Peter RÍZEK: Environmental Aspects Analysis of Machining and Minimalization of its Adverse Effets to the environment, [Ing. Peter Šugár, CSc.]

[36]Ján ZELENAI: Prposal of the technological process for the production and verification of the „Mobile volumetric etalon for the preasurement of the flowed quantity of the volumetric matter„, [Doc. Ing. Milan Borovička, CSc.]

[37]Tomáš DRGOŇ: Formation measurement, measurement toleration and evaluate, [Doc. Ing. Miroslav Maduda, CSc.]

[38]Roman GOTTWALD: Project of manufacturing and selected product, [Ing. Ernest Valentovič, CSc.]

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- TU Vienna, VTT Helsinky, TU Miskolc, TU Budapest, TU Cluj – Napoca, PS Glivice, ČVUT Praha, VUT Brno, TU Berlin.

VIII.2 Foreign Visitors to the Department

- Prof. Katalinič Branko

VIII.3 Organised Conferences, Seminars and Workshops

- Seminar Tools for progressive machining

IX. PUBLICATIONS

All publications without notice are written in Slovak language.

[1] **VALENTOVIČ Ernest** : Importance of theory of structures in the science of production. In: *NOVÉ TRENDY V PREVÁDZKE VÝROBNEJ TECHNIKY: New trnds in the operation of production Technology : 2.medzinárodná konferencia: 2th international scientific conference*. Prešov: FVT TU, 1999, s. 231 - 234.

[2] **BÉKÉS Ján :** Strojárska technológia ako veda.In: V. odborný seminář *MATERIÁLY A TECHNOLOGIE VE VÝROBĚ SPECIÁLNÍ TECHNIKY* pořádaný v rámci Mezinárodního veletrhu obranné a bezpečnostní techniky a speciálních informačních systémů : Sborník přednášek.. Brno: Vojenská akademie, 1999, s. 29 - 31.

[3] **BOROVIČKA Milan** : Recrystallized structure of stabilized thermometer sensors. In: *Zborník prednášok z 5.vedeckej konferencie s medzinárodnou účasťou AKADEMICKÁ DUBNICA '99*. Bratislava: STU, 1999, diel I., s. 197 - 200.

[4] **JANÁČ Alexander** - KURIC Ivan : Optimisation of process operation sequencing. In: *Annals of DAAAM for 1999 & Proceedings of the 10th International DAAAM Symposium „Intelligent manufacturing & automation : past - present - future„*. Vienna: DAAAM International, 1999, s. 225 -226.

[5] **KOŠŤÁL Peter - VELÍŠEK Karol** : Determination of STN steel machinability. In: *Annals of DAAAM for 1999 & Proceedings of the 10th International DAAAM Symposium „Intelligent manufacturing & automation : past - present - future„*. Vienna: DAAAM International, 1999, s. 259 - 260.

[6] **PETERKA Jozef - JANÁČ Alexander** - KURIC Ivan : The development of utility for computer aided process planning based on AutoCad software.In: *Annals of DAAAM for 1999 & Proceedings of the 10th International DAAAM Symposium „Intelligent manufacturing & automation : past - present - future„*. Vienna: DAAAM International, 1999, s. 429 - 430.

[7] **VELÍŠEK Karol - KOŠŤÁL Peter** : Structural analysis of dedicated machine. In: *Annals of DAAAM for 1999 & Proceedings of the 10th International DAAAM Symposium „Intelligent manufacturing & automation : past - present - future„*. Vienna: DAAAM International, 1999, s. 571 - 572.

[8] **VELÍŠEK Karol** - KATALINIČ Branko : Analysis of machine tools structure. In: *Annals of DAAAM for 1999 & Proceedings of the 10th International DAAAM Symposium „Intelligent manufacturing & automation : past - present - future„*. Vienna: DAAAM International, 1999, s. 569 - 570.

[9] **PETERKA Jozef - JANÁČ Alexander**: The classification of 3D milling processes. In: *Computer integrated manufacturing : Proceedings of the International Conference CIM'99.* Warszawa: Wydawnictwa Naukowo-Techniczne, 1999, s. 81 - 86.

[10] **VELÍŠEK Karol - KOŠŤÁL Peter**: Determination of dedicated machine technological parameters.In: *Computer integrated manufacturing : Proceedings of the International Conference CIM'99.* Warszawa: Wydawnictwa Naukowo-Techniczne, 1999, s. 274 - 279.

[11] **VELÍŠEK Karol - KOŠŤÁL Peter**: Modelling of dedicated machine structure by using of matrices.In: *Computer integrated manufacturing : Proceedings of the International Conference CIM'99.* Warszawa: Wydawnictwa Naukowo-Techniczne, 1999, s. 280 - 284.

[12] **VELÍŠEK Karol - KOŠŤÁL Peter**: Information structure for technological parameters.In: *Informacionnyje technologii v innovacionnych projektach: Meždunarodnaja konferencija.*Iževsk: IŽGTU, 1999, s.16 - 18.

[13] **VELÍŠEK Karol** : Technological parameters and workpiece fixturing.In: *INFORMACIONNYJE TECHNOLOGII V INNOVACIONNYCH PROJEKTACH: Meždunarodnaja konferencija.* Iževsk: IŽGTU, 1999, s.18 - 20.

[14] **BÉKÉS Ján - LIPA Zdenko**: The workshop technologies as complicated wear processes - tribology in the engineering study.In: *VII th international symposium INTERTRIBO'99 : Proceedings : Tribological problems in exposed friction systems.* Bratislava: STU, 1999, s. 95 - 100.

[15] **VALENTOVIČ Ernest**: Importance of theory of structures in the science of production. In: *Nové trendy v prevádzke výrobnej techniky : New Trends in the Operation of Production Technology: 22.medzinárodná konferencie : 2th international scientific conference.* Košice: TU, 1999, s. 231 - 234.

[16] **BÉKÉS Ján** : Science on part production. In: *VI miedzynarodowe sympozjum OBRÓBKA SKRAWANIEM I NARZEDZIA : 6th international symposium of Machining and Citting tools: OSIN'99.* Krakow: Politechnika krakowska, 1999, s. 13 - 19.

DEPARTMENT OF MANAGEMENT AND QUALITY ENGINEERING

Head of the Department
Alexander Linczényi, PhD, Professor

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I. STAFF

Professors:	2	Research Fellows:	2
Assoc. Professors:	7	Technical and Admin. Staff:	3
Senior Lecturers:	18	PhD Students:	15
Lectures:			

II. EQUIPMENT

II.1 Teaching and Research Laboratory

- Personal Computer Laboratory

II.2 Special Measuring Instruments and Systems

- Testing system for psychology studies Ergometer
- Basic technical equipment for labour environment studies

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Enterprise Economy	1	3-2	Ščepka
Statistical Methods	1	2-2	Kučerová
Enterprise Management	1	2-2	Čambál
Accounting	1	2-3	Mullková
Marketing	2	2-2	Jedlička
Information System	2	2-3	Ončák
Operational Research	2	2-3	Štrpka
Industrial Technologies	2	3-2	Velíšek
Production Management	2	2-2	Čambal
Personnel and Social Programme	3	3-1	Holková
Computer Aided Management	3	1-3	Šrubařová
Logistics	3	2-2	Červeňan
Economical Analysis	3	3-3	Doubková
Investment Development	3	3-3	Sablik
Ergonomic	4	2-2	Sablik
Information Systems Automation	4	2-4	Dobrotka
Engineering Metrology	4	2-2	Maduda
Value Analysis	4	2-2	Molnár
Machines and Equipment Maintenance	4	2-2	Burcl
Final Project	4	2-1	
Plant Information System	4		
Taxation			

III.2 Graduate study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Management of Enterprise Development	7	3-2	Molnár
Accounting	7	2-1	Muliková
Information Systems Automation	7	2-3	Dobrotka
Operational Research	7	3-3	Štrpka
Marketing	7	3-1	Brezník
Production Management	8	3-3	Čambál
Management and Banking	8	3-2	Červeňan
Taxation	8	2-2	Muliková
Enterprise Economy	6	3-2	Ščepka
Accounting in Enterprise Activities	9	0-3	Horváthová
Economical Analysis	9	2-2	Doubková
Finances and Banking	9	2-2	Nováková
Quality Management	9	3-2	Linczényi
Enterprise Management	6	3-2	Čambál
Operational Research	7	3-3	Štrpka
Management of Enterprise Development	7	3-2	Molnár
Quality Management	7	3-2	Linczényi
Tools and Techniques of Quality Management	7	2-2	Šalgovicová
Logistics in Quality Assurance	8	2-2	Brezník
Marketing in Quality Management	8	3-2	Jedlička
Production Management	8	3-3	Čambál
Statistical Methods of Quality Inspection	8	2-3	Kučerová
Personal Management	8	2-2	Holková
Information Systems	7	2-2	Öncák
Computer Operating	8	0-2	Šrubarová
Taxation	8	2-1	Muliková
Certification of Products, Quality Control System and Personnel	9	1-1	Linczényi
Statistical Methods of Quality Inspection	9	2-3	Kučerová
Computer Alded Quality Control	9	2-2	Dobrotka
Logistics	9	2-2	Červeňan
Final Project	9	0-5	

