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MINISTERSTVO ŠKOLSTVÍ,
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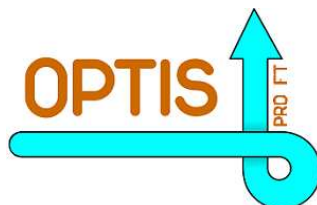


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INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ



TECHNICAL UNIVERSITY OF LIBEREC

Faculty of Textile Engineering

Programm – Bachelor TEXTILE (B3107)

Programme Fields (2012/2013)

- 1/ Clothing Production and Management
- 2/ Textile Technologies, Materials and Nanomaterials
- 3/ Textile marketing
- 4/ Textile and Fashion Design (full-time form only)

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Primary subjects - TEXTILE Bachelor Programm:

- Mathematics 1 2+2+0
- Microeconomics 2+2+0
- Physics 2+2+0
- Textile Fibres 2+2+0
- Textile technology 1 2+2+0
- Macroeconomics 2+2+0
- Mathematics 2 2+2+0
- Sports and physical activities 1 0+2+0
- Textile Chemistry 2+2+0
- Textile technology 2 2+2+0
- Sports and physical activities 2 0+2+0
- Weaves Structure and Properties 2+2+0
- Data processing 2+2+0
- Textile Testing 2+2+0

1/ Clothing Production and Management

The aim of the study branch is preparation of specialists for the changing conditions of the clothing production in the European region. The graduates in the branch have to be able to organize production and trade in the most efficient way while meeting the conditions of maximum flexibility at the same time, because only a fast response to the market and fashion requirements can bring required profits in clothing production. The branch makes an effort to join sufficient technical knowledge of the textile and clothing production, of textile utility properties and their quality evaluation with good management skills and trade economy, while meeting the condition of language competence at the same time. This knowledge forms a good foundation for employment of the graduates not only within the EU, but all over the world

Primary subjects - the field of Clothing Production and Management:

- Clothing construction, 2+2+0
- Clothing production, 2+2+0
- Sewing process, 2+2+0
- Clothing production machines, 2+2+0
- Economy and Management of Enterprises, 2+2+0
- Introduction to Management, 2+1+0
- Product engineer. and product. Planning, 2+1+0
- Clothing trade management, 2+2+0
- Quality Evaluation, 2+2+0
- Apparel production CAD/CAM systems, 2+2+0
- Strategy of Textile Goods Sale, 2+2+0



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Secondary subjects - the field of Clothing Production and Management:

- Special practice , 0+3T+0
- Aesthetic , 2+1+0
- Automative and Technical textiles , 2+2+0
- Colouristic , 2+2+0 ZS
- Comfort of Textiles , 2+1+1
- Informatics and Computer Technology , 0+1+0
- Nonwoven Manufacture , 2+2+0
- Special Fibres , 2+2+0
- Clothing product engineering , 2+2+0
- Decorating History , 2+1+0
- Dyeing and printing of textiles , 2+2+0
- History of Clothing Culture , 2+2+0
- Knitting , 2+2+0
- Knowledge of Textile Goods 2 , 2+4+0
- Pattern construction and styling , 2+2+0
- Programming , 1+1+0
- Spinning , 2+2+0
- Strategic Marketing , 2+1+0
- Technical Textiles , 2+2+0
- Textile Maintenance , 2+2+0
- Weaving , 2+2+0

2/ Textile Technologies, Materials and Nanomaterials

The aim of this study branch is to provide students with technical and specialized knowledge as well as with theoretical consequences necessary for development and innovations of technological procedures and preparation and application of outputs of higher order innovations.

