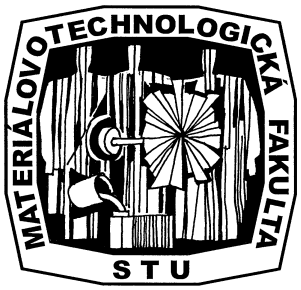
FACULTY OF MATERIALS SCIENCE AND TECHNOLOGY

ANNUAL REPORT 2003



SLOVAK UNIVERSITY OF TECHNOLOGY
BRATISLAVA

FACULTY OF MATERIALS SCIENCE AND TECHNOLOGY
www.mtf.stuba.sk

ANNUAL REPORT 2003

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 2003-2004 the Faculty comprises the following departments:

Department of Applied Mechanics
Department of Engineering Pedagogy and Psychology
Department of Environmental and Safety Engineering
Department of Forming
Department of Foundry
Department of Humane Sciences
Department of Industrial Engineering and Management
Department of Information Technology and Automation
Department of Languages
Department of Machining and Assembly
Department of Materials Engineering
Department of Mathematics
Department of Non-Metallic Materials
Department of Physical Education and Sports
Department of Physics
Department of Quality Engineering
Department of Technological Devices and Systems
Department of Welding

Detached workplaces in Brezno, Dubnica, Nitra 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 2003/2004 - 4285 students studied at the Faculty in various courses.

As it follows from the results of the successfull accreditation carried out at the Faculty in April 2001, the following majors can be studied within the below mentioned types of accredited courses:

1. Bachelor degree courses (3 years)
- Machine Production Technology
- Technological Devices and Systems
- Materials Engineering
- Environmental Engineering
- Information Technology and Automation in Industry
- Industrial Engineering and Management
- Production Quality Engineering
- Safety Technology

2. Master of Science degree courses (2 years)
- Machine Production Technology
- Technological Devices and Systems
- Materials Engineering
- Environmental Engineering
- Information Technology and Automation in Industry
- Industrial Engineering and Management
- Production Quality Engineering

3. PhD degree courses (3 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 Technical Subjects

The scientific research of the Faculty of Materials Science and Technology respects the scientific and educational 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, University of Ljubljana Slovenia, Purdue University Kokomo 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 2004

Jozef Sablik, PhD, Professor
Dean of the Faculty

Presidium of the Faculty

Dean: ***Jozef Sablik, PhD, Prof.***
Vice-deans: Oliver Moravčík, PhD, Prof.
Jozef Vaský, PhD, Assoc. Prof.
Jozef Mudrik, PhD, Assoc. Prof.
Viktor Bajčík, PhD, Assoc. Prof.
Anton Ulík, PhD, Assoc. Prof.

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Scientific Board

Chairman: Jozef Sablik, PhD, Prof.
Vice-chairman: Jozef Mudrik, PhD, Assoc. Prof.
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Juraj Sinay, PhD, Prof.
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Miroslav Šefčík, PhD
Ľubomír Jahnátek, PhD, Assoc. Prof.
Peter Horyl, PhD, Prof.

Academic Senate

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

Karol Balog, PhD, Prof.
Miloš Čambál, PhD
Jaroslav Červeňanský, PhD, Assoc. Prof.
Peter Grgač, PhD, Prof.
Roman Hrmo, PhD
Ivan Jurčo, PhD, Assoc. Prof.
Pavol Tanuška, PhD

Marian Merica, PhD, Assoc, Prof.
Juraj Miština, PhD
Milan Naď, PhD
Jozef Peterka, PhD, Assoc. Prof.
Peter Schreiber, PhD, Assoc, Prof.
Alexander Štrpka, PhD, Assoc. Prof.
Karol Velíšek, PhD, Assoc. Prof.

Chairman of Chamber of Students:
Members:

Drahomíra Bohušová
Ľuboš Maňka
Zuzana Klčovanská
Zdenka Masárová
Martin Hirschner
Ján Lenhardt
Ing. Ján Janega, PhD

DEPARTMENT OF APPLIED MECHANICS

Head of the Department
Milan Naď, MSc.(Eng.), PhD

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STAFF

Professors:	0	Research Fellows:	0
Assoc. Professors:	4	Technical and Admin. Staff:	3
Senior Lecturers:	13	PhD Students:	5
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
Basics of engineering design	1	2-2	Muráň, Lacko
Mechanics of Solids	3	2-2	Mudrik, Pekárek
Mechanics of Solid	3	3-3	Pekárek, Naď
Strenght of Materials	3,4,5	2-2	Jelemenský,Nánási, Ďuriš
Practice of basics of engineering design	3,4	0-2	Tomaníček, Riečičiarová
Practice of mechanics of solids	3	0-2	Naď, Labašová
Practice of strenght of materials	3	0-2	Ďuriš, Nánási
Mechanisms and machine parts	4,5	2-2	Muráň

Name of subject	Semester	H/W L-P	Reader's name
Hydro-thermomechanics	4	1-1	Taraba
Hydro-thermomechanics	4	2-2	Kraváriková
Basics of Engineering Design	1	9-9	Muráň
Technical documentation	1	9-9	Tomaníček
Practice of basics of engineering design	3,5	0-9	Tomaníček, Riečičiarová
Strenght of Materials	5	9-9	Jelemenský,Nánási
Practice of strenght of materials	5	0-9	Ďuriš, Nánási
Mechanics of Solid	5	20-7	Mudrik
Practice of mechanics of solids	5	0-9	Naď
Hydro-thermomechanics	5	5-4	Behúlová
Practice of hydro-thermomechanics	5	0-9	Behúlová
Mechanics of Solid	4	9-9	Pekárek

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	8,9	2-1	Riečičiarová
Mechanics of solids	7	3-3	Labašová
Hydro-thermomechanics	7	2-2	Behúlová
Thermodynamics	6	2-2	Behúlová
Strength of materials	4,8	2-2	Jelemenský, Nánási
Computer aided design	6	2-2	Muráň
Theory and technology industry heating	9	2-2	Taraba
Finite element method	6	2-1	Jelemenský
Tribology	8	2-2	Muráň
Mechatronics	8	2-2	Mudrik
Mechanics of manipulation systems	7	2-2	Mudrik
Mechanics of materials	9	1-2	Taraba, Nánási
Mechanics of materials	11	5-9	Taraba
Strength of materials	11	9-9	Nánási
Hydro-thermomechanics	9	9-9	Kraváriková
Mechanisms and machine parts	7	10-8	Muráň
Thermodynamics	7	10-8	Behúlová
Theory and technology industry heating	11	9-9	Taraba
Mechanics of manipulation systems	8	8-8	Mudrik

IV. RESEARCH TARGETS

- Modelling, analysis, simulation and experimental investigation of machine aggregates as mechatronic systems.
- Investigation of new friction materials with progressive tribological properties.
- Research and application of new approaches in numerical methods - analysis and simulation of technological and industrial processes, static and dynamic analysis of engineering structures.
- Research and development in the field of theoretical and applied mechanics.

V. RESEARCH PROJECTS

V.1 Institutional Projects

- Innovation of experimental equipment-tribotestor to tribological properties measurements of soliding bearings (No.815)

V.2 National Grants (VEGA, KEGA)

- Analysis and numerical simulation of temperature and stress-strain state in progressive technological and assembly processes. VEGA 1/9381/02
- Dynamic analysis and synthesis of rotational machine aggregate. VEGA 1/9102/02
- Evolution of microstructure of high alloeyd alloys in rapidly solidification process and in continuing temperature-deformation operations VEGA 1/7339/2000 – participation with Department of Materials Engineering

V.3 International Projects

- „Methods of analysis and synthesis of rotational machine aggregates with gearing„ International grant - Cooperation with foreign partners: IzhGTU Izhevsk, 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 modelling,
  - 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

- Department of Machine Parts, Faculty of Mechanical Engineering, Slovak University of Technology in Bratislava

VI.2 International Co-operation

- Co-operation 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

- Co-operation with EBO Jaslovské Bohunice, EMO Mochovce, VUJE Trnava, ÚJD.

VII. THESES AND DISSERTATIONS

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

VII.1 Graduate Theses

Determination of boundary conditions in processes of temperature treatments. (Taraba)
Residual stresses in cooling parts with martensitic structures. (Taraba)
Analysis of crack initiation at the flange pin hardening. (Taraba)
Temperature and stress analysis in welding process MAG. (Kravárikova)
Analysis of rapid cooling conditions of spherical drops in gas spraying process of liquid. (Behúlová)

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

Mudrik Jozef - staff - Institute of Mechanics, Izh.GTU Izhevsk, Russia

VIII.2 Foreign Visitors to the Department

- Abramov I.V. - Rector of IzhGTU Izhevsk, Russia
- Goľdfarb V. I. - Director of Institute of Mechanics, IzhGTU Izhevsk, Russia
- Kulemin V. - Director of Branch of IzhGTU, Sarapul, Russia
- Minkoff K. P. - Institute of Mechanics, BAS Sofia, Bulgaria
- Oleksiuk W. - Institute of Micromechanics and Photonics, Warsaw University of Technology, Warsaw, Poland
- Bodnicki M. - Institute of Micromechanics and Photonics, Warsaw University of Technology, Warsaw, Poland
- Staržinski V. - Director of Institute of Metal and Polymer Systems, Belarussian Academy of Sciences

VIII.3 Organised Conferences, Seminars and Workshops

- 6th International Conference - „Dynamics of Gear Drives 2002“ 19-22. June 2002, Závažná Poruba

IX. PUBLICATION

TARABA Bohumil – BEHÚLOVÁ Mária – KRAVÁRIKOVÁ Helena. *Fluid mechanics @ Thermomechanics. Zbierka príkladov*. Bratislava: STU, 2002. 235 s. ISBN 80-227-1729-0

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MUDRIK Jozef – LABAŠOVÁ Eva – NAĎ Milan. Dynamic properties of a geared motor. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 2., s. 351 – 356. ISBN 80-227-1768-1

TARABA Bohumil. Contribution to numerical prediction of residual stresses in quenched parts. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 2., s. 379 – 384. ISBN 80-227-1768-1

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NÁNÁSI, T. Decoupling of periodic boundary value problems. In *6th International conference DYNAMICS OF GEAR DRIVES*. Bratislava: STU, 2002. ISBN 80-227-1708-8

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JELEMENSKÝ Jozef – LACKO František – MURÁŇ Miroslav. Numerical analysis of the disk springs. In *XLIII. medzinárodná vedecká konferencia katedier Častí a mechanizmov strojov*. Zvolen: TU, 2002, s. 250 - 253.

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KULEMIN, V. J. – MUDRIK, J. Measurement stand based on mechatronic system with microprocessor. In *REGIONAĽNAJA INFORMATIKA 2002*. Sankt-Peterburg, 2002

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DEPARTMENT OF ENGINEERING PEDAGOGY AND PSYCHOLOGY

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I. STAFF

Professors:	2	Research Fellows:	1
Assoc. Professors:	3	Technical and Admin. Staff:	3
Senior Lecturers:	8	PhD Students:	4
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	Chmelárová

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	Schuller
Industrial Psychology	5	0-2	Schuller

IV. RESEARCH TARGETS

V. EDUCATION AND RESEARCH PROJECTS

- Education and Training of Engineering Graduates in the Third Millennium. *Grant task VEGA, 770 (1/6186/99).*The aim of the research is to investigate the ways of reshaping the system of education and training of engineering graduates so that they are able to meet the requirements for graduates qualification in the field of intellectually

demanding technologies, regarding the pass to information society.

- Pedagogical Study of Tertiary Education Teachers. *Grant G/600/2000.* It is being widely recognized that to ensure continuous increase in a level of higher education in Slovakia, there is a need for consistent innovation of the contents of education at all faculties and in all specializations with future prospects. However, this is likely to be determined by implementation of progressive organisation forms of education, such as module and distance units.In the case of Pedagogical Study for Higher Education Teachers, the need to shift towards partly distance type of learning is driven by the fact that the curriculum of this study consists in 12 different subjects amounting to 204 lectures.The aim of the present project is, therefore, to convert two main subjects of the Pedagogical Study for Higher Education teachers, in particular Engineering Pedagogy and Psychology, into a module and distance on-line form of instruction.
- Evaluation of Study at MtF STU. Faculty research, 813.
- Inovation of Complementary Pedagogical Study. *Grant KEGA,*. 223.
- Suggestion of the curriculum and experimental verifying of the subject Introduction in studies. *Grant KEGA,*. 222.

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

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.)

- Ing. Štefan Gajdoš: Výučba predmetu výpočtová technika prostredníctvom didaktického softvéru.Teaching of subject IT by using didactic software.
- (Prof. Ing. Dušan Driensky, CSc.)
- Ing. Alena Tomengová: Prínosy projektového vyučovania v odborných predmetoch stredných škôl. Acquisition of project teaching in technical subjects of high schools.
- (Doc. PhDr. Igor Budinec, CSc)

VII.3 Habilitations (Assoc. Prof.)

Ing. Mariana Kundrátová, CSc. : Suggestion of the learning text for distance education.

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	Hambalík
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 2001 the Department also delivered the following courses:

- Complementary Pedagogical Study (part-time) - three-semester / 300 hrs N*ote:* 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 defence of final work.

IX. PUBLICATIONS

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ROSA, V. – TUREK, I. – ZELINA, M. Millenium. The national Programme of Training and Education in the Slovak Republic for Forthcoming 15 – 20 Years. Milénium: Národný program výchovy a vzdelávania v Slovenskej republike na najbližších 15 až 20 rokov. Bratislava: MŠ SR, 2002. 186 s. ISBN 80-89018-36-X

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DEPARTMENT OF ENVIRONMENTAL AND SAFETY ENGINEERING

Head of the Department:
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I. STAFF

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

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Teaching laboratory for chemistry
- Laboratory of flammability testing

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
Chemistry	1	9-5	Škárka
Industrial Technologies and Production Equipments	1	3-2	Škárka
Work Safety	1, 2	1-1	Sabo, Soldánová, Lošák
Work Safety	1	0-9	Soldánová, Lošák
Basics of Environmentalics	4	2-1	Polívka, Wittlinger
Ecological Disposal with Materials and Wastes	5	3-2	Soldán
Basics of Safety Engineering	5	2-1	Sabo, Soldánová
Methods of Risk Assessment	5	2-1	Sabo, Lošák
Basics of Environmental and Safety Engineering	5	2-1	Polívka, Sabo
Bachelor Project	5	0-2	Fendrich, Tureková
Environmental Management II	6	2-2	Rusko
Economics and Environment	6	2-0	Rusko
Personal Protective and Rescue Equipments	6	2-0	Sabo
Energy and Environment	6	2-2	Wittlinger
Data Processing	6	2-2	Žatkovič
Dangerous Materials	6	2-2	Póor
Bachelor Project	6	0-5	Sabo
Non-metallic Materials	6	2-1	Balog, Tureková

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
Environmental Physics	6	2-2	Hostin
Environmental Chemistry	7	2-2	Michalíková
Machine Technology and Environment	7	2-1	Murgaš
Environmental Management I	7	2-1	Polívka
Environmental Engineering I	7	2-2	Hostin
Structure and Date and Database Systems	7	2-2	Tanuška
Energy and Materials Transport	7	2-2	Wittlinger
Reliability of Technical Systems	7	2-1	Sabo, Lošák
Biotechnologies and Environment	8	2-1	Polívka
Industrial Toxicology	8	2-2	Soldán
Environmental Engineering II	8	2-2	Tureková
Environmental Management II	8	2-1	Polívka
Chemical Technologies and Environment	8	2-1	Škárka
Working Environment in Industry	8	2-1	Sabo, Soldánová
Risk Assessment	8	2-1	Sabo
Fire Engineering	8	3-0	Balog
Environmentalistics	8	1-1	Polívka, Tureková
Waste Technologies	9	2-2	Lacuška
Environmental Informatics	9	2-3	Balog
Remediation of Ecosystems	9	2-2	Rusko
Environmental Engineering III.	9	2-2	Hostin
Environmental Law	9	2-1	Rusko
Final Project	9	0-5	Hostin, Sabo
Safety of Chemical Substances	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

V.2 National Grants (VEGA, KEGA)

New generation of cooling and lubricant fluids for machining.