IV. RESEARCH TARGETS

- Progressive forms of managers education
- Quality control in industrial enterprises
- Quality control in service enterprises
- Value management application
- Advanced information technologies implementation
- Environmental Management

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- Education of managers in the conditions of economy transformation (846)
- Economics problems of industrial plants ecologysation in market economy (847)

V.2 National Grants (VEGA, KEGA)

- Quality Management (KEGA - 146/98)

Content of National grant KEGA „Quality Managemnet" is elaboration of textbook in the field quality management. The Textbook is divided in 3 parts
- the first part of textbook is bas literature for all degree courses
- the second part is elaborated for specialist in the field of quality management
- the third part of textbook contents methods and skills used in quality management

V.3 International Projects

VI. CO-OPERATION

VI.1 National Co-operation

VI.2 International Co-operation

- Department of Work Sciences, Brandenburg Technical University, Cottbus, Germany
- Agricultural University of Poznań Chair of Economic and Wood Industry Management, Poznań, Poland

VI.3 Contracts with Industry

- Contract with Tatravagonka Poprad „Quality Assurance and Supervising"

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses (Number of the Thesis - 318)

Fields in which the Thesis are elaborated:
- Field of quality control systems
- Costs analysis
- Value analysis application
- Company organisational models
- Enterprises marketing management
- Operational research application
- Controlling application

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

VII.4 OTHER ACTIVITIES

VII.5 Visits of Staff Members to Foreign Institutions

- TU Dresden, Germany
- WU Wien - Wirtschaftsuniversität Wien, Austria
- Erasmus University Rotterdam, Holland

VII.6 Foreign Visitors to the Department

VII.7 Organised Conferences, Seminars and Workshops

- Specialised course in the field of work rationalisation
- Seminars in the field of project management

VIII. PUBLICATIONS

All publications without notice are written in Slovak language.

[1] **LINCZÉNYI Alexander**: The flexible quality systems. In: *Development trends in production management for forestry and wood processing*. Zagreb: ZU, 1999, pp. 99-101. (in english)

[2] **NOVÁKOVÁ Renata**: Quality planning from the supplier- receiver view. In: *Development trends in production management for forestry and wood processing*. Zagreb: ZU, 1999, pp. 103 - 107 . (in english)

[3] MATUSZEWSKI, A. - **SABLIK Jozef**: Increase of the value of acquired company by restructurisation of transferred assets and liabillities. In: *CO-MAT-TECH '99: International scientific conference*. Bratislava: STU, 1999, pp. 195 - 200. (in english)

[4] GLOS, F. - **SAKÁL Peter**: Integrované manažérstvo: systém environmentálne orientovaného riadenia podniku. In: *CO-MAT-TECH '99: International scientific conference*. Bratislava: STU, 1999, pp. 89 - 93.

[5] **JEDLIČKA Milan** - MEIXNER, W.: Price strategies in furniture enterprises in middle europe countries. In: *CO-MAT-TECH '99: International scientific conference*. Bratislava: STU, 1999, pp. 138 - 142.(in english)

[6] JOEHNK, P. - **SABLIK Jozef** : Personalinformationssystem für den Einsatz in Forschungseinrichtungen. In: *CO-MAT-TECH '99: International scientific conference*. Bratislava: STU, 1999, pp. 149 - 154. (in germany)

[7] **LINCZÉNYI Alexander** : Product orientated quality systems. In: *Quality '99*. Ostrava: DT, 1999, pp. B28 - B31.

[8] **NOVÁKOVÁ Renata**: The strategical quality planning as tool of TQM. In: *Quality '99*. Ostrava: DT, 1999, pp. B32 - B35.

[9] **ŠALGOVIČOVÁ Jarmila**: Risc factors of quality of marketing decisioning on communication mix. In: *Quality '99*. Ostrava: DT, 1999, pp. D44-D48.

DEPARTMENT OF MATERIALS ENGINEERING

Head of the Department:
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I. STAFF

Professors:	4	Research Fellows:	3
Assoc. Professors:	2	Technical and Admin. Staff:	9
Senior Lecturers:	10	PhD Students:	8
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- X-ray Diffraction Laboratory
- Electron Microscopy Laboratory
- Light Microscopy Laboratory
- Laboratory of Physical Measurement
- Mechanical Testing Laboratory
- Heat Treatment Laboratory
- Laboratory of Hard Magnetic Materials
- Laboratory of Vacuum and Plasma Metallurgy
- Laboratory of Isostatic Pressing

II.2 Special Measuring Instruments and Systems

- Transmission Electron Microscopes
- Scanning Electron Microscopes
- X-ray Diffractometers
- Light Microscopes
- Induction Magnetometer
- Image Analyser
- FPZ 100/l Direct Stress Testing Machine
- EDZ 40 dyn Direct Stress Lasting Machine
- Hardness Testers
- Pendulum Impact Testing Machines
- Isostatic Press

III. TEACHING

III.1 Bachelor study (Bc.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Materiels I	1	3-2	Martinkovič
Materials II	3	2-2	Grgač
Non-metallic Materials	6	2-1	Martinec, Kozík

III.2 Graduate study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Materials Science	2	3-3	Martinec, Šimkovič, Grgač, Hazlinger
Methods of Material Structure and Properties Research	6	2-2	Čaplovič
Vacuum Technology	8	3-2	Žitňanský
Technology Materials	5	3-2	Šimkovič
Experimental Methods of Material Research I	8	1-2	Čaplovič
Structure and Properties of Plastics	8	2-2	Martinec
Corrosion, Tribology and Surface Preparation	8	2-2	Opravil
Technology of Heat Treatment and Surface Preparation	7	2-2	Grgač
Processes of Heat Treatment and Sintering	7	2-2	Grgač
Theory of Phase Transformation	7	2-1	Hrivňáková
Physical Chemistry	7	2-2	Sorentínyová
Vacuum Technology	8	3-2	Žitňanský
Materials III	9	2-0	Šimkovič
Basics of Stereology Metallography	8	2-2	Martinkovič
Composite Materials	9	2-2	Šebo
Experimental Methods of Material Research II	9	1-3	Čaplovič
Physical Metallurgy	4	3-2	Hrivňáková
Degradation Processes and Time Life Prediction	9	2-2	Várkoly
Mechanical Testing of Materials	7	2-2	Kadlec
Utility Properties and Choice of Materials	8	3-2	Hrivňák
Final Project	9	0-6	Žitňanský, Hazlinger, Martinec
Plastics	8	0-2	Horváth
Machinery of Plastic Technology	9	2-1	Horváth
Theory of Technology Processes	7	3-2	Martinec
Fractography	9	2-1	Bošanský
Radiation Degradation of Materials	9	2-1	Hrivňák
Vacuum Technology in Heat Treatment	9	1-2	Žitňanský
Theory and Technology of Industrial Heating	9	2-2	Taraba
Advanced Methods of Heat Treatment	9	3-2	Hazlinger
Choice of Materials and Advanced Material Technologies	9	2-1	Hrivňák
Projecting of Production Processes and Systems in Heat Treatment	9	2-2	Onderčanin
Theory and Technology of Plastics Treatment	9	3-2	Horváth
Metrology and Testing of Plastics	9	2-2	Grom
Bonding of Plastics	9	2-1	Martinec
Production Plastics Tools	9	3-2	Horváth
Plastic Parts Design	9	1-2	Osuský

IV. RESEARCH TARGETS

- Vacuum metallurgy, metal rafination, crystallisation of metals, materials science
- Tool steels
- Powder metallurgy
- Structure of polymers
- Weldability of steels

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- Quantification of Microstructure Parameters of Rapidly Solidified Materials. No 892, (Martinkovič, M.)
- Design of Precision Termoplastic Composite Parts. No 891, (Horváth, J.)
- Weldability of Particle Reinforced Homopolymers. No 807, (Martinec, L.)
- Study of Degradation Processing in Nd-Fe-B based Magnets. No 865 (Hrivňáková,D.)
- Weldability of High Strenght Steels. No 894, (Hrivňák, I.)
- Shear Tools Damage and Lifetime Shortage Analysis. No 895, (Hazlinger, M.)