Primary subjects - the field of Textile Technologies, Materials and Nanomaterials:

- Spinning 2+2+0
- Introduction to Mechanics of Textile 2+2+0
- Nonwoven Manufacture 2+2+0
- Knitting 2+2+0
- Polymers 2+2+0
- Technical Textiles 2+2+0
- Weaving 2+2+0
- Quality Evaluation 2+2+0
- Special Fibres 2+2+0
- Textile finishing 3+2+0



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Secondary subjects - the field of Textile Technologies, Materials and Nanomaterials:

- Special practice 0+3T+0
- Aesthetic 2+1+0
- Colouristic 2+2+0
- Comfort of Textiles 2+1+1
- Informatics and Computer Technology 0+1+0
- Jacquard weave techniques 2+2+0
- Knowledge of Textile Goods 1 2+2+0
- Mech. technol. vyr. netkaných textilií 2+2+0
- Textile chemical analyses 2+4+0
- Waste treatment 2+2+0
- Construction and Fabric Design 2+2+0
- Decorating History 2+1+0
- Dyeing and printing of textiles 2+2+0
- Economy and Management of Enterprises 2+2+0
- History of Clothing Culture 2+2+0
- Introduction to Management + 2+1+0
- Lectures from Electrical Engineering 2+4+0
- Pattern construction and styling 2+2+0
- Programming 1+1+0
- Special technologies 2+2+0
- Strategic Marketing 2+1+0
- Textile machines 2+2+0
- Textile Maintenance 2+2+0
- Textile nanomaterials 2+2+0
- Thermal - Chemical Technol. of Nonwovens 3+2+0
- Warp knitting 2+2+0

3/ Textile marketing

The branch is aimed at preparing university educated experts who understand especially specific properties of textile materials, correct function of textile products and relating regulations with respect to potential customers, such as consumer protection, correct marking, information obligation, etc., however, at the same time also marketing and rules for business dealing.



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Primary subjects - the field of Textile Marketing:

- Clothing production 2+2+0
- TSC 2+1+0
- Knowledge of Textile Goods 1 2+2+0
- Marketing 2+2+0
- Economy and Management of Enterprises 2+2+0
- Knowledge of Textile Goods 2 2+4+0
- Sociology 2+2+0
- Comfort of Textiles 2+1+1
- Knowledge of Textile Goods 3 1+2+0
- Marketing Research 2+2+0
- Quality Evaluation 2+2+0
- Strategic Marketing 2+1+0
- Strategy of Textile Goods Sale 2+2+0

Secondary subjects - the field of Textile Marketing:

- Language II - German 1 0+2+0
- Language II - German 2 0+2+0
- Language II - German 3 0+2+0
- Special practice 0+3T+0
- Aesthetic 2+1+0
- Colouristic 2+2+0
- Informatics and Computer Technology 0+1+0
- Nonwoven Manufacture 2+2+0
- Special Fibres 2+2+0
- Computer Application in Office Work 2+2+0
- Decorating History 2+1+0
- Dyeing and printing of textiles 2+2+0
- History of Clothing Culture 2+2+0
- Introduction to Law 2+0+0
- Introduction to Management 2+1+0
- Knitting 2+2+0
- Pattern construction and styling 2+2+0
- Programming 1+1+0
- Spinning 2+2+0



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- Technical Textiles 2+2+0
- Textile Maintenance 2+2+0
- Weaving 2+2+0

4/ Textile and Fashion Design (full-time form only)

The aim of the branch is to provide students with solid foundations in the area of textile technologies and possibilities of textile and clothing production with the link to common disciplines of art and aesthetics. The graduates find employment in the profession of a designer of textile, clothing, textile and interior accessories, then in the profession of a jewellery and bijou designer. Thanks to their wide knowledge and skills, the graduates find employment in various industry lines, trade and marketing. Prime employers are enterprises focused on textile and clothing production. Other possible employment is in companies focused on computer graphics, designing centres, promoting and marketing agencies, and so on.



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ANNOTATION OF SUBJECTS:

Clothing construction

Course goals (annotation): Somatometry and somatotyping, body proportion. Body measuring methods (contact and noncontact). Body and garment measurements description. Statistical survey of population. Sizing systems (Czech and international). Block pattern construction. Pattern cutting within various methodologies and construction steps analysis. Pattern styling theoretical ground. Complete pattern creation - seam allowances addition. Pattern grading and increment distribution. Patterns lay planning, marker making. Principle of adapting the blocks for individual figures.