V.3 International Projects

- Selection of Environmentally Friendly Gaseous Extinguishing Substances.
- Occupational Safety and Health Systems in the European Union.

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, Center of Waste Management, Bratislava
- Regional Training Center for Implementation of the Basel Convention, Bratislava
- Research Institute of Safety on Workplace, Bratislava
- Ministry of Labour, Social Affairs and Family of the Slovak Republic
- The National Labour Inspectorate
- The Slovak Association of Fire Protection Development

VI.2 International Co-operation

- VŠB - Technical University of Ostrava, Faculty of Safety Engineering, Czech Republic
- Technical Institute of Fire Protection, Prague
- University Pardubice, Department of Theory and Technology of Explosives

VI.3 Contracts with Industry

- Nuclear power plants Jaslovské Bohunice (The hazard and threat analysis of work environment)
- Nuclear power plants Jaslovské Bohunice (The programme of environmental education in nuclear power plant Jaslovské Bohunice)
- Swedwood Ltd., Malacky (Fire risk analysis of production technologies)
- Nafta Gbely (Audit of safety systems with approximation on EU legislative)

VII. THESES AND DISSERTATIONS

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

VII.1 Graduate Theses

KARNASOVÁ Andrea: The analysis of environmental management system of education in SE-ENO Zemianske Kostoľany (Ľudovít Polívka)
MÁČALKOVÁ Slávka: Safety handling with agrochemicals (Róbert Poór)
SPÁČOVÁ Ľubomíra: Power fuel industry, thermal power plant Zvolen (Viktor Wittlinger)
LANGROVÁ Silvia: Environmental aspects of fire effluents (Karol Balog)
HURČÍK Adrian: Hazard identification of flammable liquids (Zuzana Soldánová)
VRTALOVÁ Denisa: The risk identification of swimming pool MtF STU Trnava (Milan Sabo)
HAJDINOVÁ Lenka: The model suggestion for environmental education in SACHS Trnava (Ľudovít Polívka)
BÁBELOVÁ Erika: Suggestion of solution dumps of acid pitches (Miroslav Lacuška)
FIALA Michal: The assessment of flammability of retarded cellulosic materials using limited oxygen index method (Oleg Palumbíny)
GROBARČÍKOVÁ Marcela: The risk assessment by accident of equipment's with the content of ammonia (Maroš Soldán)
BOŽÍK Andrej: The assessment of unorganized dumps of municipal wastes in SOTDUM (Miroslav Rusko)
ČANIGA Peter: The arbitration of influence of sewage disposal plant construction and sewage nets on environment (Jozef Drevenák)
BABIAKOVÁ Stanislava: The basic audit in Boge Slovakia (Emília Cáliková)

BARÁTOVÁ Jana: The monitoring of waste water treatment efficiency in Skloplast Trnava (Mária Tomaškovičová)
JAKUBIAK Rastislav: Studying of possibilities of utilizing hydromotor SETUR for air-processes in water (Stanislav Hostin)
ROSA Richard: Research of the impact of the catalyst modification on the adsorption properties (Emil Fendrich)
MIKLÁŠOVÁ Lenka: Influence of mordants on selected groups of bacterials (Štefan Longauer)
PETRAŠOVIČOVÁ Jana: Effect of temperature on the burning process of cellulosic materials (Ivana Tureková)
VAŠÍČKOVÁ Lenka: The effect of water lixivium of waste slurry on selected soil bacterials (Bohumil Škárka)
MOKOŠÁK Radovan: The effect of water lixivium of used casts on selected bacterials (Bohumil Škárka)
ŠUŠEL Peter: Monitoring of environmental aspects in painting coachwork in Wolkswagen Bratislava (Ľudovít Polívka)
VALENTEJE Peter: Decontaminating methods application by accident of chemical and biological substances (Karol Balog)
ČAHOJOVÁ Ľubica: Environmentally acceptable halon alternatives (Ivana Tureková)

VII.2 Bachelor Theses:

ĎURKOVIČOVÁ Ľubica: The analysis of dangers by light source holders manufacturing (Milan Sabo)
EISELLE Roman: The hazard analysis of chemicals used by production of dicyklohexyldisulfide (Karol Balog)
ERDELSKÝ Juraj: The hazard analysis by working with computers (Viktor Wittlinger)
PAULIČKOVÁ Eva: The analysis of some toxic properties of chemicals in water and their influence to human and environment (Milan Sabo)
LAHUČKÁ Jana: The analysis of dust effects in environment (Vladimír Ivanka)
TAUCHÝNOVÁ Silvia: The risk analysis of paper napkins production in paper making factory in Harmanec (Maroš Soldán)
BALUŠÍK Róbert: The risk analysis in curd making factory Milex Galanta (Ľudovít Polívka)
VYPUŠŤÁK Ľubomír: The analysis of current legislative state in the health care protection (Zuzana Soldánová)
SERSEN Miroslav: The analysis of harmful substances in the work environment of Tatrachema Trnava (Maroš Soldán)
TOMEK Dušan: Legal rule application in the area of waste management in the conditions of Slovemský hodváb Senica (Jozef Režnák)
ŠVEDA Igor: The asbestos in work environment of the railway truck carriage division and health protection (Juraj Rerko)
RENDEK Milan: Safety handling with dangerous substances (Zdenka Telarová)
CHLEBČOKOVÁ Monika: Safety of work and quality system in chemical laboratory (Milan Sabo)
JEŽO Juraj: Safety requirements for flammable liquids in ship transport (Maroš Soldán)
VRÁBEL Štefan: Safety requirements for covering of electrotechnical equipments (Viktor Wittlinger)
ČUPKA Milan: Safety requirements for arc welding in the area with increased danger (Peter Bezák)
MELICHER Martin: Safety requirements for working in heights in building industry (Milan Sabo)
MARKOVIČ Peter: Safety requirements for work and in electrical stations (Jozef Halada)
LACKO Erich: Environmental burden of power plant Nováky (Milan Sabo)
KUBÍKOVÁ Mária: Environmental system of the town in Italy in the comparison with the town in Slovakia (Miroslav Rusko)
KUCOVÁ Iveta: Ergonomical requirements in prevention of musculoskeletal system diseases in construction industry (Karol Hatiar)
HOLÁSEK Vladimír: The hazard of noise in air-pump station Nafta Gbely (Jozef Mudrik)
HALAMA Juraj: The evaluation of fire hazard assessment of chemicals transported by railway (Karol Balog)
KOMPAN Juraj: Identification of hazards in choosen technological process (Milan Sabo)
ŠPILÁK Roman: Slurry and gas economy of waste water treatment in Čadca (Miroslav Rusko)
BRTKO Miroslav: Selective criterions for environmental friendly extinguishing medias (Jana Krajčovičová)
BREZOVSKÁ Petra: Disposing of the waste caused by drilling works (Milan Sabo)
POKORNÝ Vladimír: The suggestion for new methods of education in the field of safety in ŽSR (Andrea Stachová)
BUNČIAK Martin: Project of a dump waste saving Holíčov vrch (Milan Sabo)
BACHRATÝ Anton: The slope suggestion for cleaning and technical handling with oil products in division of railway trucks carriage (Jaroslav Cigánek)
KAMENSKÝ Ján: Fire protection of buildings using stabile extinguishing systems (Karol Balog)
LENHART Michal: Protection of population against dangerous goods leaks in Prievidza district (Róbert Poór)
GRADOŠ Marian: The employee protection against benzene and its derivatives (Maroš Soldán)

BAGIN Stanislav: Waste as an alternative fuel (Peter Benko)
HODÁLOVÁ Jolana: Wastes generated during handling with dangerous materials (Tibor Gracza)
ŠTEFÍK Patrik: The optimalization of waste management in Chemolak Smolenice (Róbert Bachratý)
PATERNA Peter: The optimalization of selection and amount of fire extinguishing equipments according to the properties of flammable liquids (Gabriel Lošák)
GLEMBA Ondrej: The requirements for employees working with raising equipments (Jaroslav Devečka)
MURÁNI Marian: Requirements for firemen personal protective equipment's by rescue operations (Jana Krajčovičová)
MALÁK Štefan: Environmental requirements of office areas workplace (Zuzana Soldánová)
KUŠTEK Ivan: Environment of workplace and health protection (Viktor Wittlinger)
TICHÝ Pavol: Transportation of hazardous substances on roads and safety rules (Maroš Soldán)
ERÖS Tomáš: Selfignition process and safety handling with plants having tendency to selfignition (Karol Balog)
ŠIŠKOVÁ Slávka: Progressive trends in waste water treatment applied to a paper making machine no 17 in SCP Ružomberok (Miroslav Rusko)
TOTH Jan: Safety management during the general reparation of industrial stack in power station Vojany (František Joska)
VAVRO Roman: Management and liquidation of fires and accidents (Karol Balog)
CHABROŇ Ján: The risk management of selected laboratories at MtF STU (Milan Sabo)
KRUŽLIC Ján: The system of safety management at railway company in Bratislava (Milan Uherčík)
HORVÁTHOVÁ Jana: Technical and organizational assumptions in utilising of biological wastes (Zuzana Soldánová)
DVORÁK Juraj: The influence of risk factors on employees working with computers in custom office (Viera Sládečková)
KOCÚREKOVÁ Zuzana: System entry of environmental management in Chemolak Smolenice (Miroslav Rusko)
REHÁK Peter: Disposal of pre-treated technology waste water sediment in the chemical sewage water treatment plant in Skloplast Trnava (Ivana Tureková)

VII.3 Dissertations (Ph.D.)

Ing. Ivana Tureková: The influence of selected chemical substances on high temperature degradation of cellulose (Technical University Zvolen)

VII.4 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- Technical Institute of Fire Protection, Prague.
- Department of Safety Engineering, Technical University Ostrava.
- Department of Fire Protection, Technical University Budapest.
- Department of Theory and Technology of Explosives, University Pardubice.

VIII.2 Foreign Visitors to the Department

- Technical Institute of Fire Protection, Prague.
- Department of Safety Engineering, Technical University Ostrava.
- Faculty of Forestry, Czech University of Agriculture Prague
- Department of Work Research, Brandenburg Technical University Cottbus

VIII.3 Organised Conferences, Seminars and Workshops

- 1st Seminar Integrated Safety, 28 – 29 November 2002, Staré Hory

IX. PUBLICATIONS

POLÍVKA Ľudovít – FENDRICH Emil – ŠKÁRKA Bohumil. Influence of Ozone on Properties of Jams. *Czech Journal Food Sciences*, 20, 2002, č. 3, s. 113 – 115.

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DEPARTMENT OF FORMING

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I. STAFF

Professors:	2	Research Fellows:	1
Assoc. Professors:	3	Technical and Admin. Staff:	3
Senior Lecturers:	2	PhD Students:	8
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Laboratories of Forming
- Laboratories of Computing Machinery
- 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
- Pyrometer AMIR 7811-50

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	2-2	Bača, Kotras
Theory of Forming	7	3-1	Polák
Volume Forming	9	2-2	Bača
Plat Forming	9	2-2	Kotras
Machines and Equipment for Forming	8	2-2	Ulík
Final Project	9	0-5	Bača, Kapustová
Technical Preparation for Manufacturing	9	2-2	Polák
Machines for Forming	7	2-2	Ulík
Modelling of Forming Processes	9	2-1	Žatkovič
Safety of Machines and Production Facilities	9	2-1	Kapustová
Automation of Forming	8	2-1	Ulík
Experimental Methods of Forming	7	2-1	Žatkovič
High Parametric Forming	9	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. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- Study of volume forming technology processes. No.803

V.2 National Grants (VEGA, KEGA)

- Production of cavity tools by high-parameter forming. No.776 VEGA. Project solves the design and application of new non-conventional technology of cavity and cavity bimetallic tools by high-parameter forming with aim by expensive and deficient materials saving. It deal mainly with preparation of new bimetallic materials by surfacing and plating of higher quality and plating of higher quality (move expensive) material on basic (tess quality or less expensive) substrate with following deformation (cavity production) by high-parameter shooting or high-pressure (hobbing methods joined with suppression of residual tensile strains negative effects on the face of cavity tool.
- Development and fabrication of physical model of device for dynamic forming. No.790 VEGA. Project is oriented to patent applications, where it is getting original solution of scaning trajectory in formed material. After technical realization it is reguired suitable hardware. It will be possible to determine speed and acceleration of forming tool. This model permits stright forming tool and comparation of these results with those obtained by optical scaners application (by direct measurement). Except of that, that device permits to determine kinetic energy and forming work come clear to determine of the value such as transformation of investigated material, transforming speed, as well as transforming exceleration. It will realised by model with respect to the project and it will be enabled the direct monitoring of the temperature changes of forming material. After thet the verified model instrument will be able to project as the forming instrument of a new conceptions such as which will enlage on chance to monitor desidered parameters.

VI. CO-OPERATION

VI.1 National Co-operation

- University of Žilina, Faculty of Mechanical Engineering, Žilina
- University of Technology Košice, Faculty of Metallurgy, Košice
- University of Technology Košice, Faculty of Mechanical Engineering, Košice
- Slovak University of Technology, Faculty of Mechanical Engineering, Bratislava

VI.2 International Co-operation

- University of mining, TU Ostrava, Czech Republik
- Politechnika Katovice, Poland
- VUT Brno, Czech Republik

VI.3 Contracts with Industry

- SE, EBO Jaslovské Bohunice

VII. THESES and dissertations

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

VII.1 Graduate Theses

Bystrík Bajzík: The limiting deformation degrees at cupping and back-pull drawing of sheet. (Doc. Kotras)
Roman Búda: The Possibilities of mechanical properties improvement of wires for welded nets production. (Prof. Bača)
Rastislav Pikus: The proposal of production technology for clutch cover by plat pressing. (Ing. Kapustová)
Róbert Sobota: The comparison of experimental data and simulation results at forging. (Doc. Ulík)
Richard Slezák: The production of bottom frame components component´s for "KRONE" car trailers. (Ing. Bílik)

VII.2 Dissertations (Ph.D.)