V.2 National Grants (VEGA, KEGA)

- Research of the Metal Materials for Exquinite Anentments Human Joints. VEGA 1/4451/97, (**Žitňanský, M.**)

Define design and construction of a total hip replacement of Slovak provenience (THR) and a Spinal fixator. Work out the stronghold-tension analysis of the femoral component of THR produced by splinter shape by terminal elements method. Define physical-metallurgic parameters of alloy preparation Ti 6Al 4V, and Ti 6Al 4Nb. Work up of the process of an investment casting of some parts of the metal replacement, mainly THR or other metal parts f. i. spine fixator. Work out basic tests and to determine material characteristics, metallurgic and X ray analysis of the searching alloy, after casting and after selected technologies applications as thermal work or isostatic pressing. Work up the biocompatible layer production parameters on selected components of investigated THR, spine fixator. Perform series of orthopaedic surgeries on animals. Work out an investment casting process of the individual metal replacement of THR and spine fixator by utilising of CT.

- Optimalization of Structure and Properties of Uniaxial Ferromagnetics by Technology Parameters. VEGA 1/41189/97, (**Hrivňáková, D.**)

Sm - Fe alloys has been prepared in induction furnace for nitrides, carbides and carbonitrides preparation. Mechanism of oxidation and/or corrosion on commercial permanent magnets NdFeB type was studied by light microscopy, TEM, SEM, EDX, WDX and diffraction methods. Using of two stage replicas for direct observatio of corrosion damage panatration on the fracture surfaces perpendicular to deteriorated surface was a new examination method. This method enable us to describe the mecahnism of corrosion propagation and in situ identification the corrosion products by electron diffration. Practical applications of our experience : new pig for pipelines cleaning of 1200 mm diameter was equipped with a set of permanent magnet segments to collect ferromagnetic debris. Own construction of magnetic segments with high cleaning efficiency was uesd. (Industrial design No.1831, Slovakia).

- Study and Modelling of Nonequilibrium Micrometallurgy Processes. VEGA 1/4263/97, (**Grgač, P.**)

Analysis of the influence of atomisation on the primary solidification products of high alloyed materials on the ferrous and nickel base. Identification of the phase composition and morphological variants of nonequilibrium solidification products. The mechanism and thermophysical model of the development of hybride microstructures in the atomised

rapidly solidified particles by the mechanism of thermally induced fragmentation of dendrites resulting from the recalescence effect during adiabatic dendritic solidification of undercooled droplet was introduced.

- Technological and Structure Characteristics of Particle Reinforced Polymer Matrix Composites. VEGA 1/5236/98 (**Martinec,L.**)

The analysis of choose properties of the filled reinforced mixtures polyolefines, PET mixtures. The preparation of patterns. The alterantive for experiment. The solution of experiment with new different method, include with a method of productive trial. New achievements on field of weldability PE matrix, filled with BaSO4.

V.3 International Projects

- CEEPUS Project PL 13/99 (Žitňanský, M.)
- EUREKA No 133 - PULZWELDTRUCK (Hrivňák, I.)

Pulsed current submerged arc welding of structural steels (Ivan Hrivňák), Welding Research Institute (Mrs.E.Malinovská and Mr. V. Pavelka) and University of Technology in Vienna, Austria (Prof. T. varga and Dr. A.Caloun) were co-operated in that project. The goal of the project was to develop a novel welding technology which has not yet been applied in the industry - submerged arc welding using pulse welding current. Theoretical approach, modelling and laboratory tests have shown that the technology proposed is applicable in the industry. The quality of welds was better as well as the welding shrinkage and distortions were minimised. The technology war applied in Crud-Oil Terminal TRANSPETROL Budkovce.

VI. CO-OPERATION

VI.1 National Co-operation

- AVANTEK Nové Mesto nad Váhom. Laser marking

VI.2 International Co-operation

- University Miskolc Hungary. Welding and weldability
- Technical University Wien Austria. EUREKA No 133
- Technical University Wien Austria. Laser welding of thin steels

VI.3 Contracts with Industry

- SACHS ltd. Trnava - microanalysis of materials
- Slovnaft ltd. Bratislava - material expertise, welding expert opinion
- SLOVALCO ltd. Žiar n. Hronom- microanalysis of materials
- Best ltd. Beluša - development of magnets
- SAV-UMMS (Academy of Science) Bratislava - isostatic presswork
- VSŽ Košice ltd. - laser welding of sheet metal development
- Hydrostav ltd. Bratislava - material and welding expertise of container
- PFS ltd. Brezová - expertise of heat treatment of springs

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

[1] Ambrovics, Zoltán: Quantification of microstructures parameters Ch3F12 tool steel prepared by powder metallurgy process after heat treatment (Martinkovič, KMI)
[2] Baľák, Juraj: The austenite anizothermic decomposition in weld condition for numerical analysis welded process (Magula, VÚZ)
[3] Bojnanský, Daniel: Analysis of low cause life the shear (Hazlinger, KMI)
[4] Krištofíková, Renáta: Study of the permanents magnets surface degradation (Hrivňáková, KMI)
[5] Olšiaková, Marcela: Structure and phase analysis of steel-ceramics brazing joint (Čaplovič, KMI)
[6] Rádiková, Andrea: Study of microstructure and properties of aluminium alloyed STN 42 4334 (Hrivňák, KMI)
[7] Rapantová, Andrea: The microscope analysis RS powder of Ch3F12 tool steel (Grgač, KMI)
[8] Václavková, Jana: Study of damage radiation reactor pressure vessel VVER 440 (Kupča, VÚJE)
[9] Vida, Urban: Verification of Ti6Al4V alloy for hip joint production (Žitňanský, KMI)
[10] Hudcovič, Peter: Submerged pulsed arc welding of austenitic stainless steel materials aspecst (Hrivňák, KMI)
[11] Valovičová, Mária: Corrosion instability of unstabilised austenitic 18/8 steel (Magula, VÚZ)
[12] Tomešová, Zuzana: Analysis the polyolefine weld HAZ by rtg diffraction methods (Horváth, KMI)
[13] Tomík, Richard: Polyolefines modifyed by borum acid weldability (Martinec, KMI)
[14] Hečko, Peter: Study of microstructure solidification RS powder type of SDK 42 to Ni base (Trnková, KMI)
[15] Nedbal, Ivan: Study of influence high temperature austenitization on microalloyed E 700 TS steel structure (Hudáková, KMI)
[16] Rášo, Marek: Weldability and properties of KODUR E 700 TS steel (Bošanský, VÚZ)
[17] Sitár, Róbert: Properties, heat treatment and weldability of P91 steel (Bošanský, VÚZ)
[18] Horáček, Tomáš: Influence of austenitization parameters to microstructure and phase composition of K 190 steel (Moravčík, KMI)

VII.2 Dissertations (Ph.D.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- Indian Institue of Science Bangalore India – professor one week
- Silesian Technical University Gliwice Poland - professor two weeks
- Silesian Technical University Gliwice Poland - two PhD. students two weeks
- BMW company Dingolting by Munchen Germany - students and associate professors one day
- Cite Universitae Miremond Geneve - students and associate professors one day

VIII.2 Foreign Visitors to the Department

Silesian Technical University Gliwice Poland – assistant professor two weeks

VIII.3 Organised Conferences, Seminars and Workshops

- Welding in Nuclear and Thermal Power Engineering - seminar
- Material Science and Technology PhD. Students Seminars - seminar and workshop

IX. PUBLICATIONS

All publications without notice are written in Slovak language.

[1] **BEHÚLOVÁ Mária - MORAVČÍK Roman - KUSÝ Martin - ČAPLOVIČ Ľubomír - GRGAČ Peter** - STANČEK L.: Influence of atomisation on solidification microstructures in the rapidly solidified powder of the Cr-Mo-V tool steel. In: *TENTH INTERNATIONAL CONFERENCE ON RAPIDLY QUENCHED AND METASTABLE MATERIALS: Abstracts*. Bangalore (India): Indian Institute of Science, 1999, s. 62 - 63.(in English)

[2] ZRNÍK Jozef - **ŽITŇANSKÝ Marcel - HAZLINGER Marián** : Creep fatigue deformation of Ni base singlecrystal superalloy. In: *Kovové materiály*, 37, 1999, č. 4, s. 246 - 255.