Student requirements Credit: attendance 70 %, semestral work

Exam: oral exam, written exam

Clothing production

Course goals (annotation): The importance, history and function of clothing. Basic definitions from clothing production and clothing technologies. Clothing materials and their properties. The structure of organisation and process engineering. The somatometry, body sizing systems. Use of CAD systems. Technology of the clothing production, technology of textiles dividing, sewing and finishing process. Theory of sewn connection creation. Model of a sewing machine and sewing needle. Parameters and qualities of the sewn connections. A heat forming process, machines for ironing and forming. Organization of production.

Student requirements Credit: Passing the laboratory exercises. Elaboration of a laboratory works and their proving. Passing the credit test - min 60 %.

Examination: written + oral

Sewing proces

Course goals (annotation): Function and characteristic of clothing products. Analysis joining methods in the production clothing and industrial technical clothing. Unconventional joining methods of the textiles. Influence joining methods on the desired properties of joint. Influence of elasticity, friction and surface properties of fabrics at transport and feeding material during joining process.

Student requirements Credit:

Passing the laboratory exercises. Elaboration of a laboratory works and their proving.

Elaboration and defending semester work,

Examination: written + oral



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Clothing production machines

Course goals (annotation): Apparel manufacturing analysis. Methods of spreading and separation of clothing materials. The device used to spreading and cutting charge. Theoretic principle of the sewing process. Principles and technology joining clothing parts at the dress production stage. Stitches and seam, specification. Analysis production sewing connections. Correspondence of bobbin, threads and needles. Characteristics of the connections of seams. Unconventional methods of cutting and joining of the textiles. Theoretic principles of moisture - heat shaping. Machinery for ironing and shaping in ready - made production, fusing machinery. System of transport - logistics

Student requirements Credit: Passing the laboratory exercises. Elaboration of a laboratory works and their proving. Passing the credit test - min 60 %.

Examination: written + oral

Economy and Management of Enterprises

Course goals (annotation): Introduction of basic terms in economy, management and organisation of enterprises. Input and output, costs, economic results, prices. Then basic of financial management and investment management. Stabilization and end of the company will be also mentioned.

Student requirements credit: semestral project, its acceptance by the supervisor, active attendance at seminars, max. 2 absences

exam: written test, min. 60 % of knowledge/points

Introduction to Management,

Course goals (annotation): The aim of the course is to acquaint students with managerial activities and their practical reflection in the organizations, to provide students with the knowledge how to analyze processes in the organizations and to discuss all what is relevant for their work in the teams; also to acquaint students with techniques and procedures used by the managers in the modern organizations.

Student requirements Credit: elaboration of semestral project (2 - 3,5 pages) and its successful presentation, both will be evaluated by points.

Written test, evaluated by points.

Essential requirement:

- present study min. 66 points from 100 possible,
- combined study min. 53 points from 81 possible.



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Product engineer. and product. Planning

Course goals (annotation): Logistics and international trade is a subject that introduces the importance of logistics in international trade. The subject includes basic information about the particulars of the contract of carriage and international transport systems, about the particulars of the forwarding contract and operation of forwarding logistics systems, about the protection of consignments of goods during a transport including liability and insurance in the international transport of goods.

All these activities would be perfectly build themselves, to meet the most important requirement for a supply of goods to the customer on time with minimal cost. The next goal is to use modern methods of logistics management in practise.

Student requirements Credit: Protocols elaboration and presentation of seminar project.

Examination: Written test + oral.

Clothing trade management

Course goals (annotation): The aim of this course is to introduce students to the basics of management thinking, strategic planning, managerial behaviour, decision making in the of production outsourcing. Analyze existing processes in the globalizing market. Production and trade relations at production of outsourcing.

Student requirements Credit: 80% attendance at practical lessons. Elaboration semester work of at least 8 pages.

Examination: Defended of semester work.

Quality Evaluation

Course goals (annotation): General problems of quality. Development of quality conception. Standards. Categorized data, nominal, ordinal and cardinal data. On-line and Off-line quality control. Complex quality index. Quality evaluation of textile materials. Hand evaluation of fabrics. Data treatment from questionnaire. Contingency tables. control charts and acceptance sampling.