Jozef Bílik: Lifetime increasing of dies by surface layers mechanical strengthening. (Prof. Bača)
Mária Kapustová: Improvment of working environment ecology in machine shops by evaluation of complex stress. (Doc. Vajo)

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

- International Science Seminar "FORMING", Trnava 2002

IX. PUBLICATIONS

BAČA Jozef – BAČA Marek – ŽATKOVIČ Juraj. Physical model of dynamic forming. In *Vedecké práce Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*, 2002, vol. 12, s. 7 – 13. ISSN 1336-1589

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DEPARTMENT OF FOUNDRY

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I. STAFF

Professors:	1	Research Fellows:	2
Assoc. Professors:	2	Technical and Admin. Staff:	2
Senior Lecturers:	4	PhD Students:	4
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 - foundry
- Laboratory of electromagnetic method and magnetohydrodynamics
- Laboratory of manual formation

II.2 Special Measuring Instruments and Systems

- The vertical electromagnetic caster for the small profiles
- The high-frequency generator of 400 kHz for the levitation melting
- The medium-frequency induction furnaces 40/2 x 100 kg
- The vacuum induction fumace 50 l
- The electric resistance furnace of 90 kg for non-ferrous metals
- The electric chamber furnace 35 l
-
-

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
Engineering Technologies and devices	1	3 - 2	Pokusa
Foundry Technology	4	2 - 1	Pokusa
Foundry Technology (Dubnica nad Váhom)	4	2 - 1	Beznák
Foundry Technology (Brezno)	4	2 - 1	Chaus
Foundry Technology (Komárno)	4	2 - 1	Belica

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
Foundry Technology	5,8	2 - 2	Pokusa, Podhorský
Theory of Technological Processes	8	3 - 2	Pokusa
Theory of Foundry	8	3 - 1	Chaus
Investment Casting	8	2 - 1	Murgaš
Machines for Welding and Foundry Technology	8	3 - 3	Beznák
Engineering Technologies and Ecology	8	2 - 1	Murgaš
Non-conventional Metallurgical Processes	9	3 - 2	Murgaš
Foundry Metals and Alloys	9	3 - 2	Chaus
Non-conventional Manufacturing Method in Foundry	9	2 - 2	Pokusa
Effects of Foundry Technology and PM on Environment	9	2 - 1	Murgaš
Moulds Casting Processes	9	2 - 1	Murgaš
Final Project	9	0 - 2	Tóth, Beznák
Technical Equipments in Foundry Technology and PM	8	2 - 2	Pokusa
Technical Preparation of Manufacturing in Foundry Technology and PM	8	2 - 1	Chaus
Technology of Composite Materials Processing	8	2 - 1	Murgaš
Programming in Foundry and PM	8	1 - 2	Podhorský

V. RESEARCH TARGETS

- Foundry technology - 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

V.2 National Grants (VEGA, KEGA)

- Project VEGA No. 1/8270/01 – "Electrolytic-plasma technology for metallic surface treatment"
- Project VEGA No. 1/9104/02 – "The investigation of the effect of additive application of physic-metallurgical methods and electromagnetic processing on the properties of the cast metal materials"
- Project VEGA No. 1/0306/03 – "Research of affects of disperse high melting temperature additions on the structure formation and service properties of cast high-speed steels"

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.
- CastArts for slovak sculptors – Tibor Bartffay, Ľudmila Cvengrošová

VII. THESES

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

VII.1 Graduate Theses

Ľuboš Kováčik: Aplikácia Shawovej metódy presného liatia na výrobu keramických foriem vložiek kovacích zápustiek (*The production of ceramic moulds for forging dies using Shaw method of investment casting*)
Jana Vráblová: Hodnotenie úberu materiálu pri leštení elektrolyticko-plazmovou technológiou (*The evaluation of material removal during electrolytic-plasma technolgy polishing*)
Žaneta Sojková: Náterové hmoty foriem a jadier na báze živíc (*Wash resin matter for moulds and cores*)
Miroslava Čerešníková: Návrh metódy operatívneho vyhodnocovania vlastností elektrolytu pre elektrolyticko-plazmovú technológiu (*Project of method for in-time evalution of electrolyte properties for electrolytic-plasma technology*)
Branislav Vestenický: Recyklované sadrové formovacie zmesi (*Recycled plaster mould mixtures*)
Atilla Nagy: Vlastnosti silumínu tuhnúceho za pôsobenia magnetického poľa (*The properties of Al-alloy solidified under a magnetic field action*)

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

MURGAŠ Marián – POKUSA Anton – POKUSOVÁ Marcela – PODHORSKÝ Štefan. *Theory of foundry processes.* Bratislava: STU, 2002. 291 s. ISBN 80-227-1684-7

PODHORSKÝ Štefan – TÓTH Roman. *Foundry technology. Instructions for laboratory seminars.* Bratislava: STU, 2002. 108 s. ISBN 80-227-1701-0

BELICA Eugen. Using of the plaster mixtures in art foundry. In *Acta Metallurgica Slovaca*, 8, 2002, č. 1/2, s. 137 – 142. ISSN 1335-1532

POKUSOVÁ Marcela – MURGAŠ Marián – POKUSA Anton. Trends of the induction furnaces development. In *Acta Metallurgica Slovaca*, 8, 2002, č. 1/2, s. 325 – 330. ISSN 1335-1532

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MURGAŠ Marián – BEZNÁK Matej. Abrasion – resistant chromium cast iron. In *Acta Metallurgica Slovaca*, 8, 2002, č. 2/2, s. 113 – 118. ISSN 1335-1532

CHAUS Alexander S. High-speed steels for cast metalcutting tools. *In Acta Metallurgica Slovaca*, 8, 2002, č. 2/2, s. 145 – 151. ISSN 1335-1532

TÓTH Roman. The effect of hydrostatic pressure on surface material removing during plasma- electrolytic polishing. In *Acta Metallurgica Slovaca*, 8, 2002, č. 2/2, s. 334 – 338. ISSN 1335-1532

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CHAUS Alexander. Wear behaviour of tools from cast and rolled high-speed steels. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 1., s. 30 - 37. ISBN 80-227-1768-1

BELICA Eugen. Plaster mould mixture in cast art. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 1., s. 183 – 188. ISBN 80-227-1768-1

BEZNÁK Matej. Tool production by precision casting into ceramic molds using permanent pattern. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 1., s. 189 – 194. ISBN 80-227-1768-1

MURGAŠ Marián. Two stage processing of steel. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 1., s. 349 – 353. ISBN 80-227-1768-1

MURGAŠ Marián – POKUSOVÁ Marcela. Metallurgical properties of progressive channel furnaces. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 1., s. 354 – 359. ISBN 80-227-1768-1

MURGAŠ Marián – POKUSOVÁ Marcela. Trends in induction furnaces' development. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 1., s. 360 – 367. ISBN 80-227-1768-1

POKUSA Anton – ŠUBA Roland. Resin based coating compositions moulds and cores. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 1., s. 371 – 376. ISBN 80-227-1768-1

POKUSOVÁ Marcela. Methods of electromagnetic refining. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 1., s. 377 – 381. ISBN 80-227-1768-1

SOLÁR Jozef – TÓTH Roman – CHHIM Kosal – NOVOTNÝ Ivan. Boundary of possibilities of electrolytic-plasma technology at burnishing in mirror brightness. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 1., s. 414-419. ISBN 80-227-1768-1

TÓTH Roman – SOLÁR Jozef. Evaluation of surface material removing during plasma-electrolytic polishing. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 1., s. 420 – 425. ISBN 80-227-1768-1

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DEPARTMENT OF HUMANE SCIENCES

Head of the Department:
Viliam Končal, PhD, Assoc. Prof.

Tel.: ++421-33-5447842
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E-mail: khv@mtf.stuba.sk

I. STAFF

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

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 the Science and Technology	2	0-2	Petráš
Principles of the Philosophy, Methodology and Logic	1	0-2	Šíma
Philosophy of Technology	2	0-2	Skalský
Foundations of Law for Technitcs and ManagersI.	6	0-2	Pauličková
Ground of the Communication	2	0-2	Odlerová
Sociology	3	0-2	Csampai
General Economic Theory	6	2-1	Mrvová
Politology	4	0-2	Končal
History of Economic Theory	5	1-2	Mrvová
Humane Ecology	5	0-2	Odlerová
Industrial Sociology	6	0-2	Csampai

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
International Economic Relations	4	0-2	Mrvová
History of Technology	5	0-2	Chyba
History of Philosophy	5	0-2	Šíma
Ground of the Communication	6	0-2	Odlerová
Foundations of Law for Technics	7	2-1	Paulíčková
Foundations of Law for Managers	7	2-1	Paulíčková
Introduction into Research Work	9	0-2	Skalský
Introduction into Research Work	8	1-2	Skalský
Prognostics	8	0-2	Dubnička
Synergetic	8	0-2	Dubnička
Social Politics	8	0-2	Holkovič

IV. RESEARCH TARGETS

- Human Sciences
- Social Sciences
- Philosophy
- Cosmology
- Physics
- Deep Ecology

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 (KEGA)

- Model and its Creation in the education of the society – science objects on the Universities and its context with the model of the education and the human education in the countries EU.

V.3 International Projects

IDEP
Internet Distanc Course of the Social Management

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

VIII.2 Foreign Visitors to the Department

- Ph.D.Assoc.Prof. Alexander Balitsky – Izevsk State Technical University, Russia

VIII.3 Organised Conferences, Seminars and Workshops

IX. PUBLICATIONS

CSÁMPAI Otto – HALÁDIK Jozef. *International migration (social problem and safety risk).* Bratislava: Akadémia policajného zboru, 2002. 154 s. ISBN 80-8054-230-9

SKALSKÝ Vladimír. *Universe as Vacuum fluctuation.* Bratislava: STU, 2002. 56 s. ISBN 80-227-1796-7

BALITSKIY Alexander. Activation of communication culture as improve the educational process in the university. In *AKADEMICKÁ DUBNICA 2002*. Bratislava: STU, 2002,s.159-161.ISBN 80-227-1807-6

KONČAL Viliam. Political information and social transformation. In *AKADEMICKÁ DUBNICA 2002*. Bratislava: STU, 2002,s.311 -314.ISBN 80-227-1807-6

ODLEROVÁ Eva. Environmental politics and its priorities. In *AKADEMICKÁ DUBNICA 2002*. Bratislava: STU, 2002,s.331 -334.ISBN 80-227-1807-6

SKALSKÝ Vladimír. Universe model with total zero energy. In *AKADEMICKÁ DUBNICA 2002*. Bratislava: STU, 2002,s.345 -348.ISBN 80-227-1807-6

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HRČKOVÁ Eva. The postmodernism and the technology. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 2., s. 515 – 518. ISBN 80-227-1768-1

CHYBA Juraj – KONČAL Viliam. Technology as a part of the social process in the civilisation. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 2., s. 528 – 532. ISBN 80-227-1768-1

MRVOVÁ Ľubica. Globalization – Reasons for transnational corporations formation. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 2., s. 589 – 593. ISBN 80-227-1768-1

ODLEROVÁ Eva. Limits of the anthropocentric ethic. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 2., s. 594 – 596. ISBN 80-227-1768-1

PETRÁŠ Milan. Milan Hodža´s contribution to the Slovak University of Technology establishment. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 2., s. 597 – 601. ISBN 80-227-1768-1

SKALSKÝ Vladimír. Law of energy conservation and creation of matter in the relativistic and quantum – mechanical universe. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 2., s. 614 – 619. ISBN 80-227-1768-1

KONČAL Viliam. Analyse in education as the implement its quality. In *VYSOKIJE TECHNOLOGII V MECHANIKE. Materialy naučno-praktičeskoj konferencii*. Iževsk: IGTU, 2002, s. 40-41.

KONČAL Viliam. Human personality and forming its character in the process of education. In *VYSOKIJE TECHNOLOGII V MECHANIKE. Materialy naučno-praktičeskoj konferencii*. Iževsk: IGTU, 2002, s. 41 – 43.

SKALSKÝ,V. Creatics and knowing. In *Medzinárodný seminár ZÁKONY PRODUKCIE – KREATIKA. Zborník prednášok*. Zvolen: TU, 2002, s. 65 – 67. ISBN 80-228-1118-1

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DEPARTMENT OF INDUSTRIAL ENGINEERING AND MANAGEMENT

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I. STAFF

Professors:	1	Research Fellows:	2
Assoc. Professors:	4	Technical and Admin. Staff:	3
Senior Lecturers:	12	PhD Students:	5

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 I	5	3-2	Burcl
Statistical Methods	5	2-2	Kučerová
Enterprise Management	5	3-2	Čambál
Accounting	5	2-2	Horváthová
Ergonomic	5	2-1	Hlbocka
Semester project	5	0-2	
Marketing	6	3-1	Brezník
Production Management	6	3-3	Rybansky
Operative Personnel Management	6	2-1	Holková
Computers in Enterprise practice	6	0-3	Vadkerty
Enterprise Economy II	6	2-2	Černá
Bachelor Project	6	0-5	
Basis management and marketing	6	3-2	Jedlička
Personal Management	5	2-2	Šaturová

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	1	3-2	Hornak
Operational Research	1	3-3	Štrpka
Marketing	1	3-1	Brezník
Production Management	1	3-3	Rybanský
Computers in Enterprise practice	1	1-3	Vadkerty
Financial Management and Banking	2	3-2	Červeňan
Information Management	2	2-3	Vadkerty
Taxation	2	2-2	Homokyová
Personal Management	2	2-2	Holková
Annual project	2	0-5	
Accounting in Enterprise Activities	2	0-3	Horváthová
Economical Analysis	3	2-2	Doubková
Quality Management	3	3-2	Linczényi
Management of Investment Development	3	3-2	Sablik
Logistics	3	2-2	Červeňan
Project Management	3	1-2	Oncák
Information Systems	2	2-1	Ončák
Final Project	3	0-5	

IV. RESEARCH TARGETS

- Progressive forms of managers education
- Advanced information technologies implementation
- Environmental Management

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

V.2 National Grants (VEGA, KEGA)

- Environmentally oriented management marketing and logistic in strategy business units (VEGA 1/9099/02)
- Synchronisation of project management education at Slovak universities with methodology applied in EU countries (KEGA 191)

V.3 International Projects

- Project Manager – Course Project Mangement

VI. CO – OPERATION

VI.1 National Co-operation

- Technical University Košice
- Technical University Zvolen
- Faculty of Engineering Bratislava
- Faculty of Engineering Žilina
- University of Economics Bratislava, Faculty of Business Management

VI.2 International Co – operation

- Department of Work Sciences, Brandenburg Technical University, Cottbus, Germany
- Agricultural University of Poznaň Chair of Economic and Wood Industry Management, Poznaň, Poland
- Institut für Festkorper und Werkstofforschung, SRN, Dresden
- Ufa State Aviation Technical University, Ufa, Russia
- University Pardubice, Faculty of Chemical Technology, Pardubice, Czech Republic
- Technical University of Ostrava, Faculty of Metallurgy and Materials Engineering, Ostrava, Czech Repubic
- Universita in Zelena Gora, Poland
- University in Zagreb, Faculty of Forestry, Zagreb, Croatia
- Polytechnic Institut, Kyjev, Ukraine

VI.3 Contracts with Industry

- Contract with Railways of Slovak Reoublic in field of work rationalisation
- Contract with Joint-stock company Slovenské elektrárne "Development of managers skills"
- Contract with Tauris Siesta, a.s. "Environmentally oriented management marketing and logistic"
- Contract with System-Ratech, s.r.o. "Information system of bridges districts"

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 Theses)

- Marketing and market research (20)
- Innovation and Strategy Management (7)
- Financial Management (18)
- Investment Management (4)
- Projecting of working conditions (1)
- Enterprise Management (4)
- Production Management (5)
- Information Management (10)
- Machines and Equipment Maintenance (3)
- Personal Management (31)
- Quality Management (6)
- Environment Management (6)
- Logistic (7)
- Project Management (2)

Bachelor Theses (Number of the Theses)

- Personal Management (3)
- Marketing (4)

- Accounting (1)
- Financial Management (2)
- Environment Management (1)
- Logistic (1)
- Production Management (2)

VII.2 Dissertations PhD.)

- Environmental Management (1)

VII.3 Habilitations (Assoc. Prof.)

OTHER ACTIVITIES

VIII.1 Visits of Staff Members for Foreign Institutions

- Calabra Maceri e Servizzi, s. p. a., Cosenza – Italy
- University in Rostock, Faculty of Sociology and Economy, Rostock, Germany

VIII.2 Foreign Visitors to the Department

- Izhevsk State Technical University, Humanity Faculty, Izhevsk, Russia
- Department of Work Sciences, Brandenburg Technical University, Cottbus, Germany
- Institut für Festkorper und Werkstofforschung, SRN, Dresden

VIII.3 Organised Conferences, Seminars and Workshops

- International Scientify Conference "Up-to-Date approaches to business management"
- Specialised course in the field of work rationalisation
- Seminars in the field of project management
- Seminars in the field of manager's skills

IX. PUBLICATIONS

RYBANSKÝ Rudolf. Training needs identification and analyse – the way of improving the efficiency of human resources development in companies. In Koptiew,D.-Wantuch,M.-Wójcik,H. *ABC przedsiębiorcy – od pomysłu do biznesu*. Tarnów: TOSW, 2002, s. 57 – 60.