[3] **HRIVŇÁK Ivan**: Physical Metallurgy of Pulsed Current Submerged Arc Welding of Steels. In: *ISIJ International*, 38, 1998 - IXA -72-1999, No. 10, pp. 1100 - 1106. (in English)

[4] PALKOVIČ Peter - **BAKALOVÁ Petra - GRGAČ Peter**: Laser marked and surface effects on rolling bearing. In: *Materiálové inžinierstvo*, 6, 1999, č. 18, s. 59 -63..

[5] **MARTINKOVIČ Maroš - KUSÝ Martin** : Quantification of carbides in CH3F12 tool steel prepared by powder metallurgy. In: *VEDECKÉ PRÁCE Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*. Bratislava: STU, 1999, zväzok 7, s. 67 - 70.

[6] **MARTINEC Ľubomír - HORVÁTH Jozef** - KIŠŠ, M. : Plastbarit composites in human medicine. In: *Plasty a kaučuk*, 36, 1997, č. 7, s. 192 - 194.

[7] **HRIVŇÁK Ivan** - ÉLESZTŐS Pavel - SKLENÁR František - BÖHM Ľudovít : Reapir of spherical storage tanks for liquified hydrocarbon gases. In: [*International Institute of welding*], 1999, 8 s. (in English)

[8] **HRIVŇÁK Ivan** : Intermetallic compound. In: *Konferencia s medzinárodnou účasťou KONŠTRUKČNÉ MATERIÁLY'99*. In: Bratislava: ÚMMS SAV, 1999, s. 1 - 16.

[9] **HRIVŇÁKOVÁ Dáša** - HRNČIAR Vilam : Corrosion damage of permanent magnets Nd-Fe-B. In: *Konferencia s medzinárodnou účasťou KONŠTRUKČNÉ MATERIÁLY'99*. In: Bratislava: ÚMMS SAV, 1999, s. 29 - 34.

[10] **ČERNIČKOVÁ Ivona**: Study of surface corrosion damage of Nd-Fe-B magnets. In: *AMME'99 : Proceedings of the 8th International Scientific Conference : Achievements in Mechanical & Materials Engineering*. Gliwice: Silesian University of Technology , 1999, s. 65 - 68. (in English)

[11] **KORUK ,A.I. - HRIVŇÁK Ivan**: Metallographic analysis of laser welded DC04 tailored blanks. In: *AMME'99 : Proceedings of the 8th International Scientific Conference : Achievements in Mechanical & Materials Engineering*. Gliwice: Silesian University of Technology , 1999, s. 325 - 328. (in English)

[12] **MORAVČÍK Roman - KUSÝ, M. - GRGAČ Peter**: Grain refinement in rapidly solidified powder of Cr-Mo-V tool steel. In: *AMME'99: Proceedings of the 8th*

International Scientific Conference: Achievements in Mechanical & Materials Engineering. Gliwice: Silesian University of Technology , 1999, s. 403 - 406. (in English)

[13] **ŽITŇANSKÝ Marcel** - ZRNÍK Jozef - ŠTEFANOVIČ P.: Physicalmetallurgy principles of biocompatible titanum alloys. In: *AMME'99 : Proceedings of the 8th International Scientific Conference : Achievements in Mechanical & Materials Engineering*. Gliwice: Silesian University of Technology , 1999, s. 647 - 650. (in English)

[14] **ŽÚBOR Peter**: The M-A consistituent decomposition in high-strength steel welds. In: *AMME'99 : Proceedings of the 8th International Scientific Conference : Achievements in Mechanical & Materials Engineering*. Gliwice: Silesian University of Technology , 1999, s. 659 - 664. (in English)

DEPARTMENT OF MATHEMATICS

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I. STAFF

Professors:	1	Research Fellows:	0
Assoc. Professors:	3	Technical and Admin. Staff:	0
Senior Lecturers:	15	PhD Students:	5
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- 2 special teaching rooms

II.2 Special Measuring Instruments and Systems

- 13 computers

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: *Hours per Week*
L-P: *Lectures-Practices*

Name of subject	Semester	H/W L-P	Reader's name
Mathematics I	1	3-2	Ďurikovič
Mathematics II	2	3-2	Ďurikovič
Applied Mathematics	3	2-2	Halabrín
Probability and Statistics	5	2-2	Halabrín

III.2 Graduate Study (Ing.)

H/W: *Hours per Week*
L-P: *Lectures-Practices*

Name of subject	Semester	H/W L-P	Reader's name
Fundamentals of Computer Graphics	2	3-2	Zámožík
Mathematical Statistics	5	3-2	Halabrín
Applied Mathematics	5	2-2	Halabrín
Mathematics I	1	5-4	Červeňanský, Dillingerová
Mathematics II	2	3-4	Červeňanský, Dillingerová
Mathematics III	3	3-3	Hlc, Zalabai
Applied Mathematics III	5	2-2	Urbaníková
Applied Mathematics I	5	2-2	Hlc
Insurance and Financial Mathematics	6	2-2	Urbaníková
Applied Mathematics IV	6	2-2	Halabrín

IV. RESEARCH TARGETS

- Properties of solutions of ordinary differential equations
- Metrics and topological properties of real functions
- Computer graphics - geometry problems
- Fractal and chaos
- Graph theory - special types of graphs
- Geometric interpolation of massifs
- Image processing - algorithms
- Fuzzy sets and systems
- Education

V. RESEARCH PROJECTS

- Functional analysis and quantitative theory of ordinary differential equations
- Geometric and related structures used in computer techniques
- Mathematics for Twenty one Century
- Qualitative Theory of ordinary differential equations

1. COOPERATION

- Czech Technical University in Prague
- Czech Technical University in Brno
- Moskovskij Ekonomiko-Statističeskij institut
- Moskovskij Energetičeskij institut

VII. THESES

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

VII.2 Dissertations (Ph.D.)

[1] Bare classification of real functions (Kostyrko, Ph.D., Assoc. Prof.)

[2] Dense allocation of objects (Božek, Ph.D., Assoc. Prof.)

VII.3 Habilitations (Assoc. Prof.)

- Červeňanský J.: Rearrangements of Infinite Series and Convergence Preserving Functions

VIII. OTHER ACTIVITIES

- Distance Education Courses
- 2 Courses in Mathematics
- Mathematics for Engineers
- Seminar: Teaching of Mathematics in Bachelors' Courses
- Pre-studies Courses of Mathematics
- Computational Geometry and Related Problems
- International Conference: Mathematics in Technical Education

VIII.1 Members of Department in Aboard

- Jaroslava Trubenová, Edita Vranková

VIII.2 Invited Lectures from Aboard

- Prof. František Bubeník, Czech Technical University in Prague,Thákurova 7, 166 29 Praha 6
- Prof. Roman Bek, Czech Technical University in Prague Konviktská 20, 110 00 Praha 1
- Prof.. Jaroslav Černý,CSc., KM FSv , Czech Technical University in Prague Thákurova 7, 166 29 Praha 6
- Jiří Dočkal, ÚM FS Technical Univerzity in Brno, Technická 2, 616 69 Brno
- Prof. Zděnek Jankovský, FS Technical Univerzity in Brno, KM FEL ČVUT Technická 2, 166 27 Praha 6
- Prof. Milada Kočandrlová, KM FSv , Czech Technical University in Prague,Thákurova 7, 166 29 Praha 6
- Prof. Anežka Wohlmuthová, KM FSv ČVUT, Czech Technical University in Prague,
- Prof. Čeněk Zlatník, Csc. KTM FSI ČVUT, Czech Technical University in Prague, Karlovo Nám. 13, 121 35 ,

IX. PUBLICATIONS

[1] **HALABRÍN, M. and comp.**: *Mathematics I. Textbook* .Bratislava: STU, 1999. 292 p.

[2] **ČERVEŇANSKÝ, J.**- ŠALÁT, T.: Convergence Preserving Permutations of N and Frécet's Space of Permutations of N. In: *Math. Slov.* 49 (1999), No. 2, pp. 189-199.

[3] **MASÁROVÁ, R.:** A Sets of Type S. In: *CO-MAT-TECH '99.* Bratislava,STU,II., pp.365-369.

[4] **PALUMBÍNY, O.**: A Generalisation of a certain Assertion from Integral Inequalities Theory. In: *Zborník ved. prác MtF STU*, Bratislava: STU, 7(1999), pp.167-172.

[5] **URBANÍKOVÁ, M.:** Estimate Minimum Reserves of Insurance Company. In: *CO-MAT-TECH '99.* Bratislava: STU, II., pp.401 - 405.