Student requirements Credit: obtaining min. 50% points from two tests

Exam: written and oral

Apparel production CAD/CAM systems

Course goals (annotation): Production planning and management of system by computers - CIM, general principle of CA systems (CAD, CAE, CAP, CAM, CAD/CAM,..) and application of CA technology in clothing production, Graphics formats and data interchange among CA systems, Application of company information systems, ERP, PLM systems and a engineering methods (JIT, MRP, TOC, ?) in aid of control and company process planning, Automatic contactless data capture in clothing production - application of RFID and bar codes.

Student requirements Practice: semestral works, attendance in tutorials (70%), obtaining of the required number of test points from the tutorials

Exam: written exam +oral exam + defence of elaborated semestral works



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Strategy of Textile Goods Sale

Course goals (annotation): Specification of textile production - sales aspect. Distribution of textile goods. Selection and characteristic of textile product range. Qualitative and ecological aspects of textile product marketability.

Signification of Eco- and ISO-certificate on the textile market. Role and profile building of textile sales manager and of drapers. Preparation and realization of transaction. Textile exhibition, textile fair, presentation of textile goods, fashion trends.

Student requirements Credit: participation on seminars, working out and defence project

Exam: written and oral

Special practice

Course goals (annotation): Activities dealing with special practice

Aesthetic

Course goals (annotation): Area and the subject of aesthetic, relationships to philosophy and the others sciences. Aesthetic and arts, education, history. Aesthetic of 20. century and her reflex in praxis.

Student requirements Exam: oral.

Analyses a depository collections of the Museum of North Bohemia in aspect of the aesthetic perception.

Automotive and Technical textiles

Course goals (annotation): Subject Automotive and industrial making-up provides students with basic knowledge on industrial making-up. The aim is to acquaint students with the industrial making-up. Theoretical teaching is accompanied by professional excursions with similar themes. Industrial fabrics and materials used for industrial making-up. Types smart clothing, using audio equipment and applications in smart clothes. Industrial making-up in the healthcare and automotive industries. Production of airbags, production of car seats. Special protective clothing. Methods for evaluation of flammability industrial textiles.

Student requirements Credit:

80% attendance at practical lessons. Elaboration semester work of at least 10 pages

Examination: Written + oral

Colouristic

Course goals (annotation): Topic of these courses is to present for students the systems, principles used in coloristic. The courses are divided: Introduction, Basic terms, Physiology of color perception, Visual illusions and defections of color perception, Visual color assessment, Color systems, Color spaces CIE XYZ, CIELAB, Color differences, Color appearance, Color management, Color appearance by monitor, ICC profiles, Colorants, Color matching, E-business and calibration product appearance

Student requirements Labs inclusion: laboratory project essay

Exam: written form + interview



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Comfort of Textiles

Course goals (annotation): Definition of clothing comfort. Psychological comfort. Sensorial comfort and its evaluation. Skin sensors of comfort feeling. Survey of mechanical parameters which influence the fabric hand. Thermophysiological comfort, definition, survey of evaluation of its transient and stationary parameters.

Heat transfer in nature and its application in comfort studies. Thermophysiological functions of human body as thermal engine. General equation of heat balance between the human body and environment. Moisture transfer in capillary systems. Specific properties of textile materials in respect to clothing comfort. The effect of structure and composition of fabrics on their thermal resistance, warm-cool feeling and vapour permeability. Semi-permeable membranes. Functional garments. The use of fabric and garment comfort parameters in textile promotion and marketing. Evaluation of comfort parameters of fabrics by means of simple methods applicable in small mills and specialized shops.

Student requirements Credit: submitting report on laboratory measurements and its approval

Exam: written preparation and oral

Informatics and Computer Technology

Course goals (annotation): This subject expands student's knowledge already gained at a secondary school. It includes: advanced work with a text editor, Excel, and possibilities of creating an electronic presentation.

Student requirements Attendance 90 %

Pass tests (60% success)

Semestral work

Nonwoven Manufacture

Course goals (annotation): Characterization, trends and terminology of nonwovens. Fibers and binders for nonwovens and their properties. Web formation and layering methods.

Bonding and web stabilizing methods. Structures and properties of nonwovens. End-uses.

Converting methods.

Student requirements Credit: Participation on seminars.