ČAMBÁL Miloš. Creating of optimal corporate culture – assumption of organisation prosperity. In *Materials Science and Technology*, 2, 2002, č. 1. 4 s. ISSN 1335-9053 <http://www.mtf.stuba.sk/časopisy>

BURCL Rudolf. Produktivität der Kentnisse und Konkurenzfähigkeit. In *Vedecké práce Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*, 2002, vol. 12, s. 29 – 33. ISSN 1336-1589

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DEPARTMENT OF INFORMATION TECHNOLOGY AND AUTOMATION

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I. STAFF

Professors:	2	Research Fellows:	1
Assoc. Professors:	6	Technical and Admin. Staff:	4
Senior Lecturers:	13	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 (16 alpha-numeric terminals)
- 3 PC Laboratories (30 PC)
- Internet Laboratory
- Robotics Laboratory
- X-Terminals Laboratory (15 terminals)
- Multimedia Laboratory

II.2 Special Measuring Instruments and Systems

- PLC 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
Information Technology Basics I,II	1,2	1-2	Schreiber
Software Technologies I,II	3,4	1-2	Tanuška, Michalčonok
Graphical Data Processing	5	3-3	Nemlaha
Database Systems	5	3-3	Tanuška
System Programming	5	2-2	Halenár
Computer Networks	5	2-2	Halenár
Project	5	0-4	Važan
Economical Computer Science	6	2-2	Iringová
Automation in Industry	6	3-3	Božek
Information Systems	6	3-3	Tanuška
Computer Science and Society	6	2-0	Schreiber

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
Theory of Automatic Control	7	3-3	Vrban, Gese
System Programming I,II	7,8	2-2	Michalčonok, Halenár
Artificial Intelligence	7	2-3	Schreiber
Graphical Systems I, II	7,8	2-3	Vaský, Nemlaha
Technical Devices of Automatic Control	8	3-3	Michalčonok
Information Systems I, II	8,9	3-3	Mišút, Tanuška
Modelling and System Simulation	8	2-2	Važan
CIM	7	3-3	Važan
Control of the Automatic Production Devices	7	3-3	Božek
NC Programming	7	3-3	Mudrončík
Production System Planning	8	3-2	Mišút
Digital Control Systems	8	3-2	Božek
Computer Networks	9	3-3	Halenár
Production Systems Design	9	2-3	Mišút
Computer Science and Society	9	2-0	Schreiber
Project	9	0-5	Važan
CAD/CAM Systems	9	3-3	Vaský
Production Systems Control	9	3-3	Važan

IV. RESEARCH TARGETS

- Information and database systems
- Client-server architecture systems (design, tuning, data management, data security, applications)
- Control systems sensibility and robustness
- Artificial intelligence and expert systems
- System modelling and simulation (discrete-event simulation, Petri-nets, queuing theory)
- Computer networks
- Computer graphics, graphical and CAD/CAM systems
- CIM
- Multimedia, virtual reality
- E-learning

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- Multimedia support of teaching
- Robustness of the control systems
- Automation of department administration
- PROMAN-W: Research projects administration
- Accouting of the travel costs of the faculty staff

V.2 National Grants (VEGA, KEGA)

- Design and implementation of the mechatronical system control algorithms with using of computer graphic methods – VEGA
- Analysis of the parametrical sensitivity of dynamic systems and processes – VEGA
- Computers in the pedagogical process – (VEGA, Co-operation with the Pedagogical Faculty of Trnava University)

V.3 International Projects

- Socrates Programme (student mobilities abroad, 10 stays in Germany, 2 in Belgium)
- PROMAN-W: Research Projects Administration. Common software development with the Institut für Festkörper- und Werkstofforschung in Dresden, Germany
- E-learning of the Social Management (Project founded by Open Society Foundation, in Co-operation with the Department of the Humane Sciences)

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
- Nuclear Power Station Jaslovske Bohunice
- AITEN ltd. Trnava

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
- Politechničeskij institut Iževsr, Russia
- KAHO Gent, Belgium
- FH Köthen, Germany
- FH Darmstadt, Germany
- Brandenburgische Technische Universität, Cottbus, Germany

VI.3 Contracts with Industry

- The proposal of the methodology for the data evaluation in selected technical systems
- The implementation of the methodology for the waste management in the Nuclear power station Jaslovske Bohunice
- IT courses in the Nuclear power station Jaslovske Bohunice

- Identification of the fail sources binary control devices in the Nuclear power station Jaslovske Bohunice
- Project of a support system for the accident control in the Nuclear power station Jaslovske Bohunice (contract with the Research Institute of Nuclear Power Supply Trnava)
- The proposal of the methodology for the evaluation of measured values of switches HL4/8, HG3/8, VF and VD4
- The implementation of the methodology for integral scantiness benchmark of C30
- The evaluation of measured values in TDS 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

Pavel Beňo: Analysis of the servers, design and implementation configurations of the servers
Norbert Košťál: The security of LAN on Internet
Marek Kudla: Security of computer systems of town hall
Martin Kúkel: Database application on the Web
Maximilián Strémy: Database system for evidence of radio, television and periodic mediums with intranet support in the conditions of the Ministry of culture
Martin Jedlička: The Didactic tests
Marián Kyselica: Theoretical Interface Design for Fischertechnik kit
Ingrid Reisingerová: Information system for leading of simple company accountancy
Richard Veverka: Information system for double entry accounting processing
Ľuboš Gajdošík: IS of storage facilities
Ján Kulich: Innovation of information contents and structure of faculty intranet using database system
Radovan Greguš: Internet interface of information system for some administrative activities of Central Library
Karol Szelecký: Internet interface of system to support handling of dangerous and harmful stuff
Ivan Pavlík: Intranet client application for technical documentation management system
Daniel Hovanec: Intranet application for the business trip administration
Marek Kováč: Modelling of technological processes with virtual reality
Jozef Barborka: Multimedia and exploitation of multimedia system at animation of technical scene
Miroslav Slamka: Design and implementation of car-renting agency information system
Michal Schmidl: Design and implementation of program modules for faculty intranet
Pavol Božek: Design of IS for small firm
Ľubomír Doležaj: Project of information system for accommodation institution
Rastislav Bohunický: Interface design for control of robot
Marián Hagara: Design of SQL entrance to non-standard type of database
Radovan Hruša: Systems design of automation packing one-shot grouting needles and squirts
Matej Krajčovič: Utilising Simulation for Failure Influence Checking in assembly
Martin Hrušovský: Pilot project of multimedia place
Alena Babušíková: Supporting module for teaching graphic data processing
Andrej Trnka: Supporting programs for department intranet
Soňa Kosíková: Comparison of operating system efficiency
Petronella Malobická: Simulation support of production system control for pressing machine of IAG Weikersdorf company
Ján Palaj: Simulation project at the system Witness
Augustín Kopáčik: The CT images processing as the base for generating of the 3D femur's model
Ingrid Denkociová: Administration of diploma thesis on intranet
Radoslav Piatka: Administration of useless supply at Slovenské elektrárne on company Intranet
Marek Fiala: Administration workstation by HP company tools
Vladimír Bedeč: The system for registers wastes from MTF.
Andrej Peciar: LDS step response index toleration for optimal reaction
Ján Ďarmati: The time constant sensitivity of control system

Marek Kuruc: Management for projection system based on PLC Siemens
Róbert Morvay: The system for support administration activities for leader of Central library – study information centre (CL - SIC)
Roman Lajstrík: The support system for manipulation with dangerous and harmful materials – Internet application (HTML, PHP, SQL)
Ľudovít Štefák: Information system for support of manipulation of dangerous materials
Andrea Turanová: The support system for manipulation with dangerous and harmful materials – Internet application
Miroslav Kopáčik: System of ride-book's recording
Jaroslav Plevko: System Pro/ENGINEER as resource for Computer aided manufacturing and ability with Internet use
Ľudovít Procyk: Creating of graphical interactive Web pages
Peter Holubek: Area boundary specification of CT snapshot of top part thighbone and its exploitation possibilities
Katerína Kovalíková: Virtual shop
Angel Kútny: Application language PHP and Data Base System MySQL for create interactive tests
Rudolf Dugovič: Web application – evidence of applicants for a job

Bachelor Theses

Andrej Brezovský: Automatic generation scheme of busy classes
Milan Fitoš: Database for the control of the department's personal data
Ján Bodorík: Effectiveness of data technology in organisation
Ladislav Jozefák: Database system for motorcar repair shop
Juraj Szöllösy: Design of registration system for West – Slovakian museum – exhibit administration
Štefan Hutár: Dataflow integration in interface of subsystems of complex information systems
Anton Sučák: Intranet
Milan Vidlička: Modification of binary quantities evaluation system for the 3rd and the 4th unit of NPP EBO Jaslovske Bohunice
Anton Zaňát: Modernization possibilities of phone connection of basic units PZ SR
Daniela Fančovičová: Design of the database for the city self-government
Jaroslav Kulhavý: Design of the database for a dental ambulance
Jozef Petráš: Service station database system design
Mário Michalička: Design of the database system for the library
Viliam Čirč: Design of database system of material and technical supply and employees attendance evidence
Dana Poláková: Database system for design for dossier service in business organization
Miroslava Petrášová: Design of database system of bank's client accounts management
Jozef Neštický: Database design for registration system of chemical pattern
Juraj Koštial: The design of the teledosimetric system database
Pavol Klokner: Design of registration system for West – Slovakian museum - library fund
Július Baňák: Design of registration system of storage facilities
Miroslav Božik: Design of the information system for the plan of operational inspections
Vladimír Haršányi: Suggestion of the information system for ecology, waste and stock economy in the Power station Jaslovské Bohunice
Mário Balgavý: The proposal interface for attendance system RS 2000
Jana Benechová: Videoconference set-up in the MV NET network
Blanka Smutná: Design of selected modules of information system
Kamil Magula: Computer support for the evaluation of the transformer's measurements in the Power station Jaslovske Bohunice
Anton Gergel: The design of the database for managing of the tenement house
Boris Belas: Design of the evidentiary system of the warehouse
Patrik Kubičina: Information system – school canteen
Jaroslav Otčenáš: Information system – school canteen

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- IFW Dresden, Germany (2 stays)
- FH Köthen, Germany (2 stays)
- TU Ilmenau, Germany /1 stay)

VIII.2 Foreign Visitors to the Department

- FH Köthen, Germany (2 stays)
- IFW Dresden, Germany (3 stays)
- BTU Cottbus, Germany (2 stays)

VIII.3 Organised Conferences, Seminars and Workshops

IX. PUBLICATIONS

TANUŠKA Pavol – SCHREIBER Peter – VAŽAN Pavol. *Computer architecture and operating systems. Multimediálna publikácia*. Trnava: Tripsoft, 2002. ISBN 80-968294-9-1

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TANUŠKA Pavol – SCHREIBER Peter – BEZÁK Pavol. Using of Internet technologies in E-learning applications. In *The 2nd International Conference on APPLIED MATHEMATICS AND INFORMATICS AT UNIVERSITIES 2002*. Bratislava: STU, 2002, s. 150 – 154. ISBN 80-227-1752-5

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BOŽEK Pavol. New trends using of multimedia in education. In *ELEKTROTECHNIKA A ENERGETIKA 2002. Zborník ku konferencii*. Bratislava: STU, 2002, s. 105 – 106.

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	2 – 5	0-2	Mironovová, Rusková, Miština, Waleková, Cagáňová
German	2 – 5	0-2	Reháková, Fedič
Russian	2 – 5	0-2	Rusková, 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
Business English (optional lessons)	1- 4	0-2	Waleková

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, Miština
German		0-2	Reháková
Russian		0-2	Bujnová

IV. RESEARCH TARGETS

- Improving professional communication of PhD candidates in written and spoken English using e-mail and Internet
- Investigating methodological aspects of foreign language teaching and implementation of the research results into educational process
- Foreign language curriculum improvement based on the needs analysis of the Faculty graduates and undergraduates in the field of international professional communication
- setting the network for professional information exchange and dissemination of effective and attractive LSP (Languages for Specific Purposes) ideas

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- Needs analysis of the Faculty graduates and undergraduates in the field of international professional communication

V.2 National Grants (VEGA, KEGA)

- Improving language competence of PhD students at MtF STU within international scientific communication in English, KEGA 970 Project
- Spectrum 2002 – regional vocational language teacher training project, The City Council Grant

V.3 International Projects

-
- A Model for an International Collaborative Student Experience - technical English collaboration between Purdue University (USA) and Slovak University of Technology, ALCOA Grant (US – SK billateral project)
- SPEKTRUM – practical activities and teaching tips in foreign language teacher training (Leonardo da Vinci Project). The Project was awarded the European Label for Innovative Initiatives in Language Education by the European Commission for Education and Culture and the Ministry of Education of the Slovak Republic as the very first and only project in Slovakia.

VI. CO-OPERATION

VI.1 National Co-operation

- Language Department, Faculty of Electrical Engineering and Information Technology STU Bratislava

VI.2 International Co-operation

- The British Council in Bratislava
- Purdue University, Kokomo, Indiana, USA
- 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

- PhDr. Emília Mironovová - ICEE Annual Conference in Manchester
- Mgr. Juraj Miština - "Languages and Mobility" Leonardo da Vinci contact language seminar in Iceland
- Mgr. Juraj Miština - Herning Institute of Business Administration and Technology, Herning, Denmark

VIII.2 Foreign Visitors to the Department

VIII.3 Organised Conferences, Seminars and Workshops

- Spektrum 2002, Workshop N°5 for secondary and tertiary LSP (Language for Specific Purposes) teachers from the region of Trnava, March 2002.
- Students Scientific Conference / Foreign Language Section, May 2002
- Spectrum 2002, Workshop N°6 for secondary and tertiary LSP teachers from the region of Trnava, December 2002.

IX. PUBLICATIONS

kol autorov:... RUSKOVÁ Dagmar. *ESP- Effective leading to professionality.* Bratislava: British Council Slovakia a Štátny pedagogický ústav, 2002. 90 s. ISBN 80-85756-69-2

ROVANOVÁ, Ľ. – CZÉREOVÁ, B. – HLAVŇOVÁ, A. – MIRONOVOVÁ, E. – MIŠTINA, J. – PODPERA, I. – PÄTOPRSTÁ, J. – ROBINSONOVÁ, Z. English for professional Communication. <http://www.elf.stuba.sk/Katedry/KJAZ/E4PC/WWW/main.html>

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CZÉREOVÁ Beáta – RUSKOVÁ Dagmar – TIMKOVÁ Renáta. The need for change II? In *EFLT – teacher or learner centred ?* Prešov: FHaPV, 2002, s. 157 – 159. ISBN 80-968557-5-1

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FEDIČ Dušan. Creative exploitation of vocabulary. In *SPEKTRUM 2001 – metodické námty pre vyučovanie cudzích jazykov s profesijným zameraním*. b.v.ú. 2002

MIRONOVOVÁ Emília. Introduce Your Invention – Creative use of professional vocabulary and skills in elaborating and presenting a scientific poster. In *SPEKTRUM 2001 – metodické námty pre vyučovanie cudzích jazykov s profesijným zameraním*. b.v.ú. 2002

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WALEKOVÁ Gabriela. The Development of Reading and Retelling Skills. In *SPEKTRUM 2001 – metodické námety pre vyučovanie cudzích jazykov s profesijným zameraním*. b.v.ú. 2002

DEPARTMENT OF MACHINING AND ASSEMBLY

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I. STAFF

Professors:	1	Research Fellows:	0
Assoc. Professors:	6	Technical and Admin. Staff:	4
Senior Lecturers:	1	PhD Students:	11
Lecturers:	3		

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

- CCD camera
- Zeiss length gauge l m
- Zeiss universal microscope
- Zeiss universal length gauge
- Hilger Watts autocollimator + mirror polygon
- Zeiss collimator + telescope

II. 3 Special Technological Equipment

- Milling machine Deckel inclusive educational computerised system
- CNC lathe

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 Technologies and Production Equipment	1	3-2	Lipa, Štefánek
Machining Technology and Metrology	4	3-2	Lipa, Maduda
Machining technology	5	2-2	Peterka
Fundamentals of Assembly	5	2-0	Valentovič
Metrology Practice	5	0-3	Maduda, Görög
Semester Project	5	0-2	Janáč
Final Work	6	0-5	Janáč
Metrology	6	2-1	Maduda, Görög
CAD/CAM systems	6	2-2	Peterka

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
Machining Theory	7	2-2	Peterka
Cutting Machines and Equipment	8	2-2	Valentovič
Assembly Technology	7	2-1	Valentovič
NC Machine Programming I	7	1-2	Peterka, Görög
Metrology Practice	8	0-4	Maduda, Görög
Progressive Machining Methods	9	3-2	Štefánek
Production Planning	9	2-2	Békés, Peterka
Mechanisation and Automation	9	3-2	Valentovič
Final Project	9	0-5	Janáč
Finishing Machining Methods	9	2-2	Lipa
Computer Controlled Production	9	2-1	Peterka
Experimental Machining Methods	9	2-1	Lipa
CAD/CAM Systems	9	1-2	Peterka
Design for Manufacture	8	2-2	Hrubec
NC Machine Programming II	8	0-3	Peterka, Görög
Prediploma praxis	10		
Diploma project	10		

IV. RESEARCH TARGETS

- Theory of machined parts manufacturing, creatics measurement and assembly,
- CIM, CAD/CAM, CAPP, CAQ, CAA,
- 3D art engraving,
- Manufacturing of dies,
- Quality of measurements.