[6] **ZÁMOŽÍK Jozef – VRANKOVÁ Edita – MIŠÚTOVÁ Mária – MARKECHOVÁ Iveta**:*Elements of Computer Graphics – geometric Problem.* Bratislava: STU, 1999, pp 261

[7] **MARKECHOVÁ Iveta – ZÁMOŽÍK Jozef**: Why fractals? Why chaos?In: *Scientific Works of MtF Trnava.* Bratislava : STU, 1999, Vol.7, pp. 159-166

[8] **HALABRÍN Marián**: Construction of Triangular Semisimple and Cosemisimple Hopf Algebras from Group-Theoretical DataIn: *Proc. 5. scientific Conf..AKADEMICKÁ DUBNICA* '99,VOL.II., PP. 383-390.

[9] **VRANKOVÁ Edita**: Regularity and Symmetry in Station of Geometrical Figures to the Plane. In: *Proc. 18. Seminar of Scientific Group for Geometry and Computer Graphics.* VUT . Zlín: 1999, pp. 81-86.

[10] **ZÁMOŽÍK Jozef**: Movement in Education of Geometry, Proc. of 6th Seminar „*Geometry and Computer*„, Wisła '99 Poľsko, pp. 71-73.

[11] **ZÁMOŽÍK Jozef**: *Über Computer in der Ingenieurgeometrie.* Tagungsband TU Graz 1999, s. 218-227.

[12] **MIŠÚTOVÁ Mária**: Applicability of Methods Development of Creativity in Teaching Computer.In: *Proc. of International Seminar on Computer Gemoetry.* Kočovce :1999

DEPARTMENT OF PHYSICAL EDUCATION AND SPORTS

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I. STAFF

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Assoc. Professors:	1	Technical and Admin. Staff:	7
Senior Lecturers:	9	Ph.D. Students:	1
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Gymnasium
- Fitness Centre
- Swimming Pool
- Track and Fields
- Tennis Courts
- Stadium (Baseball, Softball)

II.2 Special Measuring Instruments and Systems

- Dynamometers
- Bicycle-ergometer

III. TEACHING

III.1 Bachelor Study (Bc.)

H/W: *Hours per Week*
L-P: *Lectures-Practices*

Name of subject	Semester	H/W L-P	Reader's name
Physical Education and Sports	1-6	2-1	Adamec, Blaškovič, Glesk, Mikuláš

III.2 Graduate Study (Ing.)

H/W: *Hours per Week*
L-P: *Lectures-Practices*

Name of subject	Semester	H/W L-P	Reader's name
Physical Education and Sports	1-8	2-1	Adamcová, Gálik, Hlavatý, Merica, Rafaj, Morvay, Lukačovičová, Zaťovičová
Olympism	1	2-1	Glesk, Merica

IV. RESEARCH TARGETS

- Physical Culture and Fitness of People

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- The evaluation of somatometry and physical fitness of students by the system of EUROFIT. No. 861. (Glesk, P.)
- The evaluation of the level and the changes of physical fitness in selected sports. No. 862. (Merica, M.) – (successfully finished)

V.2 National Grants (VEGA, KEGA)

V.3 International Projects

VI. CO-OPERATION

VI.1 National Co-operation

-

VI.2 International Co-operation

-

VI.3 Contracts with Industry

-

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

- Merica,M.: Didactical aspects of swimming at Slovak schools. B. Bystrica, 1999,p. 153

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

-

VIII.2 Foreign Visitors to the Department

-

VIII.3 Organised Conferences, Seminars and Workshops

- Winter training camp for students

- Summer training camp for students
- Seminars:
  - „The development of Physical Education and Sport"
  - „The growth of performance and success in competitive games"

IX. PUBLICATIONS

All publications without notice are written in Slovak language.

[1] **GÁLIK, K.:** Slovenský juniorský tenis, alebo „Ostrý štart na Orange Bowl „: Slovak junior tennis or the start at the Orange Bowl . In: *Zborník „Pedagogické aspekty v telesnej a športovej výchove : Pedagogical aspects of physical education.* Trnava :. STU, 1999, pp. 88-92.

[2] **GLESK, P.** : Pragmatické problémy športovej humanistiky : Pragmatical problems of sports humanistics. In: *Zborník referátov z vedeckej konferencie*. Bratislava: FTVŠ UK, 1999, pp. 38-44.

[3] **GLESK, P.:** Vzťah objemu a intenzity tréningového zaťaženia v jednoročnom makrocykle rýchlokorčuliarov: The relationship of the volume and the intensity of a year training of speedskaters In: *Zborník referátov z odborného seminára.* Bratislava: STU, 1999, pp. 11-17.

[4] **GLESK, P.** : Bezpečnosť jazdy na zjazdových lyžiach pdmieňujú viazanie, jeho nastavenie a dĺžka lyží:The relationship of the safety skiing, the ski length and its binding In: *Akademická Dubnica '99.* Bratislava: STU, 1999, pp. 373-378.

[5] **HLAVATÝ, R.** : Vzťah niektorých kinematických a antropometrických charakteristík športového výkonu v plávaní: The relationship of chosen kinematic and anthropometric characteristics of swimming performance In: *CO-MAT-TECH '99.* Bratislava: STU, 1999, pp. 547-551.

[6] LEŠKO, M – **HLAVATÝ, R** : The relationship of changes in human body characteristics and the performance of young slovakian synchro – swimmers.In: Theories of human motor performance and their reflections in practise. Ljubljana: 1999.

[7] **LUKAČOVIČOVÁ, E.** : Medzinárodný tréningový tábor v tenise juniorov vozíčkárov The international training camp for handicapped junior tennis players. In: *CO-MAT-TECH '99.* Bratislava: STU, 1999, pp. 564-569.

[8] **MERICA, M.** : Der Einflus des Schwimmens auf die Gesundheit und Kranklheiterscheinungen bei Kindern. In:Pedagogické aspekty v telesnej a športovej výchove: The effect of swimming on children's health. Trnava: STU, 1999, pp. 23-25.

[9] **GLESK, P. - MERICA, M.**: Efficieny of children's basic swimming training. In: *Vedecké práce MtF STU* . Bratislava: STU, 1999.

[10] **GLESK, P. - MERICA, M.** : Športové plávanie vyššia kvalita v didaktickom procese: Swimming – higher quality in didactic process In: Akademická Dubnica '99. Bratislava: STU, 1999, pp. 369-372.

[11] **MERICA, M.**: Skúsenosti z výučby základného plávania a odporúčania pre prax: The experience and practical advice from teaching basic swimming In: Telesná výchova a šport na základných a stredných školách v SR. Trnava: MtF STU,1999, pp. 48-53.

[12] **LUKAČOVIČOVÁ, E. – MORVAY, A.** : Skupinový tréning 6-9 ročných detí v tenise a úloha trénera v ňom :The tennis training of 6 - 9 years old children and the role of trainer In: Zborník „Pedagogické aspekty v telesnej a športovej výchove. Trnava: MtF STU, 1999, pp. 68-71.

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Assoc. Professors:	3	Technical and Admin. Staff:	5
Senior Lecturers:	11	PhD Students:	1
Lecturers:	2		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Laboratory of Physics I-II; teaching of the mechanics, thermodynamics, and electromagnetism
- Laboratory of Physics III; teaching of the quantum mechanics and the nuclear physics
- Laboratories of Electrotechnics; teaching of the elementary electrotechnics
- Laboratory of Interferometry techniques, applications of interferometry to elastic and elastic - plastic properties investigations
- Laboratory of electron beam; processing specific system and unique techniques enabling the welding of large samples by the electron beam in the high vacuum
- Laboratory of advanced materials; effects of the process technology on microstructure, conductivity, dielectric response, mechanical, dilatation properties and optical properties of ceramics, glasses, nano-composites and superionic fluoride eutectic composites may be investigated

II.2 Special Measuring Instruments and Systems

- Impedance spectroscopy in the temperature range 20-600 °C
- Modular spectroscopy in the frequency range 1 - 106 Hz , up to 300 °C
- Flow Sorb, fy. Micrometrics, determination of the surface of the powder systems, accuracy 0.5 - 3%
- Electron beam welding apparatus FL 7.5 (high vacuum 10-5 Pa, power required 7.5 kW)

III. TEACHING

The objective of the physics branch of study is to educate engineers who should be competent to solve problems concerning the wide spectrum of the industry and also extending to the field information technology, ecology, etc. The study involves the necessary theoretical introduction into subjects that provide general education for an engineer, which is followed by specialised courses. The topics of lectures, laboratory and seminar exercises have been selected so that a student could in the practical way. Thus, he obtains also a basic for creative work in engineers' practice.