Exam: written + oral

Special Fibres

Course goals (annotation): The special fibers will be divided to the categories of high-technical fibers (high strength, temperature resistance, high modulus) and category of high functional fibers (thermal insulation, super absorbency, conductive fibers etc.). The basic characteristics of both kinds of fibers will be described. The mechanical, physicochemical and special properties will be reviewed. Some technological peculiarities of textile structures creation will be presented.

Student requirements Credit: participation in all laboratory courses, two successfully passed tests.

Exam: written



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Clothing product engineering

Course goals (annotation): Structures and methods of organization of the production process in the apparel industry, depending on the type of production, consumption of work, workplace organization. Principles, types and process technology development and linen clothing because of their function and purpose.

Student requirements Credit: Elaboration and presentation of the semester work and attendance at seminars.

Examination: written + verbal

Decorating History

Course goals (annotation): History decorating and patterned textile in historical, cultural and social connections. Motive creation of textile designs along stylistic period and its reflection in contemporary cultural world.

Student requirements Credit and exam.

Dyeing and printing of textiles

Course goals (annotation): The course provides an understanding of the various processes of textile dyeing, printing and finishing with emphasis on practical knowledge of different techniques. The importance of product evaluation and environmental consideration is also stressed.

Student requirements The credit: Finishing on all laboratory exercises.

Elaborate and defence laboratory records.

Finishing on knowledge test over fix limit of point figure.

The examination: be composed of written and vive part.

History of Clothing Culture

Course goals (annotation): The emergence of clothing, clothing basic seasons of development from prehistory to the present. Fashion trends, creating clothing collections. Accessories. Reminiscences in fashion.

Student requirements Credit: Passing minimum of lectures and exercises. Written piece of work of a chosen garment topic - c. 2 pages.

Examination: written + verbal (PowerPoint presentation of a chosen topic)



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Knitting

Course goals (annotation): Preparation of material for knitting. Basic terms in knitting. Knitted structures (weft, warp, special), properties and geometry of knitted fabrics. Knitting machines and technologies. Working and programming mechanisms (patterning, machines control), shaping (fashioning) of knitted products. Systems of yarn supply and fabric take-off, other equipment. Knitted technical textiles.

Student requirements Credit: Elaboration and successful defence of all works of theoretical and practical parts of seminars.

Obtaining skill on working on chosen knitting machines, making the sample of knitted fabric according to the given pattern.

Pass out the credit test.

Exam: written and oral.

Knowledge of Textile Goods 2

Course goals (annotation): A student, who completes the subject TZ2, is a textile expert in terms of knowledge of textile goods - can identify and name the final textile product (the goods), can perform its analysis and in the final product identify the basic structural elements, which are important from point of view its properties and use.

Student requirements Credit: Take an active part in laboratory exercise, analysis of textiles goods, final identification test.

Exam: written and oral

Pattern construction and styling

Course goals (annotation): Pattern construction and styling; pattern modification - easy allowance addition, the value assessment of the construction abscissa with the regards of body movement, clothing fabric properties, garment function and silhouette. Pattern creation and styling with the CAD assistance. Block pattern automatic construction, styling, pattern digitalisation, pattern grading ? grade rule libraries, lay planning and marker making.

Student requirements Semestral work (information you can find in address:

http://www.kod.vslib.cz/index_cz.html), exam.

Programming

Course goals (annotation):

The main aim is to use the Spreadsheets and Matlab system including simulink for solution of engineering problems solving. The mathematical problems and graphically oriented techniques are solved as well. The selected methods of data processing with examples for textile engineering are explained.



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Spinning

Course goals (annotation): The course follows the basic subject Technology I. In this course the student will deepen their knowledge of the yarn manufacturing. There are discussed each technological stage of the yarn (opening, cleaning, blending, carding, drawing, combing, converter technology, roving, ring spinning, rotor spinning, unconventional methods of yarn production, twisting) with respect to the processed material. It is analyzed the impact of individual operations on the properties of both the final product, so the final yarn.

Student requirements Credit: Participations on practises. Elaboration of engaged project. Pass out the credit test.