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- Accreditation of measurement laboratory. 804 (Borovička, M.)

V.2 National Grants (VEGA, KEGA)

- Micromachinability and machinability by finishing methods of machining. 1/8267/01 (Lipa, Z.)

- Research of application of the progressive ecological cooling cutting medium in machining APVT-20-003302

V.3 International Projects

- CEEPUS PL-01-99/00 Geometrical Surface Structure of Machine (Janáč, A.)
- Action Austria-Slovakia, 36s6 (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

- TU Ostrava, Czechia
- Faculty of Mechanical Engineering, Technical University of Vienna, Austria
- Faculty of Mechanical Technology, Technical University of Gliwice, Poland
- Faculty of Mechatronics and Machinery Design, Kielce, Poland
- ČVUT Praha, Czechia
- VUT Brno, Czechia
- TU Novi Sad, Yugoslavia
- TU Kruševac, Yugoslavia

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,
- TESS-Servis s.r.o. Piešťany,
- Topos Tovarníky a.s. Topoľčany,
- Atómové elektrárne Jaslovské Bohunice.

VII. THESIS AND DISSERTATIONS

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

VII.1 Graduate Thesis

Michaela Kebísková: Application of CA technologies in device production
Miroslava Juhaniaková: Settings error by measurement of circularity deviation
Miloš Gašparík: Experimental verification of surfaces after semiheating forging and grinding, considering the surface integrity

Michal Tichý: Copy milling
Árpád Érsek: Measuring of deviations of flatness in technical practice
Ján Kilian: Measuring of deviations of flatness big dimension components
Gabriela Tvrdošinská: Microcutting
Peter Cisár: Assembly, service and control, water and steam distribution in power stations
Tomáš Šimo: Proposal of technological process of gear production
Peter Gavora: Project of assembly technology for Skodas car rearview mirror
Igor Štefíček: Projecting of cutting Processes by physical laws of Creatics
Štefánia Butašová: Water Jet Machining
Róbert Bilko: Computer aided manufacturing of a bicycle frames
Sven Mitana: Project of the machining place for shaped cutting out and machining
Žigmund Fülöp: Force conditions at the chromium-nickel austenitic steel drilling
Vladimír Rehák: Study of Assembly bolted Connections
Marcel Šendula: Technologic solution to bevelling of edges for non – rotary workpieces
Andrej Kuric: Technology of construction in term of machining requirements
Martin Havaš: Toxicity of cutting liquids
Ján Bugár: Locating, clamping in engineering manufacturing - machining
Peter Berec: Vibrodiagnostic of tool machine
Brigita Havlíková: Evaluation of rod and flat metallic materials dividing methods
Ľubomír Szczygiel: Production of longitudinal sledge by accurate milling on the portal led machine tool
Jozef Balaj: Courseware for NC programming of milling

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- TU Vienna (Austria),
- WUT Warsaw (Poland),
- ČVUT Praha (Czechia),
- VUT Brno (Czechia),
- TU Kharbin (China),
- VŠB Ostrava (Czechia),
- TU Kielce (Poland),
- TU Zagreb (Croatia),
- IOS Krakov (Poland).

VIII.2 Foreign Visitors to the Department

- Prof. P. H. Osanna (TU Vienna), Ass. Prof. N. M. Durakbasa (TU Vienna), Prof. K. Kocman (VUT Brno), Prof. Dr. – Ing. Marcel S. Popa (TU Cluj), Prof. Ing. S. Adamczak, DrSc. (Universita Kielce)

VIII.3 Organised Conferences, Seminars and Workshops

- Seminar Tools for progressive machining
- Summer School on Metrology (project CEEPUS PL-O1)
-

IX. PUBLICATIONS

JANÁČ Alexander – LIPA Zdenko – CHARBULA Jozef – PETERKA Jozef – GÖRÖG Augustín. *Technology of machining and metrology. Instruction for practices.* Bratislava: STU, 2002. 193 s. ISBN 80-227-1711-8

PETERKA Jozef – JANÁČ Alexander. *CAD/CAM systems.* Bratislava: STU, 2002.63 s. ISBN 80-227-1685-5

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LIPA Zdenko – JANÁČ Alexander – CHARBULOVÁ Marcela – TOMANÍČKOVÁ Dagmar. Application of dimensional analysis in tasks of material and machinery – technological research. In *Materiálové inžinierstvo*, 9, 2002, č. 4, s. 17 -22. ISSN 1335-0803

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MADUDA Miroslav. Design, production and measurement of machine parts shape. In *Vedecké práce Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*, 2002, vol. 12, s. 83 – 87. ISSN 1336-1589

PETERKA Jozef – POKORNÝ Peter. Calculation of arithemtical mean deviation of the assessed profile by copy milling. In *Vedecké práce Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*, 2002, vol. 12, s. 101 – 106. ISSN 1336-1589

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DEPARTMENT OF MATERIALS ENGINEERING

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I. STAFF

Professors:	4	Research Fellows:	3
Assoc. Professors:	3	Technical and Admin. Staff:	7
Senior Lecturers:	11	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 JEOL 200 CX, TESLA BS 500
- Scanning Electron Microscopes TESLA BS 300, TESLA BS 343
- X-ray Diffractometers DRON 3M, HZG 4, MIKROMETA 2, Philips PW1710
- Light Microscopes NEOPHOT
- Induction Magnetometer
- Image Analyser MINI BVS
- FPZ 100/l Direct Stress Testing Machine
- EDZ 40 dyn Direct Stress Lasting Machine
- Hardness Testers ZWICK 3212, RB 1, HPO 250, HPO 3000
- Pendulum Impact Testing Machines PS 30
- Isostatic Press QICH 16
- Vacuum furnaces KOOP, Degussa
- Plasma furnace

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
Material Science I	2	3-3	Grgač,Hrivňáková
Materials Science II	3	3-3	Šimkovič
Databases of materials	4	1-2	Moravčík
Final project	5	0-2	Martinkovič
Technology of Heat Treatment and Surfacing	5	2-2	Grgač
Mechanical Testing of Materials	5	2-2	Hrivňák
Experimental Methods of Material Science	5	2-2	Čaplovič

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 Metallurgy	8	3-2	Hrivňáková
Experimental Methods of Material Science	5	2-2	Čaplovič
Technology of Heat Treatment and Surfacing	7	2-2	Grgač
Processes of Heat Treatment and Sintering	7	2-2	Grgač
Theory of Phase Transformation	7	2-1	Hrivňáková
Mechanical Testing of Materials	7	2-2	Hrivňák
Thin layers and surface spectroscopy	7	2-1	Dománková
Information Technology in Materials Science	7	1-2	Čaplovič
Experiment planing and evaluating	7	2-1	Varkoly
Basics of Stereology Metallography	7	2-2	Martinkovič
Vacuum Technology	8	3-2	Žitňanský
Experimental Methods of Material Research I	8	1-2	Čaplovič
Structure and Properties of Plastics	8	2-2	Janega
Corrosion, Tribology and Surfacing	8	2-2	Opravil
Utility Properties and Choice of Materials	8	3-2	Hrivňák
Machinery of Plastic Technology	8	2-1	Horváth
Composite Materials	9	2-2	Šebo
Experimental Methods of Material Research II	9	1-3	Čaplovič
Degradation Processes and Time Life Prediction	9	2-2	Hazlinger
Final Project	9	0-5	Ožvold
Fractography	9	2-1	Bošanský
Vacuum Technology in Heat Treatment	9	1-2	Žitňanský
Advanced Methods of Heat Treatment	9	3-2	Hazlinger
Materials of Atomic Power Plant Equipment	9	2-1	Kupča
Projecting of Production Processes and Systems in Heat Treatment	9	2-2	Onderčanin

IV. RESEARCH TARGETS

- Vacuum metallurgy, metal rafination, crystallisation of metals, materials science
- Tool steels and nickel alloys
- Biocompatible materials
- Powder metallurgy
- Corrosion resistant steels
- Weldability of steels
- Hard magnetic materials
- Boronizing of steels

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

V.2 National Grants (VEGA, KEGA)

- Research of the Method of Preparation of Human Joints and Sceleton. VEGA 1/7170/20, (Žitňanský, M.) Research and development of a model total hip replacement /THR/ and spinal fixator with the goal to construct at prevalence measure so working process utilising contemporary research knowledge of top Slovak specialists in materials research and orthopaedic surgery.
- Weldability of High Strenght Steels - II . VEGA 1/7168/20, (Hrivňák, I.).Welding and weldability problems of electron beam welding of tailored blanks for car industry was investigated. Investigation of the submerged arc pulsed current welding of steels. Occurrence of M-A (martensite-austenite) constituent in high strenght steel welds. Investigation of mecahnism of the M-A formation and its effect on impact properties in various high strenght steels.
- Microstructural evolution in high-alloyed alloys in the process of rapid solidification and consecutive thermo-deformational operations. VEGA 1/7339/20, (Grgač, P.). Investigation of complex microstructural changes during rapid solidification at atomising the liquid metals of high alloy eutectic alloys, and subsequent technological operations. The goal is to describe the evolution of original, rapidly solidified particles during thermo-deformational compacting, and following heat treatment processes.
- Study of the kinetic of grain boundary phases precipitation in unstabilized austenitic stainless steels with low content of interstitials. VEGA 1/9105/02 , (Hrivňáková, D.). This project deals with the study of the influence of the decreasing of interstitial elements on the typical material properties of the unstabilized austenitic stainless steels, which are connected with corrosion resistance. The proposal project deals with the study of the interrelation among grain boundaries, precipitation of phases and segregation of impurities with the goal to predict the corrosion properties of these analysed materials during the application in the operation.

V.3 International Projects

- CEEPUS Project PL 0013-01/02 (Žitňanský, M.)
- CEEPUS Project PL 0013-02/03 (Žitňanský, M.)
- CEEPUS Project CZ 0013-02/03 (Žitňanský, M.)
- International project DAAD: Thermal behaviour of microstructures and segregation in the nm-range (Hrivňáková, D.)
- Project of Czech and Slovak science and technical cooperation: Innovation of plasma furnace (Žitňanský, M.)

VI. CO-OPERATION

VI.1 National Co-operation

- AVANTEK Nové Mesto nad Váhom. Laser marking.
- FÚ SAV Bratislava (Academy of Science). Thermal analysis.
- ÚMMS SAV (Academy of Science) Bratislava. Isostatic pressing.
- VÚZ Bratislava. Weldability of steels.

- ZŤS MATEC Dubnica n./Váhom. Advanced cutting.
- Atomic Power Plant Research Institute VUJE a.s. Trnava. Atomic energy materials.
- IMR SAS Košice. Grant project.
- FNE SUT Bratislava. Grant project.
- VUSAPL Nitra. Grant project.
- Orthopedic Clinic FN LF UK Bratislava. Grant project.

VI.2 International Co-operation

- Institute of Solid State and Research Materials IFW Dresden Germany. TEM microscopy.
- Military Academy Brno Czech Republic. Nitriding of steels.
- Silesian Technical University in Gliwice Poland. Grant project.
- National Academy of Science Minsk Belarussia. Grant project.
- Research Institute of K.E.Ciolkovski Moskva Russia. Grant project.

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
- SE a.s., Atomic power plant Mochovce – material analyse
- VSŽ Košice ltd. - laser welding of sheet metal development
- PFS ltd. Brezová - expertise of heat treatment of springs
- NChZ Nováky – material expertise
- Elektrokarbon Topoľčany – material expertise
- TRENS Trenčín – material expertise
- PUNCH Trnava - material expertise

VII. THESES AND DISSERTATIONS

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

VII.1 Graduate Theses

Bachňák Peter: Weldability investigation of steel tailored blanks by laser beam (Hrivňák)
Barinková Marta: Boronizing of new high alloyed PM tool steels (Sedlická)
Bórik Daniel: Numerical computation of residual stress in high-temperature composite (Labaš)
Čanky Milan: The methodics for measurement of carbon materials graphitization degree (Čaplovič)
Gajdošová Stanislava: Influence of neutron irradiation on damage of structure of 15Ch2MFA steel for reactor pressure vessels VVER – 440 (Kupča)
Guyrák Peter: Degradation of cmpressor membranes in aggressive environment (Hrivňák)
Hancko Peter: Carbide phases identifikation in rapidly solidified powder of Ch12MF4 (Moravčík)
Hošová Oľga: Micoscopic analysis of alloy VÚZ NP 42 after differential thermal analyse (Trnková)
Hrvolová Jana: Microstructure analysis and properties of CHN35VT(VD) steel type used for flanged joints of steam generator – VVER 440 (Kupča)
Chochoľák Peter: Study of cokes properties for carbon production (Čaplovič)
Jedináková Miroslava: Analysis of isostatic pressed hard slide material based on metal powder and MoS_2 (Beznák)
Jurík Radovan: Influence of welding parameters on microstructure of E 700 TS steel (Hudáková)
Kopková Anna: Technological texture in ceramic materials (Kozík)
Kožiaková Ivana: Identification of secondary phases precipitated in austenitic stainless steel AISI 316L for relive parameters of annealing (Hrivňáková)