III.1 Bachelor Study (Bc.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Physics I	2	4-2	Garaj

III.2 Graduate Study (Ing.)

H/W: Hours per Week
L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Physics I	2	3-3	Kozík, Labaš
Physics II	3	4-2	Kalužný, Garaj
Physics III	4	2-3	Ožvoldová, Kalužný
Electrotechnics	4	3-2	Kosorin
Introduction to Engineering Physics	1	1-2	Labaš
Solid State Physics	6	2-2	Ožvold

IV. RESEARCH TARGETS

In 1999 the Department of Physics has continued research activities through grants. The projects of the Department are in continuation of our previous work, focused on the investigation of the relations between preparation conditions, microstructure and physical properties of ceramics (based on ZrO_2, YBaCuO and basalt), ceramic composites, superionic fluoride composites and glasses (system TeO_2 - ZnO, TeO_2 - ZnO - $ZnCl_2$, TeO_2 - $PbCl_2$ etc.) are the main topics in research area. The aim of this research area is to contribute to the fundamental understanding of materials. This is realised by the investigation of materials structure, modelling and simulations, and finally by the development of characterisation methods with the main topics improved quantification and in situ materials manipulations.

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- Constructing of the holographic apparatus for the investigation of selected materials properties. No 803, (Garaj, J.)
- Relationship of the technology to the mechanical and optical properties of the non-metal materials. No 876, (Labaš, V.)
- Measurement of materials constants by means chosen physical methods. No 881, (Kvetan, K.)
- Optical properties of multicomponents oxide, halogenide and chalcogenide glasses based on heavy metals. No 882, (Ožvoldová M.)

V.2 National Grants (VEGA, KEGA)

- Relationship of physical and mechanical properties of ceramic materials and superconducting systems to their process technologies. VEGA, No. 1/4338/97, (Kalužný, J.)

The grant is aimed to investigate the influence of individual parameters of processing technologies on the physical properties (electrical, dielectrical, optical and mechanical) of superconductive, dielectrical and electrical conductive materials. Great attention is devoted to

correlate physical properties of the searched systems with the utility and processing ones. We want to determine optimal conditions of technologies by means of computer simulation of experimentally found out physical and final properties of the investigated systems.

- Mass, charge and energy transport in superionic conductors. VEGA, No. 2/4184/97, (Trnovcová, V.)

V.3 International Projects

- EQATU - Education Quality Assessment at Technical University. TEMPUS 115-96, (Kalužný, J.)

The project is aimed on the development of the existing systems of the quality of Technical University evaluation. All Slovak Universities which offer the technical study take part in the project. The result of the project is the proposal of the internal evaluation of the all institutions which offer the technical education.

- TASUM - Training and Advanced Study of University Management (Kalužný, J.)

The project prepare the study materials for theoretical preparation of the high school management workers in the all areas of management. The purpose of the project is education of the chiefs of the academic institutions with theoretical knowledge of the management, which will be able to lead the institutions on the all levels.

VI. CO-OPERATION

VI.1 National Co-operation

- The impact of the technological texture, the defect microstructure and the mixed effect on the physical properties of the technical important solid electrolytes. Grant VEGA No. 95/5305/588 in co-operation with Institute of Physics of the Slovak Academy of Sciences.
- Model and numerical simulation of technology, structure and properties of advanced materials, in co-operation with the Department of Applied Mechanics. Institutional project No. 855.
- Investigation of the luminescence properties of zircon ceramics and glasses in co-operation with the Department of Solid State Physics, Comenius University in Bratislava.
- Faculty of Mechanical Engineering ŽU Žilina
- Faculty of Mechanical Engineering STU Bratislava
- Faculty of Chemical Engineering STU Bratislava

VI.2 International Co-operation

- The preparation of the experimental materials (glass, ceramics) in co-operation with the Laboratory of inorganic materials Prague.

VI.3 Contracts with Industry

VII. THESES AND DISSERTATIONS

Supervisors are written in brackets. All theses and dissertations without notice are written in Slovak language.

VII.1 Graduate Theses

VII.2 Dissertations (PhD)

[1] Kubliha, M.: The influence of structure selected glasses and ceramics on the physical properties. Trnava, 1999, 110 p.

[2] Riedlmajer, R.: The influence of technology on electrical, dielectrical and mechanical properties chosen technical ceramics. Trnava, 1999, 110 p.

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- Welding Technology Institute of Australia
- Laboratory of Inorganic Materials IIC AV Prague, Czech Republic

VIII.2 Foreign Visitors to the Department

- Ing. Dimitrij Ležal, DrSc., Laboratory of Inorganic Materials IIC AV Prague, Czech Republic
- Doc. RNDr. S. Bartoň, PhD. and RNDr. N. Uhdeová, VUT Brno, Czech Republic
- Dr. M. Starostin, Institute of Solid State Physics Russian Academy of Sciences, Chernogolovka, Russia

VIII.3 Organised Conferences, Seminars and Workshops

- Co-operation in organising the regional Physics Olympiad
- Seminars:
  - The Utilization of electrical and dielectrical methods for investigating of chalcogenide glasses (Ing. Marián Kubliha)
  - Microcomposite materials of the ferroelectric - dielectric type and their dielectric response. (RNDr. Ondrej Hudák, DrSc.)
  - Alumina - Based Eutectic Composites (Dr. Mikhail Starostin)

IX. PUBLICATIONS

All publications without notice are written in Slovak language.

[1] **KOSORIN, D.:** *Electrical Engineering.* Textbook. Bratislava: STU, 1999. 354 s.

[2] KOZÍK,T.- **KALUŽNÝ, J.**- LEŽAL,D.- **KUBLIHA, M.**- **MARIANI,E.**: Electrical methods for optimalization of structural changes and defects in sulfide glasses. In: *The fourth international conference on Theoretical and experimental problems of materials engineering.* Košice: TU, 1999, (in English).

[3] **TRNOVCOVÁ, V.**- FEDOROV, P.P.- BUCHINSKAYA, I.I.- ŠMATKO, V.- HANIC, F.: Fast ionic conductivity of $PbF_2 : MF_2$ (M=Mg, Ba, Cd) and $PbF_2 : ScF_3$ single crystals and composities. In: *Solid State Ionics*, 1999, 119, pp. 181 - 189. (in English).

[4] **TRNOVCOVÁ, V.**-FEDOROV, P.P.- BÁRTA, Č.- MELEŠHINA, V.A.- SOBOLEV, P.: Microstructure and physical properties of superionic eutectic composities of the LiF-F_3 (R=rare earth element) systém. In: *Solid State Ionics*, 1999, 119, pp. 173 - 180. (in nglish).

[5] **LABAŠ, V.** - **TRNOVCOVÁ, V.** - FEDOROV, P. P.- **MINÁRIK, S.**: Fluoride eutectic composites : preparation, microstructure, fast ionic conduction and calculation of thermal residual stresses. In: *Ceramics - Silikáty*, 43, 1999, č. 2, s. 67 - 75. (in English).

[6] **KALUŽNÝ, J.**- LEŽAL, D.- KOZÍK,T.- **KUBLIHA, M.**- **MARIANI, E.**: Transport properties of Ge-Ga-S glass doped by praseodymium. In: *Ceramics - Silikáty*, 43, 1999, č. 3, s. 107 - 110. (in English).

[7] **KALUŽNÝ,J.**-KOZÍK,T.- **RIEDLMAJER,R.**- **KUBLIHA, M.**: The transport properties of basalt. In: *Journal of electrical Engineering*, 50, 1999, č. 3-4, s. 93 - 97. (in English).

[8] Starostin, M. Yu.- **TRNOVCOVÁ, V.**- **LABAŠ, V.**-**ČIČKA, R.**: Influence of the microstructure on the properties of Al_2O_3-$ZrO_2(Y_2O_3)$ In: *Bull. of RAS - Physics* 63 (1999) , No.9 (in English).

[9] **TRNOVCOVÁ,V.**- FEDOROV, P.P.- **LABAŠ, V.**- STAROSTIN, M. YU.- **ČIČKA R.**, SOBOLEV B.P.: Fast ionic conduction of inorganic fluoride and oxide eutectic composites prepared from the melt. In: *Procced. of 12th Conf. on Solid State Ionics*, (G.Vayennas et al. Ads.) ISSI, Halkidiki 1999, p.319-320. (in English).

[10] KOZÍK,T.- **KALUŽNÝ, J.**- **MINÁRIK, S.**- **LABAŠ, V.**: Stochastic quasi-orientation process in HTC ceramic powders under conditions of acoustical vibrations. In: *Interceram*, Vol.48, No.2, 1999, p.104-109 (in English).