Exam: Written

Strategic Marketing

Course goals (annotation): Every firm must search for strategies, marketing plans, and finally, a whole marketing program. Steps in planning are investigated from introductory analysis to implementation and control

Student requirements Participation on seminars

exam:written

Technical Textiles

Course goals (annotation): This subject shows on selected examples the usage, production way, finishing, specific properties and raw materials of technical textiles.

Student requirements Credit: Participation on seminars.

Exam: writtten + oral

Textile Maintenance

Course goals (annotation): Principal properties of fibers will be demonstrated on textile materials behavior on used textiles maintenance technologies. Students after pass this subject will able to understand the principles of all usual methods in textile maintenance in general technical and historical context.

Part of lectures will be focused on the problems of color fastness, the marking of textile materials, chemical background of chemicals used in textile maintenance and basic properties of textile fibers.

Students will be acquainted in details with these procedures: washing of textiles, chemical cleaning, identification and elimination of spots, bleaching of textiles, ironing, drying, home dyeing and printing textiles inclusive of natural dyes.

In the framework of the subject will be lectured also historical aspects of production and textiles maintenance including their renovation and conservation for museum purpose.

Student requirements The credit: Completion of all laboratory exercises.

Defence of laboratory protocols.

Semestral project

The examination is composed of written and oral part



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Weaving

Course goals (annotation): Within this subject students obtain information about these areas: weaving and individual operation of materials preparation for weaving (winding, warping, sizing, drawing-in); characterisation of shed and possibilities in interlacing of threads - dobby and jacquard shedding mechanisms, basic principles of the weaving technology; theoretical aspects of the weaving process; definition of weaving loom, weft insertion possibilities. Basic weaves as well as design of dobby and jacquard fabric.

Student requirements Credit: Presentation and defense of project work.

Examination: written and oral.

Introduction to Mechanics of Textile

Course goals (annotation): The course is focused on the fundamentals of mechanics of a particle, a system of particles, solid body and an introduction to the theory of elasticity of supple body. The apparatus of mechanics is applied to the problem of behavior of textile assemblies.

Student requirements Credit: Attendance at seminars. Completion of final test. Preparation and defense of a given project.

Exam: written

Nonwoven Manufacture

Course goals (annotation): Characterization, trends and terminology of nonwovens. Fibers and binders for nonwovens and their properties. Web formation and layering methods. Bonding and web stabilizing methods. Structures and properties of nonwovens. End-uses. Converting methods.

Student requirements Credit: Participation on seminars.

Exam: written + oral

Polymers

Course goals (annotation): Historical development, terminology, structure. Preparation of polymers. Chain reactions - polymerization, depolymerization, radical polymerization, ionic polymerization, PE, POP, PAN, PVA, PVC. Polycondensation - PES, PAD, PC, phenol-formaldehyde resins, urea-formaldehyde resins, silikons, polyimides. Addition reactions - PUR, epoxide resins. Chemical and physical changes of polymers - melting reaction, properties of products, destruction reactions (thermal degradation, oxidative degradation, enzymatic degradation, UV degradation, mechanical degradation), burning of polymers, retardant agents. Rubbers - NR, BR, CR, IR, PE-POP.

Structure of polymers. Types of bonds in polymers. Geometry of polymer chains. Crystalline structure and its studying. Molecular weights, distribution functions. Methods of molecular weight determination. Polymer nets, structure. Glass temperature. Crystallization. Elasticity. Viscoelasticity. Properties of polymer melts. Testing of polymer materials. Superabsorbents. Biodegradable polymers.

Student requirements Credit: Participation on seminars.

Exam: written + oral



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Technical Textiles

Course goals (annotation): This subject shows on selected examples the usage, production way, finishing, specific properties and raw materials of technical textiles.

Student requirements Credit: Participation on seminars.

Exam: writtten + oral

Textile finishing

Course goals (annotation): The course provides an understanding of the various processes of textile dyeing, printing and finishing. The stress is on the theory of the processes and basic technological applications are also mentioned.

Student requirements The credit: Finishing on all laboratory exercises.

Elaborate and defence laboratory records.

Finishing on knowledge test over fix limit of point figure.

The examination: be composed of written and vive part.