Krajčovič Martin: Mictrostructure identification of welding joints of steel Weldox 700 (Dománková)
Kršiak Martin: Settlement boundary conditions of thermal processing (Taraba)
Kubeková Katarína: Precipitaion study on grain boundaries of homogenized austenitic stainless steel AISI 316 at 800°C (Hrivňáková)
Kukučka Michal: Analysis of causes of initial cracks at hardening of the pin 02M 409355 A type (Martinkovič)
Kysová Tatiana: Analysis of conditions of rapid cooling of spherical droplets in the gas atomisation process (Behúlová)
Majerníková Ľudmila: Relations between carbon brush wearing and its physical properties (Čaplovič)
Mareček Juraj: Microstructural Changes in Simulated Underbead Zone of Duplex Stainless Steel (Hrivňák)
Masaryk Miroslav: Study of the heat transfer in copper – carbon filbre composite (Behúlová)
Miklovič Jaroslav: Boronizing of the Sintered Carbides (Sedlická)
Mutišová Ľubica: Analyse mechanic facilities high-speed steel AISI by increased temperature (Kadlec)
Nosko Martin: Degradation processes in radiation tubes of pyrolysis furnances made of nickel alloys (Hrivňák)
Pösová Stanislava: Morphology of the primary phases in rapidly solidified particles NiCrSiB alloy (Trnková)
Reho Marek: Metallurgical properties evaluation of JRQ correlation monitor steel for reactor pressure vessels PWR type (Kupča)
Różová Katarína: Boronizing of stainless steels (Sedlická)
Savková Gabriela: Electrical and dielectrical properties of glasses based on Sb_2O_3 for transmission of radiation in IR region of spectrum (Kubliha)
Sobkuliaková Jana: Application mode heat treatment steel for production standard of ultrasound monitoring (Kupča)
Šmatlák Ľubomír: Stdudy of carbon black properties for carbon production (Čaplovič)
Šreiner Peter: Electrical conductivity of kaolines (Kozík)
Štěrbová Eva: The quantitative metallographic and fractographical evaluation of materials grain size (Bezecný)
Šupák Miroslav: Residual stresses in the quenched parts with martensite structure (Taraba)
Horáková Katarína: Evaluation of possibilities of reducing flame retardation and electrostatic modification of commingled plastics waste products (Mátel)
Jurdíková Jana: Evaluation of technological possibilities of processing commingled plastics and tre wastes (Mátel)
Juríček Marek: Design of injected product, documentation design in Pro – Engineer system and document processing of injecting tool for final produc(Ševčík)t
Klimová Jana: Preparing of composities on xylem matter base with use different type of coupling agents (Horváth)
Koleno Stanislav: Preparing of composities on xylem matter base with use different type of coupling agents (Červinková)
Loviška Milan: Implementation of testing method by STN EN ISO 9969 norm for testing of circular stiffness of termo plastic tubes for canalization (Árendás)
Majerová Katarína: Hybrid polypropylene compositions with depression combustibility (Bolačeková)
Ondrejcová Gabriela: Development of managerial project of mutual connection of quality systems accredited (Kebisková)
Pribylinová Jozefína: The changes of physical properties in HAZ (heat affacted zone) of polymer material (Kozík)
Rázusová Katarína: Technology and strenght property of the polyolefin bonding (Tomík)
Sivok Erik: Evaluating of polybutylene- terephthalate (Grom)
Truska Michal: Influence of technological parameters of injection molding on the hold pressure efficiency in Gas-assist injection technology (Varga)
Jakubík Eduard: Determination of the causes of damage and operating lifetime decrease of punches (Hazlinger)
Mach Miroslav: Influence of constructional factors and technological parameters on deformation of light components during the process of chemical – heat treatment (Synak)
Špacírová Ivana: The valluation possibility of the thermal regeneration of hight – pressure disces turbine GT – 750 – 6 (Dománková)
Šarmírová Lucia: The influence of thermal expose on the microstructure and phase composition of the NiCrSiB alloy (Trnková)

VII.2 Disertations (PhD.)

Gunič František: Physical metallurgy of pulsed current submeged arc welding of steels. (Hrivňák)

Kusý Martin: The effects of rapid solidification on microstructure and phase constitution of the rapidly solidified powder particles of Fe-C-Cr-V alloy. (Grgač)
Žúbor Peter: The M-A constituent in structural steel weld joints. (Hrivňák)

VII.3 Habilitations (Assoc. Prof.)

Čaplovič Ľubomír: Methodology of physical-metallurgical analysis in the materials science

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- Sillesian Technical University, Gliwice, Poland – professor three weeks
- IFW Dresden, Deutschland – PhD student three month, senior lecturer three weeks and professor one week
- University Gent, Belgium – PhD student seven month

VIII.2 Foreign Visitors to the Department

- Wetzig Klaus, prof. Dr., IFW Dresden Germany – one week
- Jurči Peter, Ph.D., Ecosond Prague Czech republic – a few times two days
- Stolař Pavel, Ph.D., ecosond Prague Czech republic – one day
- Marcela Pekarčíková - PhD student IFW Dresden Germany - three days
- Sandra Lopez - MSc student University of Sevilla Spain – three month

VIII.3 Organised Conferences, Seminars and Workshops

- Welding of stainless steels and Ni high alloyed materials - seminar
- 257.Talks on actual problems in electron microscopy and x-ray structure analysis – seminar

IX. PUBLICATIONS

HRIVŇÁKOVÁ Dáša. Theory of phase transformation. Bratislava: STU, 2002. 142 s. ISBN 80-227-1665-0

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GUZY Peter – HAZLINGER Marián – TARABA Bohumil. Analyse of failure crak formation reasons in induction hardened shafts of Ck45 steel. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 1., s. 44 – 49. ISBN 80-227-1768-1

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SEDLICKÁ, V. – ČAPLOVIČ, Ľ. – GRGAČ, P. Boride layers on the steels. In *VRSTVY A POVLAKY 2002. Zborník prednášok odborného seminára s medzinárodnou účasťou*. Dubnica n./Váhom: ZTS-MATEC, 2002, s. 51 – 54.

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DEPARTMENT OF MATHEMATICS

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I. STAFF

Professors:	0	Research Fellows:	0
Assoc. Professors:	5	Technical and Admin. Staff:	0
Senior Lecturers:	16	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	Šišolák
Mathematics II	2	3-2	Červeňanský

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	Šišolák
Mathematics II	2	3-4	Červeňanský
Linear algebra	3	2-2	Híc, Halabrín
Applied Mathematics III	5	2-2	Urbaníková
Applied Mathematics I	5	2-2	Híc
Insurance and Financial Mathematics	6	2-1	Urbaníková

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

V. EDUCATON AND RESEARCH PROJECTS

- Functional analysis and quantitative theory of ordinary differential equations
- Geometric and related structures used in computer techniques

VI. COOPERATION

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

VII. THESES

VII.1 Graduate Theses

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

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

VIII.2 Invited Lectures from Aboard

- Prof. František Bubeník, Czech Technical University in Prague
- Prof. Roman Bek, Czech Technical University in Prague
- Prof. Jaroslav Černý,CSc., KM FSv , Czech Technical University in Prague

- Jiří Dočkal, ÚM FS Technical Univerzity in Brno
- Prof. Zděnek Jankovský, FS Technical Univerzity in Brno
- Prof. Milada Kočandrlová, KM FSv , Czech Technical University in Prague
- Prof. Anežka Wohlmuthová, KM FSv ČVUT, Czech Technical University in Prague,
- Prof. Čeněk Zlatník, Csc. KTM FSI ČVUT, Czech Technical University in Prague

IX. PUBLICATIONS

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VRÁBEĽ Róbert. Structure of the solutions set of reduced problem for differential equation $\varepsilon y'' = f(x,y,y')$. In *The 2nd International Conference on APPLIED MATHEMATICS AND INFORMATICS AT UNIVERSITIES 2002*. Bratislava: STU, 2002, s. 98 – 100. ISBN 80-227-1752-5

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MIŠÚT Martin – MIŠÚTOVÁ Mária. Evaluation of ICT implementation into primary school teachers education. In *The 2nd International Conference on APPLIED MATHEMATICS AND INFORMATICS AT UNIVERSITIES 2002*. Bratislava: STU, 2002, s. 209 – 213. ISBN 80-227-1752-5

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BALOG Karol – TUREKOVÁ Ivana – PALUMBÍNY Oleg. The effect of modified configuration of limiting oxygen to cellulose retardant power. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 2., s. 230 – 235. ISBN 80-227-1768-1

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DEPARTMENT OF NON-NETALIC MATERIALS

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I. STAFF

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

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,
- Laboratory of advanced materials, effect 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^{o}C,
- Modular spectroscopy in the frequency range 1 - 106 Hz, up to 300 ^{o}C,
- Flow Sorb, fy. Micrometrics, determination of the surface of the powder systems, accuracy 0,5 - 3 %,
- Arbitrary function generator SFG - 830.

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
Basic Physics	1	0-2	all DNM
Physics I	2	3-3	Kalužný
Physics I	3	3-3	Labaš
Physics II	3	3-2	Minárik
Laboratory experiments of Physics	3	0-2	Labaš
Non-metal materials	5	2-2	Kozík
Final Project	5	0-5	all DNM

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 Chemistry	7	2-1	Sorentinyová
Machinery of Plastic Technology	7	2-2	Horváth
Structure and Properties of Plastics	7	2-2	Sorentínyová
Plastics Treatment	8	2-2	Horváth
Physics III	8	3-3	Minárik
Theory and Technology of Plastics Treatment	9	3-2	Jahnátek
Metrology and Testing of Plastics	9	2-2	Grom
Tools for Plastics Production I	9	3-2	Horváth
Tools for Plastics Production II	9	2-1	Bútora
Economics of Plastics Production	9	1-2	Čičová
Production, manipulation and automation Techniques	9	2-1	Horváth
Final Project	9	0-5	Horváth
Construction Plastics	9	2-1	Kišš
Unconvetional Methods of Plastics Treatment	9	2-1	Náplava
Physical Methods of study of Non-metal Materials	9	1-2	Kubliha
Ceramics Materials	9	2-2	Kozík

IV. RESEARCH TARGETS

- investigation of relationship between preparatory conditions, microstructure and physical properties of ceramics (based on ZrO2, YBaCuO and basalt), ceramic composites and glasses (systems TeO_2 - ZnO, TeO_2 -ZnO - $ZnCl_2$, TeO_2 - $PbCl_2$ erc.), rubber and ferrite - plastic composites,
- investigation of materials structure, modelling and simulations.

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- Experimental measurement and computer modelling of physical properties of progressive materials. (Labaš V.)
- Physical properties of optical, dosimatric, ferroelectric and superionic materials based on haevy metal oxides, chalcogenides and halogenides. No 818 (Ožvoldová M.) (Department contributes to the project solution)

V.2 National Grants (VEGA, KEGA)

- Investigation of influence of processing technologies on ohysical properties of materials with disordered structure. No 794 (Kalužný J.)
- Dimensional and structural quality of segments from composite copolymers maked by injection and extracting technology with optimalization of their technological and structural condition of welding. No 780 (Horváth J.)
- Relationship between preparing technology and properties of materials based on haevy metal oxides, chalcogenides and halogenides for fibrous optics, laser and sensor technique and supplementary powers. No 795 (Ožvoldová M.). (Department contributes to the project solution)
- Electrical, dielectrical, optical and mechanical properties of unhomogeneous and modelled materials. No 782 (Trnovcová V.) (Department contributes to the project solution)

- Training and additional education of university management. No 112 (Kalužný J.)

V.3 International Projects

VI. CO-OPERATION

VI.1 National Co-operation

- 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 Department of Applied Mechanics,
- Faculy of Mechanical Engineering, ŽU Žilina,
- Faculty of Mechnical Engineering, STU Bratislava,
- Faculty of Chemical Engineering, STU Bratislava,
- Faculty of Industrial Technologies, University of Trenčín.

VI.2 International Co-operation

- The preparation of the experimental materials (glass, ceramics) in cooperation with Laboratory of Inorganic Materials, common working place of Institute of Inorganic Chemistry, Academy of Sciences and Institute of Chemical Technology, Prague, Czech Republic,
- Centre d`Etude des Matériaux Avances, University of Rennes, France.

VI.3 Contracts with Industry

- Research Institute of Plastic Materials in 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

Savková G.: Electrical and dielectrical properties of glasses based on Sb203 destined for transition of radiation in ir range of spectra. (Kubliha M.)
Bórik D.: Computation of residual stresses in high-temperature composite material. (Labaš V.)
Kútny A.: Utilizing of PHP language and database system MySQL for creation of interactive tests. (Labaš V.)

VII.2 Dissertations (PhD)

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- Laboratory of Inorganic Materials, common working-place of Institute of Inorganic Chemistry, Academy of Sciences and Institute of Chemical Technology, Prague, Czech Republic.

VIII.2 Foreign Visitors to the Department

VIII.3 Organised Conferences, Seminars and Workshops

- Seminars:
  Structure, microstructure and electrical properties of eutectic composites Al203 - (Y2O3)ZrO2. (Čička R.)

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KOZÍK, T. – KALUŽNÝ, J. – MALINARIČ, S. Contribution of engineering methods to solution of the ceramic quality production. In *Proceedings of the 8th international Workshop on APPLIED PHYSICS OF CONDENSED MATTER*. Liptovský Mikuláš: VA, 2002, s. 171 – 178. ISBN 80-8040-186-1

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KOZÍK, T. – SORENTÍNYOVÁ, Z. – KALUŽNÝ, J. – KIŠŠ, M. – KOPČA, M. Porosity hanges of plastics ferrite foil. In *SSC 2002* : *SOLID STATE CHEMISTRY*. Bratislava: 2002.

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DEPARTMENT OF PHYSICAL EDUCATION AND SPORTS

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I. STAFF

Professors:	1	Research Fellows:	0
Assoc. Professors:	1	Technical and Admin. Staff:	7
Senior Lecturers:	10	Ph.D. Students:	1
Lecturers:	0		

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Gymnasium
- Fitness Centre
- Swimming Pool
- Track and Fields
- Tennis Courts and Tennis Hall
- 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

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 L+R , Merica, Rafaj, Morvay, Novotná, 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.)

V.2 National Grants (VEGA, KEGA)

-
- The evaluation of the level and the changes of physical fitness in selected sports. No. 862. (Merica, M.)

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.)

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:
  „Health, nutrition and drinking habits in sport.“
  „The rationalisation of sports training process.“

IX. PUBLICATIONS

MERICA Marián. Intensifying methods in teaching condition bodybuilding to university students. In *Vedecké práce Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*, 2002, vol. 12, s. 89 – 93. ISSN 1336-1589

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GLESK Pavol. New ways to use cold in medical treatment and regeneration. In *OPTIMALIZÁCIA ZAŤAŽENIA V TELESNEJ A ŠPORTOVEJ VÝCHOVE. Load optimisation in physical and sports education*. Bratislava: STU, 2002, s. 42 – 45.

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NOVOTNÁ Soňa. The history of the softball club SUT Panthers Trnava. In *RACIONALIZÁCIA PROCESU ŠPORTOVÉHO TRÉNINGU*. Bratislava: STU, 2002, s. 101 – 106. ISBN 80-227-1761-4

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DEPARTMENT OF PHYSICS

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I. STAFF

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

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- Laboratory of Physics I-II; teaching of the mechanics, thermodynamics, and electromagnetism
- Laboratories of Electrotechnics; teaching of the elementary electrotechnics
- Laboratory of Interferometry techniques, applications of interferometry to elastic and elastic - plastic properties investigations
- 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
- Unimer 07, revisions and measurement of electrical properties of instruments.

III. TEACHING

The objective of teaching physics and electrotechnics is to train engineers who should be competent to solve problems concerning a wide range of industry including materials engineering, industrial technologies, management and ecology, information technology, etc. The study involves a necessary theoretical introduction into subjects that provides general engineering education followed by specialised courses. The topics of lectures, laboratory and seminar exercises were choosen to provide students with useful knowledges from the field of physics and electrotechnics. At the some time students obtain fundamentals for creative work in engineering 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
Basic Physics	1	0-2	Ožvoldová, Krajčovič
Physics I	2	3-3	Labaš, Kalužný
Physics II	3	3-2	Kvetan, Minarik
Laboratory experiments of Physics	3	0-2	Labaš
Physics III	4	3-3	Ožvoldová, Minarik
Electrotechnics	4	3-3	Jančuška, Riedlmajer

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 II-D	7	4-4	Krajčovič, Ožvoldová
Ceramics Materials	9	2-2	Kozík

IV. RESEARCH TARGETS

In the Year 2002 the Department of Physics has continued research activities . Projects of the Department follows up with previous research work, focused on investigation of relations between preparatory conditions, microstructure and physical properties of ceramics (based on ZrO_2 and basalt), ceramic composites, superionic fluoride composites and glasses, rubber and ferrite - plastic composites are the main research topics. The aim of this research area is to contribute to the fundamental understanding of materials. This is carried-out by investigation of materials structure, modelling and simulation.