[11] **TRNOVCOVÁ, V.**- FEDOROV, P.P. - **LABAŠ, V.** - STAROSTIN, M. Yu. - **ČIČKA, R.** - SOBOLEV, B.P. : Fast ionic conduction of inorganic fluoride and oxide eutectic composites prepared from the melt. In: *12th International Conference on Solid State Ionics*. Patras(Greece): The University of Patras, 1999, p. 319 - 320. (in Engish)

[12] **TRNOVCOVÁ, V.**- KRIVANDINA, E.A.- FEDOROV, P.P.: Fast ionic conductivity of rare earth trifluorides with orthorhombic and tysonite structures. In: *12th International Conference on Solid State Ionics*. Patras(Greece): The University of Patras, 1999, p.348 - 349. (in Engish)

[13] TURŇA, M.- MARÔNEK, M.- KOVAČÓCY, P.- **OŽVOLDOVÁ, M.**- VAŠČÁK, M.: Explosion welding of dissimilar materials. In: *Proceed. of the WTIA 47th Annual Conference : Total Product Life Cycle from Design Concept to Decommissioning*. Sydney: WTIA, 1999, p. 18/1-12. (in Engish)

[14] **KOSORIN, D.**: The cumbering of mechatronics subsystems with computer controled dynamometer. In: *Proceed. of the International Seminar SEKEL'99*. Ostrava: TU, 1999, p. 114 - 120.

[15] STAROSTIN,M. Yu.- **TRNOVCOVÁ, V.**- **LABAŠ, V.**- **ČIČKA, R.**: Influence of the microstructure on the properties of Al_2O_3-$ZrO_2(Y_2O_3)$. In: *Bull. of RAS - Physics* 63 (1999), No.9

DEPARTMENT OF WELDING

Head of the Department
Pavel Blaškovitš, DrSc.Professor

Tel.: ++421/805/ 5521 195
Fax: ++421/805/ 5521 060
E-mail:kzv@mtf.stuba.sk

I. STAFF

Professors:	2	Research Fellows:	2
Assoc. Professors:	1	Technical and Admin. Staff:	3
Senior Lecturers:	5	PhD Students:	6
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Welding school for gas welding, welding with covered electrode and GMAW
- Resistant welding laboratory
- Plasma welding laboratory

II.2 Special Measuring Instruments and Systems

- Krautkrämer USK 7D Ultrasonic testing equipment
- Welding current detector for resistant welding
- Friction and Wear TE97A

III. TEACHING

III.1 Bachelor Study

III.2 Graduate Study

H/W: Hours per Week

L-P: Lectures-Practices

Name of subject	Semester	H/W L-P	Reader's name
Basic machine technology	1	1-2	Monček, Púčik
Welding Technology	5	2-2	Hudák, Marônek
Theory of Welding	8	3-2	Hrivňák
Welding and Casting Technology	7	4-2	Hudák
Special Welding Methods	9	3-2	Turňa
Weldment Design and Production	9	2-2	Jasenák
Projecting of Manufacturing Processes and Systems in Welding	11	16-6	Monček
Control and Computer Technology in Welding	9	2-1	Marônek
Final Project	9	0-4	Monček
Welding Machines and Equipments	9	2-2	Kozma
Assembly of Welded Units	9	2-2	Kozma
Quality Control of Welded Joints I	7	2-1	Hudák
Computer Technology in Welding	7	1-2	Hudák
Management in Welding	7	2-1	Marônek
Tribology, Surface Engineering	7	2-1	Blaškovič

Name of subject	Semester	H/W L-P	Reader's name
Automation of Welding Processes	9	2-2	Jajcay
Technical Preparation of Production	9	2-1	Kozma
Non-destructive Weld Joint Testing	9	2-1	Hudák
Tools and Fixtures	9	10-8	Monček
Theory of Technological Processes	7	3-2	Blaškovič
Quality Control of Welded Joints II	8	1-2	Hudák
Welding Certification	8	2-1	Hudák
Metalography and Fractography of Welded Joints	8	2-3	Bernasovský, Bošanský

IV. RESEARCH TARGETS

- Explosive welding
- Ultrasonic testing
- Weldability of steels
- Welding of plastic materials
- Surfacing and Tribology

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

V.2 National Grants (VEGA, KEGA)

- Diffusion welding and similar processes. VEGA 1/4452/97

V.3 International Projects

- COST 516 TRIBOLOGY SUBPACKAGE: CAST - ABR - SK1:
  In present time for hydroabrasive and erosive condition we are using high chromium steels or high chromium irons with high content of chromium carbides.
  New filler materials like composites and hardfacing technology have been developed for hydroabrasive and erosive conditions.
  The content of chromium in the hardfacing layers with new electrodes is very low (max.5% Cr) and has been replaced with non carcinogenous hard particles (TiB_2 + CrB_2) in the iron matrix.
  The wear behaviour of the newcomposite materials has been tested by laboratory tests and by industrial tests with better long life (60%).
- Development and application of new hardfacing composite materials for hydroabrasive and erosive conditions. 1/1996 - 6/2000

- COST 516 TRIBOLOGY SUBPACKAGE: CAST - COEA - SK2:
  The magnetic fields have been tested for magnetic stirring of the weld pool.
  Combination of magnetic fields and ultrasonic field will be next programm in this project.

- Tribological behaviour of the surfacing layers with affecting of energetic fields for metallurgical tools. 1/1996 - 6/2000. Coordinator: Pavel Blaškovitš, DrSc.Prof.

VI. COOPERATION

VI.1 National Co-operation

- SES -Tlmače
- SL - Komárno
- MATEC Dubnica n/V.
- Faculty of Mechanical Engineering, University of Transport and Communication in Žilina
- Faculty of Mechanical Engineering , Slovak University of Technology, Bratislava
- Thermosolar - Žiar n/ H.
- STROJAL - Žiar n/H.
- MFF-UK, Department of Solid State Physies , Bratislava
- AE - Jaslovské Bohunice
- VÚJE - Trnava
- SKLOPLAST - Trnava
- VÚZ - Bratislava

VI.2 International Co-operation

- Materials Research Corp., New York
- Faculty of Mechanical Engineering, Ljubljana
- Welding Institute, Ljubljana

VI.3 Contracts with Industry

- SLOVALCO,a.s Žiar n/H. Al - STEEL BIMETAL LIFETIME

VII. THESES AND DISSERTATIONS

VII.1 Graduate Theses

AREAS:

- Computer simulation of welding
- Special welding methods
- Ultrasonic testing of welds
- New adhesives used for joining metals
- Solving of practical problems in industry
- 30 graduation thesses.

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

Hudák, J. : Contribution to the problem solving of explosion welded bimetals Al-steel utilized at Al production. MtF STU. Trnava.,dec. 1999

VIII. OTHER ACTIVITES

VIII.1 Visits of Staff Members to Foreign Institutions

- Materials Research Corp., New York

- The Chinese Mechanical Eng. Soc.Beijing. China International Exhibition Centre, Beijing. The 5 - th Internat. Welding Fair
- Universidad Nacional Autonoma D Mexico, Mexico City
- Instituto Politecnico Nacional Mexico City
- Faculty of Mechanical Engineering, TU Brno
- Faculty of Mechanical Engineering, ČVUT Praha

VIII.2 Foreign Visitors to the Department

- Atomic Energy. Control Board. Ottawa, Canada
- Hanwha Corp. Korea
- Materials Research Corp. New York
- Faculty of Mechanical Eng. Technical University of Ostrava
- Faculty of Mechanical Eng. Technical University of Brno
- THUNDERSPRAY Co. Ltd. Ljubljana
- Institute for Solid State and Materials Research Dresden
- CDC Corp. Hanoi
- Krško Nuclear Power Plant KRŠKO, Slovenia
- University of Ljubljana, Faculty of Mechanical Eng. Ljubljana
- National Institute for Advanced Interdisciplinary Research, University of Tsukuba,Japan
- E.O.Paton Electric Welding Institute, Kiev

VIII.3 Organised Conferences, Seminars and Workshops

- All forms of basic welding classes
- Postgraduate class for European welding engineers according EWE
- Member of Slovak Welding Society Board
- Certification board directorship
- Welding Normalization Committee Member
- Member of IIW
- Workshop "Welding in Energetic Industry"
- Exposition at International Engineering Fair in Nitra
- Intertribo 99

IX. PUBLICATIONS

[1] **BLAŠKOVITŠ, P.** – FARKAŠ, T. – **JASENÁK, J.** – SUCHÁNEK,J.: New hardfacing materials for abrasive conditions. In: *VII international symposium INTERTRIBO 99 : Proceeding : Tribological problems in exposed friction systems*. Bratislava: STU, 1999, s. 319-324.