Jacquard weave technique

Course goals (annotation): This subject is focused on interior and fashion design. Within this subject students obtain information about these areas:

- general information of jacquard machines, CAD systems for jacquard fabric design

DesignScope Victor - EAT,

- weave techniques in jacquard design, possibilities in jacquard plain fabric design, double weft fabrics, double warp fabrics, double fabrics.

- narrow fabric construction - design of ribbon fabrics (double weft ribbon fabrics)

- design of woven fabric using electronic jacquard machine Staübli.

Student requirements Credit: Working-out and presentation of required projects

Exam: Written and oral form

Waste treatment

Course goals (annotation): Textile wastes, sources, classification, identification and assessment. Sorting, trimming, shalning, dedusting and preparation for pulling. Rag pulling, rag machine design, arrangements of parts. Quality of the products. Cleaning, opening and garnetting. Utilization of texti-le wastes in yarns, in nonwoven fabrics. Spe-cial methods for processing the textile wastes. Products from secondary raw materials in practice. Liquidation of the textile was-tes, incineration, compositing, landfilling.

Student requirements Credit: Participation on seminars.

Exam: writtten + oral



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OP Vzdělávání
pro konkurenceschopnost



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INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

Textile machines

Course goals (annotation): The course follows the basic subjects Technology I, Spinning, Weaving and Knitting. In this course the student gains a deeper knowledge of the construction of textile machines and mechanisms. The introduction discusses the general principles and terminology in the field of machine parts, kinematics and dynamics. Longer subject deals with specific machinery, which is used in spinning, weaving and knitting. The student acquires knowledge about the specific mechanisms of individual machines, trends in their structural organization and physical models.

Student requirements Credit: Attendance at seminars. Elaboration of assigned projects.

Passing the knowledge test at a certain level of points. Defence of the project.

Examination: written

Textile nanomaterials

Course goals (annotation): Introduction to a issue of nanofiber materials. An education is focused to presentation of raw materials for manufacturing of nanofibers, possibilities of manufacturing and synthesis of nanofibers, their properties, possibilities of their testing and usage in a practical life. Especially, lessons are attended to carbon nanotube, carbon nanofibers and nanowires, electrospinning and electrospun nanofibers, surface nanotreatment of fibers and textile materials commonly. Several lectures is based on testing of nanofiber materials: microscopy, testing of mechanical properties, testing of composition of nanofibers and so on. Usage of these nanofiber materials is of course another part of the subject.

Student requirements Seminar project, exam

Thermal - Chemical Technol. of Nonwovens

Course goals (annotation): Bonding agents-theory and properties. Wet-laid systems. Bonding by polymer dispersions, foams, pastes and solutions. Felting process. Surface treatment. Polymer-laid systems: Spun-bond, melt-blown and electrostatic spinning. Calender bonding, through-air bonding, infra-red and ultra-sound bonding. Theory of heating fiber layers. Structures, properties and end-uses of texti-les.

Student requirements Credit: Participation on seminars.

Exam: writtten + oral



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Warp knitting

Course goals (annotation): This subject improves your knowledge in the area of the warp knitting technology and it focus for preparing of materials for warp knitting, for construction of the warp knitting machines and theirs characterization and application. The subject aim is to describe students the following areas: production technology and patterning of the warp-knitted fabrics, special technologies which are use in warp knitting, the basic ways of production the technical warp-knitted fabrics and the basic structures and patterns of warp-knitted textiles. The patterning of warp-knitted structure with using DesignScope Victor Raschel will be explained to students and their own design will be prepared. The other part of lectures deals with the small circular diameter machines (weft knitting technology) and their principles and machines with knitting and others mechanisms. Animation of formation of inturned welt, cam animations, toe closing system and others animations explains this technology with the best way.

Student requirements Credit: Working out of seminary works, design and analysis of samples.
Exam: oral

Economy and Management of Enterprises

Course goals (annotation): Introduction of basic terms in economy, management and organisation of enterprises. Input and output, costs, economic results, prices. Then basic of financial management and investment management. Stabilization and end of the company will be also mentioned.

Student requirements credit: semestral project, its acceptance by the supervisor, active attendance at seminars, max. 2 absences
exam: written test, min. 60 % of knowledge/points