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- Internet distance levelling course of the college physics to the entrance examinations and to the study of physics at the technical universities. No 812 (Jančuška, I.)
- The modernisation education of physics to the technologicals study branches at the Faculty of Materials Science and Technology SUT. No.811 (Krajčovič, J.)
- Experimental measurement and computer modeling of physical properties of progressive materials. No. 816 (Labaš, V.)

V.2 National Grants (VEGA, KEGA)

- Electrical, dielectrical, optical and mechanical properties of inhomogeneous and modulated materials. No 1/8309/01, (Trnovcová, V.)
- Relation between the preparation technology and properties of heavy metal oxide, halide and chalcogenide based materials for fiber optics, laser and sensor techniques, and alternative energy sources. No. 1/9097/02, (Ožvoldová, M.)

V.3 International Projects

- IDEP - Internet Distance Education Program, No G-582/2000 (Ožvoldová, M.)
- The project prepare the on-line study materials for education of Physics of the high school. This is an experimental program in course delivery using the World Wide Web.
- STU Online.
- The aims of the project „Teaching basic course of Physics for bachelor study in the form of distance education via Internet" was the creation of new learning organization with the application of the new information technologies in the process of education in the Slovak University of Technology in Bratislava. E - text book for basic course of „Physics I" with solved examples and questions, consultations and tests for controlled self - access has been prepared.

VI. CO-OPERATION

VI.1 National Co-operation

- Institute of Physics of the Slovak Academy of Sciences.
- Investigation of the luminescence properties of zirconia 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
- Faculty of Industrial Technologies, University of Trenčín
- Faculty of Electrical Engineering and Information Technology, STU Bratislava

VI.2 International Co-operation

- Laboratory of Inorganic Materials, common working-place of Institute of Inorganic Chemistry, Academy of Sciences and Institute of Chemical Technology, Prague, Czech Republic
- Institute of Crystallography, Russian Academy of Sciences, Russia
- Institute of Solid State Physics, Russian Academy of Sciences, Russia
- Institute of Physics, Faculty of Electrical Engineering and Computer Science, Brno University of Technology

VI.3 Contracts with Industry

- Slovak Power, Jaslovské Bohunice Nuclear Power Plant
- Research Institute of Plastic Materials in Nitra
- Chemolak a.s., Smolenice
- Createch, Piešťany

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

- University of Science & Technology Sanna, Jemen
- Catholic University of Leuven, Belgium
- University of Taizz, Taizz, Jemen
- MZLU Brno, Czech Republic
- Institute of Crystallography, Russian Acade,my of Sciences, Moscow, Russia
- UNESCO head quarters in Paris, France
- University of Pardubice, Faculty of Chemical Technology, Czech Republic

VIII.2 Foreign Visitors to the Department

- PhD., Assoc. Prof. Stanislav Bartoň – MZLU Brno, Czech Republic
- Ing. Jiří Prúcha, National Centre for Distance Education, Praha, Czech Republic

VIII.3 Organised Conferences, Seminars and Workshops

- Co-operation in organising the regional Physics Olympiad
- Seminars: Barta Štefan – Effective parameters of composite materials

IX. PUBLICATIONS

LABAŠ Vladimír – MINÁRIK Stanislav: Physics I. Problems and exercises. Bratislava: STU, 2002. 263 s. ISBN 80-227-1671-5

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OŽVOLDOVÁ,M. – BALLO,P. – ČERVEŇ, I. Basic course in physics within internet education programme. In *PTEE 2002*. Leuven, 2002. 5 s.

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DEPARTMENT OF QUALITY ENGINEERING

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I. STAFF

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

II. EQUIPMENT

II.1 Teaching and Research Laboratory

- Teaching Laboratory for Quality Management

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*
Enterprise Economy	5	3-2	Burcl
Statistical Methods	5	2-2	Kučerová
Enterprise Management	5	3-2	Čambál
Accounting	5	2-2	Horváthová
Engineering Metrology /Practice/	5	0-3	Maduda
Semestral Project	5	0-2	
Industrial Sociology	6	0-2	Holkovič
Human Ecology	6	0-3	Odlerová
Marketing in Quality Management	6	3-2	Šalgovičová
Quality Management	6	3-2	Linczenyi
Statistical Methods of Quality Inspection	6	2-3	Kučerová
Personal Management	6	2-2	Holková
Final Project	6	0-5	
Industrial Psychology	6	0-2	Schuller

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*
Operational Research	7	3-3	Štrúlar
Production Management	7	3-3	Rybanský
Tools and Techniques of Quality Management	7	3-3	Paulová
Logistics in Quality Assurance	7	2-3	Mĺkva
Engineering Metrology /Practice/	7	2-3	Maduda
Information Systems	7	2-1	Ončákl
Introduce of Managers Low	7	2-1	Paulíčková
Marketing in Quality Management	8	3-2	Šalgovičová
Statistical Methods of Quality Inspection	8	2-3	Kučerová
Quality Management	8	3-2	Linczényi
Semestral Project	8	0-5	
Computer Operating	8	0-3	Šribařpví
Introduction of scientific work	8	3-2	Holkovič
Certification of Products, Quality Control Systems	9	2-1	Šalgovičová
Computer Aided Quality Control	9	2-2	Mĺkva
Quality Economic	9	2-2	Nováková
Reliability Assurance	9	2-2	Bílý
Intellectual and Industrial Property	9	2-2	Ševčík
Project Management	9	1-1	Ončák
Final Project	9	0-5	
Personal Management	9	2-1	Holková
Quality Management Cases Studies	9	0-3	Nováková

IV. RESEARCH TARGETS

- Quality control in industrial enterprises
- Quality control in service enterprises
- Quality Control in public organisation
- Quality of Communications with Customers

V. EDUCATION AND RESEARCH PROJECTS

V.2. National Grants (VEGA, KEGA)

- Quality assurance system at production and maintenance organisations in aviation industry /VEGA 1/7162/20
- Quality of communication system as Agent Influencing Competitiveness of Small and Medium Companies /VEGA 1/7162/20
- Distance Education of Quality managers /KEGA

V.3. International Projects

- IB-JEP-14-092 Modul "Quality Professional"
- IDEP – Open Society Foundation N. G/276/02/61300 Distance Education of Quality Managers and Workers of Quality Management Organs

VI. CO – OPERATION

VI.1. National Co-operation

- Technical University Košice
- Technical University Zvolen
- Faculty of Engineering Bratislava
- Faculty of Engineering Žilina

VI.2. International Co–operation

- Agricultural University of Poznaň Chair of Economic and Wood Industry Management, Poznaň, Poland
- University of Zagreb Faculty of Forestry, Department for production Organization in Wood Industry
- University of West Hungary Faculty of Forestry, Department of Forest Policy and Economy

VI.3. Contracts with Industry

- Contract with LOT Trenčín „Quality Assurance in Maintenance Organisation“
- Fabryka WAGON a.s. Ostrow Wlkp – Poland – Analysis of Enterpricess Organizational Structures

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 Theses

Quality management in Enterprises - 23

Bachelor Theses

Quality management in Enterprises - 11

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

- International Conference „Modern Approaches in Management of Enterprises“

IX. PUBLICATIONS

ZGODAVOVÁ Kristína – LINCZÉNYI Alexander – NOVÁKOVÁ Renáta – SLIMÁK Ivan. *Profesionál kvality*. Košice: TU, 2002. 726 s. ISBN 80-7099-845-8

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LINCZÉNYI Alexander. Structure and mapping of processes. In *Forum ekonomiczne 2002. Summary of conferenceś materials.* Poznań: Akademia Rolnicza, 2002, s. 24.

PAULOVÁ Iveta. Slovak Republic national award for Quality implementing EFQM excellence model in slovak economy. In *Forum ekonomiczne 2002. Summary of conferenceś materials.* Poznań: Akademia Rolnicza, 2002, s. 24.
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PAULOVÁ Iveta. Application of TQM principle's in Slovak Republic. In *EKONOMIKA A RIADENIE PODNIKOV DREVOSPRACUJÚCEHO PRIEMYSLU V TREŤOM TISÍCROČÍ. Zborník z medzinárodnej vedeckej konferencie*. Zvolen: TU, 2002, s. 279 – 282.

KUČEROVÁ Marta. Statistical methods application in quality management system according to the standard ISO 9000:2000. In *MODERNÉ PRÍSTUPY K MANAŽÉRSTVU PODNIKOV. Zborník z medzinárodnej vedeckej konferencie*. Bratislava: STU, 2002, s. 223 – 226.

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DEPARTMENT OF TECHNOLOGICAL DEVICES AND SYSTEMS

Head of the Department:
Karol Velíšek, Assoc. Prof., MSc., PhD.

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I. STAFF

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

II. EQUIPMENT

II.1 Teaching and Research Laboratories

- CAD Laboratory
- Building Laboratory of FPS

II.2 Special Measuring Instruments and Systems

- Modular education system for simulation and analysis of controlling of production 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
Machinery Technologies and Equipment	1	3-2	Lipa, Velíšek,Bača,Balog

III.2 Technological Devices and Systems Graduate Study (Ing.)

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

Name of subject	Semester	H/W L-P	Reader's name
NC Machine Programming	5	0-2	Gorog, Košťál
Semestrálny projekt	5	0-2	
Mechanizácia a automatizácia	5	2-2	Pecháček
Cuttings Tools	5	2-2	Pecháček
NC Machine Programming	7	1-2	Gorog
Machine tools	7	2-2	Velíšek
Assembly machines and equipment	7	2-2	Štefánek
Industrial robots and manipulators	8	2-2	Krsek
Design for Manufacture	8	2-2	Pecháček
Fixture and machine tools technological equipment	8	2-2	Baránek

Name of subject	Semester	H/W L-P	Reader's name
Theory of automata	8	2-2	Kolláth
Theory of systems	8	2-2	Vrban
Reliability of production machines and systems	8	2-2	Vrban
Machines and equipment for special technologies	8	2-2	Štefánek
Production systems I.	9	2-2	Velíšek
Designing of Production Processes and Systems	9	2-2	Baránek
Final Project	9	0-5	
Operation of production systems	9	2-2	Baránek
Prediploma praxis	10		
Diploma project	10		
Forming tools	7	2-2	Ulík
Forming machines	7	2-2	Ulík
Welding and foundry machines	7	3-3	Murgaš
Machine and tools for plastics processing	8	2-2	Horváth
Production systems II	9	2-2	Ulík
Technological devices mechanics	9	2-2	Mudrik

IV. RESEARCH TARGETS

- Aplication of Ultrasound into Grinding
- Clamping of nonrotary workpieces
- Thematic Network on Manufacturing Technologies

V. EDUCATION AND RESEARCH PROJECTS

V.1 Institutional Projects

- Clamping of nonrotary workpieces No.810 (Velíšek,K.)
- Building laboratory of FPS

V.2 National Grants (VEGA, KEGA)

V.3 International Projects

- CEEPUS A-104 2001/2002 Asembly Automation in Manufacturing Engineering (Velíšek, K.)
- CEEPUS A-104 2002/2003 Intelligent Manufacturing and Automation (Velíšek,K.)
- Thematic Network on Manufacturing Technologies, Part B, Specific Programme Promoting Competitive and Sustainable GROWTH

VI. CO-OPERATION

VI.1 National Co-operation

- Faculty of Mechanical Engineering, Slovak University of Technology, Bratislava
- Faculty of Special Technique, University of Trenčín, Trenčín
- Department of Enviromental Studies and Process Control, Technical University of Košice

- Technical University of Žilina, Žilina
- VI.2 International Co-operation
- Faculty of Mechanical Engineering, University of Technology, Vienna, Austria
- Faculty of Mechanical Technology, Silesian University of Technology, Gliwice, Poland
- University of Technology and Economics, Budapest, Hungary
- Department of Manufacturing Engineering, Technical univerity of Cluj-Napoca, Romania
- Department of Robotics and Manufacturing System Automation, University of Zagreb, Croatia
- Institute of Production Engineering, University of Maribor, Slovenia
- Faculty of Mechanical Engineering, University of Technology, Brno, Czech Republik
- Department of Production Engineering, Faculty of Engineering, University of Rijeka, Rijeka, Croatia
- Department of Industrial Robotics, University of Applied Sciences - Fachhochschule Technikum - Wien, Vienna, Austria
- Institute of Mechanical Technology, Poznan University of Technology, Poznan, Poland
- KOMAG, Gliwice
- Department of Materials Handling and Logistik, University Miskolc
- Institute of Production Machines, Systems and Robotics, Faculty of Mechanical Engineering, University of Technology, Brno

VI.3 Contracts with Industry

- VUNAR Nové Zámky,
- SKLOPLAST Trnava,
- SACHS Slovensko Trnava,
- ŽOS Trnava,
- TOMA Trnava,
- TRENS Trenčín,
- ZTS Dubnica nad Váhom
- VOJUS Považská Bystrica
- SMC Bratislava
- EKOM Piešťany
- INTEGRA Piešťany

VII. THESIS AND DISSERTATIONS

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

VII.1 Graduate Thesis

Ľubomír Petrák: Application of manipulator for reactor interior parts visual control in reactors VVER-440
Peter Havlík: Modellins – simulation of components in D3 and creation of NC programs
Róbert Ravas: Designing of multiple spindle operation heads
Petra Paštrnáková: Extension for MDT5 modular system fixture design
Ľubomír Kulík: Design of injection mould with hot runner system for a polyolefines product

Miroslav Janega: Optimierung des Mischenprozess Polymeren in der Schnecken von Spritzgiessmeschienen
Katarína Martyščáková: Underwater device for visual control of the in-core sectors of the VVER-440 reactor
Daniel Radošinský: System for the computer design engineering plants
Marián Gašper: Transport device for TV camera for visual control of the pipes
Ladislav Paulíček: Mechanical devices for cleaning of heat exchanger tubes in primary circuit of nuclear power plant

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITIES

VIII.1 Visits of Staff Members to Foreign Institutions

- TU Vienna, 9x
- TU Budapest, 2x
- TU Cluj – Napoca, 5x
- TU Brno 2x
- TU Miskolc 2x
- TU Gliwice 2x

VIII.2 Foreign Visitors to the Department

- Assoc.Prof. Ferenc Alpek, TU Budapest, 2x
- Assoc.Prof.Vuscan, Cluj-Napoca
- Istvan Kudor, TU Cluj-Napoca
- Maria Ispan, TU Cluj-Napoca
- Domnita Fratila, TU Cluj-Napoca
- Prof. Gyenge Csaba, TU Cluj-Napoca
- Andrei Varga, TU Cluj-Napoca
- Dr.Inž.Jerzy Wodecki, Gliwice
- Prof. Jan Kosmol, TU Gliwice
- Prof. Branko Katalinič, TU Viedeň
- Berislav Ljoljič, TU Wien
- Prof. Zdenek Kolíbal, TU Brno
- Lukas Madry, TU Poznaň
- Miroslav Grzelka, TU Poznaň

VIII.3 Organised Conferences, Seminars and Workshops

IX. PUBLICATIONS

KOŠŤÁL Peter – HRUŠKOVÁ Erika. Structural analysis of multispindle heads. In *Vedecké práce Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*, 2002, vol. 13, s. 27 – 31. ISSN 1336-1589

PECHÁČEK František. Intensifikation des Superfinischierungsprozesses mittels Ultraschalles. In *Vedecké práce Materiálovotechnologickej fakulty Slovenskej technickej univerzity v Bratislave so sídlom v Trnave*, 2002, vol. 13, s. 59 – 63. ISSN 1336-1589

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MATÚŠOVÁ Miriam. Factors fixturing forces calculation. In *AKADEMICKÁ DUBNICA 2002*. Bratislava: STU, 2002,s.229 -232.ISBN 80-227-1807-6

HRUŠKOVÁ Erika. Parameters for MSOH design. In *AKADEMICKÁ DUBNICA 2002*. Bratislava: STU, 2002,s.295 -300.ISBN 80-227-1807-6

ALPEK, F. – VELÍŠEK, K. Intelligent fixturing in production automation. In *Annals of DAAAM for 2002. Proceedings of the 13th International DAAAM symposium*. Vienna: DAAAM, 2002, s. 9-10. ISBN 3-901509-29-1

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In *Annals of DAAAM for 2002. Proceedings of the 13th International DAAAM symposium*. Vienna: DAAAM, 2002, s. 591 – 592. ISBN 3-901509-29-1

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KOŠŤÁL, P. – KATALINIČ, B. – BINDAS, J. Application of ultrasound by grinding. In *Annals of DAAAM for 2002. Proceedings of the 13th International DAAAM symposium*. Vienna: DAAAM, 2002, s. 281-282. ISBN 3-901509-29-1

KOŠŤÁL Peter. Cutting parameters determination for dedicated machines. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 1., s. 277 – 282. ISBN 80-227-1768-1

MATÚŠOVÁ Miriam – KOŠŤÁL Peter – PASTIERKOVIČ Miloš. The fundamentals of positioning and clamping of workpieces for machining.