[2] **BLAŠKOVITŠ, P.** : Tribology and surface layers. *In: VII international symposium INTERTRIBO 99 : Proceeding: Tribological problems in exposed friction systems.* Bratislava: STU, 1999, s.341-342.

[3] SUCHÁNEK, J. – SMRKOVSKÝ, J. – **BLAŠKOVIČ, P.** – GRINBERG, N.A.: Erosive and hydroabrasive resistance of hardfacing materials. In: *Wear*, 233 – 235, 1999 s.229-236.(ESSEVIER)

[4] **HUDÁK, J.** : Use of ultrasound for produce and inspection of bimetals Al – steel. In: *Zborník prednášok z 20. Medzinárodného zváračského kongresu: Pokrok vo zváraní. 50 rokov VÚZ 1949 – 1999.* Bratislava, VÚZ, 1999, s.189 – 195.

[5] **TURŇA, M.** - OŽVOLDOVÁ, M.: Engineering and technology education in the Faculty of Materials Science and Technology of the Slovak University of Technology. In: *2nd Asia-Pacific Forum on Engineering and Technology Education.* Sydney, Australia, 1999, p. 308 - 312.

[6] **TURŇA, M. - KOVAČÓCY, P. - MARÔNEK, M.** - VASCAK, M.: Diffusion Welding and Its Applications. In: *International Welding Conference.* Calcuta, India, 1999.

[7] **TURŇA, M. - MARÔNEK, M. - KOVAČÓCY, P.** - OžVOLDOVÁ, M. - VASCAK, M.: Explosion welding of dissimilar materials. In: *The WTIA 47 th Annual Conference: Total Product Life Cycle from Design Concept to Decommissioning.* Gold Coast, Australia, WTIA, 1999, p. 18/1-12.

[8] **TURŇA, M. - KOVAČÓCY, P. - MARÔNEK, M.**: Special welding methods of non-ferrous metals and non-ferrous metals with steels. In: *Advanced materials and new trends in welding.* Ostrava, TU, 1999, s. 67-79.

[9] **TURŇA, M. - MARÔNEK, M. - KOVAČÓCY, P.:** Manufacturing and application of hadfield steel carbon steel bimetals. In: *VII th international symposium INTERTRIBO '99. Tribological problems in exposed friction systems.* Bratislava, 1999, p. 413-418.

[10] **KOLENO, T. - KOLEŇÁK, R. - GATIAL, M. - PÚČIK, V.**: Diffusion welding and its application. In: *3 rd European Conference of Young Research and Science Workers in Transport and Telecommunication: TRANSCOM '99.* University of Žilina, 1999, p. 25-29.

APPENDIX A LIST OF FACULTY DEPARTMENTS

Slovenská technická univerzita	STU	Slovak University of Technology	Slowakische Technische Universität
Materiálovotechnologická fakulta	MtF	Faculty of Materials Science and Technology	Fakultät für Materialwissenschaft und Technologie

Zoznam katedier		List of Faculty Departments	Liste der Fakultätslehrstühle
No.	**Slovak Name of Department**	**Abbrevation**	**English Name of Department**	**German Name of Department**
1	Katedra aplikovanej informatiky a automatizácie	KAIA	Department of Applied Informatics and Automation	Lehrstuhl für angewandte Informatik und Automatisierung
2	Katedra aplikovanej mechaniky	KAM	Department of Applied Mechanics	Lehrstuhl für angewandte Mechanik
3	Katedra fyziky	KF	Department of Physics	Lehrstuhl für Physik
4	Katedra humanitných vied	KHV	Department of Humane Sciences	Lehrstuhl für Humanwissenschaften
5	Katedra inžinierskej pedagogiky a psychológie	KIPP	Department of Engineering Pedagogy and Psychology	Lehrstuhl für Ingenieurpädagogik und Psychologie
6	Katedra manažmentu a kvality	KMaK	Department of Management and Quality Engineering	Lehrstuhl für Management und Qualitätsicherung
7	Katedra matematiky	KM	Department of Mathematics	Lehrstuhl für Mathematik
8	Katedra materiálového inžinierstva	KMI	Department of Materials Engineering	Lehrstuhl für Werkstofftechnik
9	Katedra obrábania a montáže	KOM	Department of Machining and Assembly	Lehrstuhl für spanende Fertigung und Montage
10	Katedra odbornej jazykovej prípravy	KOJP	Department of Languages	Lehrstuhl für Fremdsprachen
11	Katedra priemyselnej ekológie	KPE	Department of Industrial Ecology	Lehrstuhl für industrielle Ökologie
12	Katedra telesnej výchovy a športu	KTVŠ	Department of Physical Education and Sports	Lehrstuhl für Körperkultur und Sport
13	Katedra tvárnenia	KT	Department of Forming	Lehrstuhl für Umformen
14	Katedra zlievárenstva	KZl	Department of Foundry	Lehrstuhl für Gießen
15	Katedra zvárania	KZv	Department of Welding	Lehrstuhl für Schweißen
16	Detašované pracovisko (Brezno, Dubnica, Komárno, Partizánske)	DP	Detached workplace in ...	Außenarbeitsstelle in ...

APPENDIX B LIST OF ACCREDITED STUDY PROGRAMMES

No.	Name of Study Programme	Abrevation	English Name of Study Programme	German Name of Study Programme
	Bakalárske štúdium (Bc.)		**Bachelor Study (B.S.)**	**Bachelor-Studium**
1	Aplikovaná informatika a informačné systémy	BAIIS	Information Technology and Systems	Angewandte Informatik und Informationssysteme
2	Priemyselná ekológia	BPE	Industrial Ecology	Industrielle Ökologie
3	Priemyselné technológie	BPT	Industrial Technologies	Industrietechnologien
4	Priemyselný manažment	BPM	Industrial Management	Betriebswirtschaft
5	Technické materiály	BTM	Technical Materials	Technische Werkschtoffe
	Inžinierske štúdium (Ing.)		**Master Study (M.S.)**	**Ingenieurstudium (Dipl.-Ing.)**
1	Aplikovaná informatika a automatizácia v priemysle	AIAP	Information Technology and Automation in Industry	Angewandte Informatik und Industrieautomatisierung
2	Inžinierstvo kvality produkcie	IKP	Production Quality Engineering	Qualitätsicherung
3	Inžinierstvo životného prostredia	EI	Environmental Engineering	Umwelttechnik
4	Manažment priemyselných podnikov	MPP	Management of Industrial Plants	Betriebswirtschaft
5	Materiálové inžinierstvo	MI	Materials Engineering	Werkstofftechnik
6	Technologické zariadenia a systémy	TZS	Technological Devices and Systems	Technologische Anlagen und Systeme
7	Technológie strojárskej výroby	TSV	Machine Production Technology	Technologie der Maschinenbauproduktion
	Doktorandské štúdium (PhD.)		**Ph.D. Study**	**Doktorandenstudium (Dr.)**
1	Automatizácia a riadenie, špec. riadenie procesov	DAR	Automation and Control Spec.: control engineering	Automatisierung und Steuerung Spez.: Steuerungstechnik
2	Inžinierstvo kvality produkcie	DIKP	Production Quality Engineering	Qualitätsicherung
3	Materiálové inžinierstvo a medzné stavy materiálov	DMI	Material Technology and Limiting States of Materials	Werkstofftechnik und Grenzzustände der Werkstoffe
4	Podnikový manažment	DPM	Plant Management	Betriebswirtschaft
5	Strojárske technológie a materiály	DSTM	Machine Technologies and Materials	Maschinenbautechnologien und Werkstoffe
6	Teória vyučovania predmetov všeobecno-vzdelávacej a odbornej povahy, špec. teória vyučovania technických odborných predmetov	DTVP	Theory of Technical Subjects Training Spec.: theory of teaching technical vocational subject	Teorie des Unterrichts der technischen Fächer, Spez.: Teorie des Unterrichts der technischen Fächer
	Doplňujúce pedagogické štúdium		**Complementary Teacher Training**	**Pädagogische Ergänzungsstudium**
1	Učiteľstvo technických odborných predmetov	PUTOP	Teaching the Technical Subjects	Lehrer für technische Fächer

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FACULTY OF MATERIALS SCIENCE AND TECHNOLOGY TRNAVA
SLOVAK UNIVERSITY OF TECHNOLOGY BRATISLAVA
Authorised contributions from departments
2000