MIHALČÁK Pavol – PECHÁČEK František – BINDAS Jaroslav. Machining supported by ultrasound. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 1., s. 337 – 341. ISBN 80-227-1768-1

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ALPEK, F. – VELÍŠEK, K. – PAL, J. – PASTIEROVIČ, M. Intelligent fixtures in assembly automation. In *The 4th DAAAM Workshop „ Human Factor and Environmentalistic*". Košice, 2002.

KOŠŤÁL, P. – VELÍŠEK, K. Machining cases on dedicated machines. In *Medzinárodná konferencia NÁRADIE 2002. International Conference Tools 2002*. Bratislava: STU, 2002, 4 s. ISBN 80-227-1683-9

VELÍŠEK,K. – HRUŠKOVÁ,E. Structural relations in multispindle operational head. In *Medzinárodná konferencia NÁRADIE 2002. International Conference Tools 2002*. Bratislava: STU, 2002, 3 s. ISBN 80-227-1683-9

VELÍŠEK, K. – MATÚŠOVÁ, M. Structural relations in ficturing system. In *Medzinárodná konferencia NÁRADIE 2002. International Conference Tools 2002*. Bratislava: STU, 2002, 4 s. ISBN 80-227-1683-9

PECHÁČEK,F. – ZELEM,A - BINDAS,J. Ultrasound tool rezonators. In *Medzinárodná konferencia NÁRADIE 2002. International Conference Tools 2002*. Bratislava: STU, 2002, 6 s. ISBN 80-227-1683-9

DEPARTMENT OF WELDING

Head of the Department
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I. STAFF

Professors:	2	Research Fellows:	1
Assoc. Professors:	1	Technical and Admin. Staff:	3
Senior Lecturers:	6	PhD Students:	8
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 Tester 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
Welding Technology	5	2-2	Marônek
Theory of Welding	8	3-2	Magula,Bošanský
Special Welding Methods	9	3-2	Turňa
Weldment Design and Production	9	2-2	Ulrich
Projecting of Manufacturing Processes and Systems in Welding	9	2-1	Monček
Control and Computer Technology in Welding	9	2-1	Marônek
Final Project	9	0-5	Monček
Welding Machines and Equipments	9	2-2	Kozma
Assembly of Welded Units	9	2-2	Kozma
Tribology, Surface Engineering	7	2-1	Blaškovitš
Automation of Welding Processes	9	2-2	Jajcay
Technical Preparation of Production	9	2-1	Polák
Non-destructive Weld Joint Testing	9	2-1	Polák
Adhesive Bonding	7	2-1	Marônek

Name of subject	Semester	H/W L-P	Reader's name
Theory of Technological Processes	7	3-2	Blaškovitš
Industrial technologies and production equipments	8	2-1	Kovačócy
Welding Certification	8	2-1	Polák
Repairs and renovation	8	2-1	Blaškovitš
Specification of assembly units in welding	8	2-1	Kozma
Brazing/Soldering of metallic and non-metallic materials	9	2-1	Koleňák

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

Virtual Tribology Institute

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 Physics , Bratislava
- AE - Jaslovské Bohunice
- VÚJE - Trnava
- SKLOPLAST - Trnava
- VÚZ - Bratislava
- US Steel, Košice
- VUSTAP, Považská Bystrica
- IBOK, s. r. o., Bratislava

VI.2 International Co-operation

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

VI.3 Contracts with Industry

- SES Tlmače
- SPP, a.s.

VII. THESES AND DISSERTATIONS

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

Roman Koleňák: Physical and metallurgical aspects of soldering ceramic materials with metals. (prof. Milan Turňa, PhD.)

VII.1 Graduate Theses

Miroslav Vozár: Application of filler metals for dynamivaly loaded constructions made of carbon and low alloy steels
Roman Figedy: Experimental evaluation of posible detection of cracks in welds of nuclear power station primary components by whirl current method
Pavel Ďurica: Tightness helium pressure weld control of selected parts of gas lines
Rastislav Šupka: Microstructure evaluation of alternative lead-free solders
Juraj Provazník: Poroperty evaluation of surfaced layers suitable for abravive environment
Miroslav Chlupis: Poroperty evaluation of surfaced layers suitable for adhesive environment
Zuzana Kabátová: Flamable gases for gas welding and their exploatation in ZOS Trnava plant
Peter Macko: Tightness weld control of conensators and low pressure parts of steam turbines by vaccuum helium control
Milan Orság: Soldering posibiliteis of ceramic and metal materials by an active solder
Mária Srncová: Exploatation possibilities of thermal sprayed ceramic layers on AHSP constructions
Jozef Truchlý: Furnance cariage railway surfacing
Ivan Dimitrov: Thechnology design for railway surfacing
Marek Slivko: Technology for joining combined materials Al-Cu
Martin Dolinek: Technology design for hig speed welding of non-ferrous metals
Martin Godál: Technology design for solar collector absorber
Ján Halabrín: Universal butt and fillet weld fixture design for an experimental laboratory welding equipment
Martin Hano: Design of welding positioner for excavator chassis production
Michal Vavro: Verifying of solder UNI 4300 properties during soldering aluminium and its alloys
Marek Vido: Veryfying of protective atmosphere influence on qualitative properties of welding process during welding of crane parts made of higer strength steels
Ladislav Bombic: Joining of sheets by adhesive bonding at car production
Emília Filipová: Soldering of ceramic materials by glassy solder
Michal Gonda: Determination of heat input at pulse MAG welding
Róbert Matejka: The study of formation mechanism of active solder joint
František Kis: The study of thermal spraying properties at renovation of machine parts
František Buchel: Technical conditions for pipe assembly welds of measuring and regulating equipment
Pavol Oršolík: Welding procedure specification of production and testing of steel pipe weld joints
Ladislav Percel: Welding procedure specification of production of steel antenna tower
Andrej Sobota: Thermal and stress analysis at MAG welding process
Martin Ďurajda: Thermal cutting of stainless steel
Zoltán Janetka: Influence of shielding gas on weld joint geometry
Adrián Nagy: Influence of shielding gas on heat affected zone

Ivana Vonderčíková: Influence of welding specific energy on shape and dimensions of weld joint at pulse welding
Miroslav Boleman: Influence of pulse welding mode on shape and dimensions of weld joint
Zuzana Lukáčová: Selection of optimal technology for expansion of austenitic steel pipes production in Železiarne Podbrezová, a. s.
Radovan Ďurčenka: Selection of soldering method with computer support
Peter Vásky: Quality evaluation of laser welds of carosserie sheets used in Volkswagen Bratislava, a. s.
Ľubomíra Čmáriková: Provision of quality system in production plant according to STN EN 729
Elena Sviečková: Application of advanced welding methods at automatic MAG welding of I - bar
Martina Kormaňáková: Welding by method of friction stir welding (FSW)
Peter Vyskoč: Welding of Al and Al alloy sheets of medium thickness by pulse MIG process

VII.2 Dissertations (Ph.D.)

VII.3 Habilitations (Assoc. Prof.)

VIII. OTHER ACTIVITES

VIII.1 Visits of Staff Members to Foreign Institutions

- Materials Research Corp., New York
- Faculty of Mechanical Engineering, TU Brno
- Faculty of Mechanical Engineering, ČVUT Praha
- Technical university Esslingen

VIII.2 Foreign Visitors to the Department

- 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
- Krško Nuclear Power Plant KRŠKO, Slovenia
- University of Ljubljana, Faculty of Mechanical Eng. Ljubljana

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

IX. PUBLICATIONS

ŽÚBOR Peter – KOLEŇÁK Roman. Study of the reaction layer between ceramic and active metal solder. In *Materiálové inžinierstvo*, 9, 2002, č. 1, s. 37 – 46. ISSN 1335-0803

REMEŇOVÁ Petra – KVASNA Ľuboš – TURŇA Milan. Physical and metallurgical aspects of joining aluminium with copper. In *AKADEMICKÁ DUBNICA 2002*. Bratislava: STU, 2002,s.241 -246.ISBN 80-227-1807-6

TURŇA MIlan – HODÚLOVÁ Erika. The engineering of our future through technology. In *AKADEMICKÁ DUBNICA 2002*. Bratislava: STU, 2002,s.255 -258.ISBN 80-227-1807-6

TURŇA MIlan – KOLEŇÁK Roman. Alternative lead-free soldering for electronics. In *AKADEMICKÁ DUBNICA 2002*. Bratislava: STU, 2002,s.259 -264.ISBN 80-227-1807-6

KOVAČÓCY Pavel – PADAČ Miroslav. Influence of shielding gas on weld geometry. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 1., s. 297 – 302. ISBN 80-227-1768-1

KVASNA Ľuboš – REMEŇOVÁ Petra. The design of the working place for segments to technological processing of materials by explosion. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 1., s. 321 – 326. ISBN 80-227-1768-1

REMEŇOVÁ Petra – KVASNA Ľuboš. Identity joining technology of Al-CrNi austenitic steel. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 1., s. 403 – 407. ISBN 80-227-1768-1

TURŇA Milan – KOVAČÓCY Pavel. Magnetic-pulse welding of nonferrous metals. In *CO-MAT-TECH 2002*. Bratislava: STU, 2002, časť 1., s. 426 – 431. ISBN 80-227-1768-1

BLAŠKOVITŠ, P. – STOPKA, J. – DZIMKO, M. – BALLA, J. Tribology in the Slovak Republic. In *INTERTRIBO 2002*. Bratislava: DT, 2002, s. 21 – 23.

BLAŠKOVITŠ, P. – GRINBERG, N.A. – SUCHÁNEK, J. – GOUVEIA, H. – RODRIGUEZ, M. – YUHVID, V. – CHOMENKO, V. – SIDLIN, Z.A. Development of Hardfacing Materials with Matrix on the Base Fe and Hard Phase TiB2-CrB2. In *INTERTRIBO 2002*. Bratislava: DT, 2002, s. 232 - 234.

ŽÚBOR Peter – KOLEŇÁK Roman. Study of Reaction Layer at Ceramic / Active Solder Interface. In *JUNIOR EUROMAT 2002*. Lausanne, 2002, 130/H9

TURŇA Milan – KOVAČÓCY Pavel. High-speed welding of non-ferrous metals. In *PREVÁDZKOVÁ SPOĽAHLIVOSŤ VÝROBNÝCH ZARIADENÍ V CHEMICKOM A POTRAVINÁRSKOM PRIEMYSLE*. Bratislava: Slovnaft, 2002. nestr.

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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 environmentálneho a bezpečnostného inžinierstva	KEBI	Department of Environmental and Safety Engineering	Lehrstuhl für Umwelt und Sicherheitsingenieurwessen
4	Katedra fyziky	KF	Department of Physics	Lehrstuhl für Physik
5	Katedra humanitných vied	KHV	Department of Humane Sciences	Lehrstuhl für Humanwissenschaften
6	Katedra inžinierstva kvality	KIK	Department of Engineering Quality	Lehrstuhl für Qualitätssicherung
7	Katedra inžinierskej pedagogiky a psychológie	KIPP	Department of Engineering Pedagogy and Psychology	Lehrstuhl für Ingenieurpädagogik und Psychologie
8	Katedra matematiky	KM	Department of Mathematics	Lehrstuhl für Mathematik
9	Katedra materiálového inžiniestva	KMI	Department of Materials Engineering	Lehrstuhl für Werkstofftechnik
10	Katedra nekovových materiálov	KNM	Department of Non-Metallic Materials	Lehrstuhl für Nichtmetallmaterialen
11	Katedra obrábania a montáže	KOM	Department of Machining and Assembly	Lehrstuhl für spanende Fertigung und Montage
12	Katedra odbornej jazykovej prípravy	KOJP	Department of Languages	Lehrstuhl für Fremdsprachen
13	Katedra priemyselného inžinierstva a manažmentu	KPIM	Department of Industrial Engineering and Management	Lehrstuhl für Industrieingenieurwesen und Management
14	Katedra technologických zariadení a systémov	KTZŠ	Department of Technological Devices	Lehrstuhl für technologische Anlagen und Systeme
15	Katedra telesnej výchovy a športu	KTVS	Department of Physical Education and Sports	Lehrstuhl für Körperkultur und Sport
16	Katedra tvárnenia	KT	Department of Forming	Lehrstuhl für Umformen
17	Katedra zlievárenstva	KZl	Department of Foundry	Lehrstuhl für Gießen
18	Katedra zvárania	KZv	Department of Welding	Lehrstuhl für Schweißen
19	Detašované pracovisko (Brezno, Dubnica, Komárno, Nitra)	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	Technológie strojárskej výroby	BTSV	Machine Production Technology	Technologie der Maschinenbauproduktion
2	Technologické zariadenia a systémy	BTZS	Technological Devices and Systems	Technologische Anlagen und Systeme
3	Materiálové inžinierstvo	BMI	Materials Engineering	Werkstofftechnik
4	Inžinierstvo životného prostredia	BIŽP	Environmental Engineering	Umwelttechnik
5	Aplikovaná informatika a automatizácia v priemysle	BAIAP	Information Technology and Automation in Industry	Angewandte Informatik und Industrieautomatisierung
6	Priemyselné inžinierstvo a manažment	BPIM	Industrial Engineering and Management	Indutriele Ingenieurwessen und Management
7	Inžinierstvo kvality produkcie	BIKP	Production Quality Engineering	Qualitätsicherung
8	Zabezpečovacia technika	BZT	Safety Technology	Sicherheitstechnik
	Inžinierske štúdium (Ing.)		**Master Study (M.S.)**	**Ingenieurstudium (Dipl.-Ing.)**
1	Technológie strojárskej výroby	TSV	Machine Production Technology	Technologie der Maschinenbauproduktion
2	Technologické zariadenia a systémy	TZS	Technological Devices and Systems	Technologische Anlagen und Systeme
3	Materiálové inžinierstvo	MI	Materials Engineering	Werkstofftechnik
4	Inžinierstvo životného prostredia	IŽP	Environmental Engineering	Umwelttechnik
5	Aplikovaná informatika a automatizácia v priemysle	AIAP	Information Technology and Automation in Industry	Angewandte Informatik und Industrieautomatisierung
6	Priemyselné inžinierstvo a manažment	PIM	Industrial Engineering and Management	Indutriele Ingenieurwessen und Management
7	Inžinierstvo kvality produkcie	IKP	Production Quality Engineering	Qualitätsicherung
	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,Sp.: 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 odb. povahy,špec. teória vyučovania techn. odb 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
SLOVAK UNIVERSITY OF TECHNOLOGY BRATISLAVA
Authorised contributions from departments
2004